

HQ 1024 (2 of 3)

ENVIRONMENTAL DYNAMICS INC.

Natural Resource Consultants

1995 AND 1996 FISH AND FISH HABITAT INVENTORY

WITHIN THE STUART LAKE AND BABINE LAKE

WATERSHED GROUPS

Volume 2 of 3

Prepared for:

Canadian Forest Products Ltd.

Fort St. James Division

Box 254

Fort St. James, BC

V0J 1P0

Prepared by:

N. Hamel-Pendergast and J.J. Melnik

EDI ENVIRONMENTAL DYNAMICS INC.

9031 North Nechako Road

Prince George, BC

V2K 4Z8

EDI Project No. 500-04

August, 1997

IMPORTANT NOTE
RE: USE OF THE FOLLOWING INFORMATION

Please note that the printed version of the DFO/MoELP Stream Survey Form is not true to the data present in the digital database. Discrepancies between the digital database and the printed forms have been noted for the following categories:

- Header Information (Reach Length)
- Channel Characteristics (% Debris Area, Avg Max Pool Depth Method)
- Bed Material (Compaction)
- Banks (Height)

Please consult the digital database prior to using any of the following data to ensure its accuracy.

RE: DATABASE

This report consists of inventory data collected in both 1995 and 1996. Only the 1996 inventory was funded through the Forest Renewal BC Resources Inventory Program and therefore only the 1996 data was reviewed and audited accordingly.

Lynn Blouw
Regional Fish/ Habitat Inventory Specialist
Ministry of Environment
May 1998

4.1.9 Hyman Creek Watershed (182-6976-879-131)

This watershed is located within in BC Environment Management Unit 7-25 (BC Recreational Atlas 1993), and covers the eastern portion of the Stuart Lake Watershed Group (Fig. 10). Hyman Creek flows northwest into Tsilcoh River which empties into Pinchi Lake. This drainage is bordered by Carrier Lake to the southeast, Tsilcoh River to the north and northwest and the Ocock River flows around the basin covering part of the west, south and east border of the Hyman Creek Watershed. Occupying 9,860 ha of the Stuart Lake Provincial Forest, the geographical relief ranges from approximately 730 m at the confluence of Hyman Creek and Tsilcoh River, to approximately 910 m at the basin's headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977).

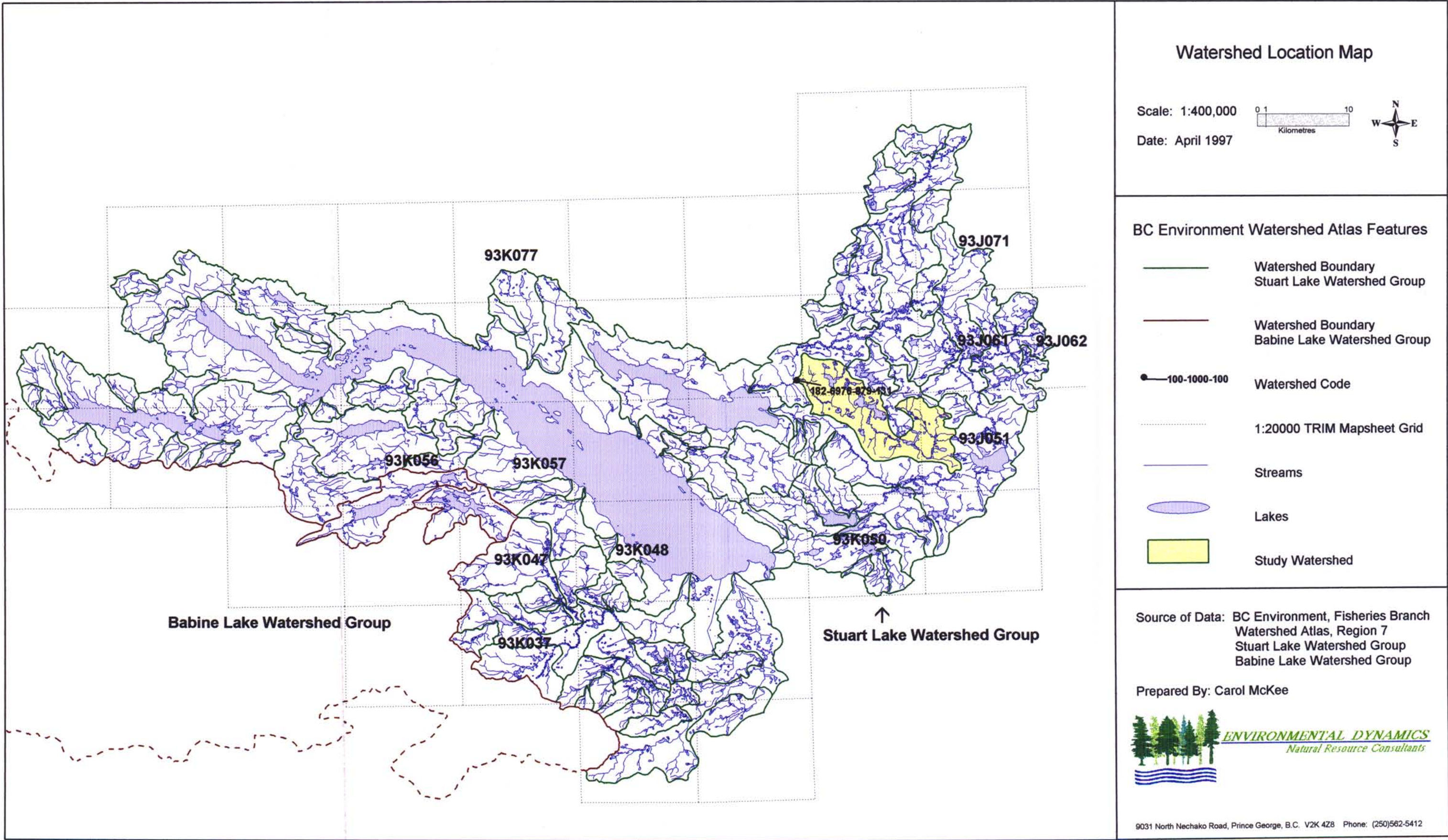
According to the biogeoclimatic units of the Prince George Forest Region, this watershed is dominated by sub-zone/variant the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3) (DeLong et al. 1993).

According to the updated FISS data (1995), no fish species have been documented in the Hyman Creek Watershed (BC Environment 1995). The absence of fish is presumably due to the 4 m Tsilcoh Falls, which is located approximately 5 km downstream of the Hyman Creek and Tsilcoh River confluence (Department of Energy, Mines and Resources 1977).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. WMC's are not located within Hyman Creek Watershed (Canfor 1996).

Since this watershed lies within a portion of Canfor's Ocock Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel roads located in this watershed are the Germansen Landing North Road and the Pinch Lake Road, as well as the adjoining sideroads (Canfor 1996).

Figure 10. Location of Hyman Creek Watershed (182-6976-879-131) within the Stuart Lake Watershed Group



4.1.9.1 Stream 182-6976-879-131-609

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-879-131-609
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	025
Cutblock Number	105
Operating Area	Ocock
Development Type	Right-of-Way and Cutblock
Survey Date	17-May-95
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	1.3
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This mid-gradient (7.0%) site is located along the northeastern boundary of the cutblock. A total cover of 60% was comprised of 65% overhanging vegetation, 20% large organic debris, and 15% undercut bank. Bed materials of this entrenched site were composed mainly of fines (90%). Fish sampling was not conducted and no fish were observed. Since this reach has low quality fish habitat and no fish were observed, it was classified as S-6 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

24-Feb-98

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-131-609-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-879-131-609-000-000-000-000-000-000	Reach No.:	999	Reach Length (km):	1.20000 Method:
Location:	025-105 Ocock	Site No.:	0	Length surveyed (m):	100.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
		Photos:	1: 14	Air Photos:	
Date:	95/05/17	Time:	15:30	Agency:	EDI
		Survey Crew:	R\A\ELARJRV \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	1.3	Method Av. Chan. Width (m):	TF
Av. Wet. Width (m):	0.6	Method Av. Wet. Width (m):	TF
Av. Max. Rif. Depth (cm):		Av. Max. Riffle Depth (cm):	TF
Av. Max. Pool Depth (cm):	10	Av. Max. Pool Depth (cm):	
Gradient (%):	7.0	Method Gradient:	CL
% Pool:	90	% Riffle:	10
% Side Channel:	0	% Run:	0
% Debris Area:	10-40	% Other:	0
		Method:	GE
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data

Cover

Cover Total % :	60	Method Cover Total %:	GE
Dp Pool :	0	L.O.D.:	20
Crown Closure % :	10	Method Crown Closure:	GE
		Boulder:	0
		In Veg.:	0
		Over Veg.:	65
		Cutbank:	15
		Aspect :	N
		Method Aspect:	C

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s) :
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data

Reach Symbol

(Fish)	
(Width, Valley: Channel, Slope)	(Bed Material)

Bed Material

% Fines (<2mm):	90	% Fines (<2mm):	90
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	10	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	0.3	% Unstable:	0
Textures Fines:	Yes	Gravel:	No
Confinement:	1	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	M		
Flood Signs Ht(m):	0.35	Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):		Method Temperature:	
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

24-Feb-98

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-131-609-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 1: 14 d/s

Note: Reach '999' should read Reach A.

Fish sampling was not conducted. No fish were observed.

This site has been assigned a S-6 classification under the Forest Practices Code.



Photo 95. Downstream view of Stream 182-6976-879-131-609 at Reach A.

4.1.9.2 Stream 182-6976-879-131-807

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-879-131-807
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	025
Cutblock Number	071
Operating Area	Ocock
Development Type	Right-of-Way and Cutblock
Survey Date	18-May-95
Reach Number	4
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	1.8
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (2.5%) site flows in a southerly direction along the northwestern corner of the cutblock. Total cover was minimal at 10% and bed materials were comprised entirely of fines (100%). The potential rearing and spawning habitat was, therefore, severely limited. Fish sampling was not conducted at this site, and no fish were observed. Since this site provides low quality fish habitat and no fish were observed, it was classified as S-6 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

24-Feb-98

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-131-807-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-879-131-807-000-000-000-000-000-000	Reach No.:	4	Reach Length (km):	0.10000 Method: MW
Location:	025-075 Ocock	Site No.:	0	Length surveyed (m):	100.0 Method: MW
		Map #:	93J/12	Fish Card:	N
		U.T.M.:	10.438330.6045500	Field:	Yes
				Historical:	No
Date:	95/05/10	Time:	10:30	Photos:	1: 18
Agency:	EDI	Survey Crew:	RV \ \ \ \ \ \ \ \	Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	1.8	Method Av. Chan. Width (m):	TF	Specific Data					
Av. Wet. Width (m):	0.6	Method Av. Wet. Width (m):	TF						
Av. Max. Rif. Depth (cm):		Av. Max. Riffle Depth (cm):							
Av. Max. Pool Depth (cm):		Av. Max. Pool Depth (cm):							
Gradient (%):	2.5	Method Gradient:	CL						
% Pool:	5	% Riffle:	5	% Run:	90	% Other:	0	Method:	GE
% Side Channel:	0	Method Side Channel:	GE						
% Debris Area:	10-40	Method Debris Area:	GE						

Cover

Cover Total % :	10	Method Cover Total %:	GE						
Dp Pool :	L.O.D.:	Boulder:	In Veg.:	Over Veg:	Cutbank:				
Crown Closure % :	5	Method Crown Closure:	GE	Aspect :	S	Method Aspect:	C		

Discharge

Wetted Width (m) :		Method Wetted Width (m) :		Specific Data
Mean Depth (m) :		Method Mean Depth (m) :		
Mean Velocity (m/s) :		Method Mean Velocity (m/s) :		
Discharge (m3/s) :	0.10	Method Discharge (m3/s) :	GE	

Reach Symbol

(Fish)	
(Width, Valley: Channel, Slope)	(Bed Material)

Bed Material

% Fines (<2mm):	100	% Fines (<2mm):	100
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	0	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	

Banks

Height (m):	0.5	% Unstable:	10
Textures Fines:	Yes	Gravel:	No
Confinement:	2	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):		Method Temperature:	
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

24-Feb-98

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-131-807-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 1: 18 d/s

Fish sampling was not conducted at this site. No fish were observed.

This site was given a S-6 classification under the Forest Practices Code.



Photo 96. Downstream view of Stream 182-6976-879-131-807 at Reach 4.

4.1.9.3. Stream 182-6976-879-131-820

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-879-131-820
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	025
Cutblock Number	075
Operating Area	Ocock
Development Type	Cutblock
Survey Date	04-Oct-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	900
Habitat Type	Wetland
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This wetland is located along the southern boundary of the cutblock, and flows west. This mossy area contained section of pooled water, but no flow or definable channel was found. Vegetation consisted of spruce, black cottonwood, and some red-osier dogwood. Fish sampling was not conducted in this wetland, and no fish were observed. Wetlands do not require stream classification under the Forest Practices Code. This area should be classified as a wetland, and protected accordingly.	

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-879-131-820
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	025
Cutblock Number	071
Operating Area	Ocock
Development Type	Right-of-Way
Survey Date	18-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	3.0
Length Surveyed (m)	100
Habitat Type	Wetland
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This low gradient (1.0%) survey site was located approximately 300 m north of the cutblock. The area contained a defined channel with very little flow. Bed materials of the unconfined site were comprised entirely of fines (100%). No spawning or rearing habitat was present at this site. Fish sampling was not conducted at this site area, and no fish were observed. Since this site is a wetland and not a stream, no stream classification is required under the Forest Practices Code.	

4.1.9.4 Stream EDI-530

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	530
Nearest Downstream Watershed Code	182-6976-879-131
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	025
Cutblock Number	075
Operating Area	Ocock
Development Type	Right-of-Way and Cutblock
Survey Date	04-Oct-95
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	3.0
Stream Width (m)	0.84
Length Surveyed (m)	600
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This small, low gradient (1.5%) reach flows in a southeasterly direction along the northwestern portion of the cutblock. Total cover of 10% was comprised of 70% overhanging vegetation, and 30% large organic debris. The bed material of this occasionally confined reach were made up entirely of fines. This reach contained some pools of standing water, but no flow was found. The upper and lower limits of this reach were composed of seepage and wetland areas. Fish sampling was conducted, however, no fish were captured or observed. Since this reach provides low quality fish habitat, and no regionally significant fish were captured, it was classified as S-6 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-879-131-999-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI-530	Access:	FT
Watershed Code:	182-6976-879-131-999-000-000-000-000-000-000	Map #:	93J/12	Reach No.:	999
Location:	ND/WSC: 182-6976-879-131; 025-075 Ocock	U.T.M.:	10.437620.6046610	Site No.:	0
Date:	04/10/95	Agency:	EDI	Fish Card:	N
Time:	09:15	Survey Crew:	TW \BR \EL \ \ \ \ \	Photos:	18: 9
				Reach Length (km):	0.60000
				Length surveyed (m):	600.0
				Field:	Yes
				Historical:	No
				Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	0.8	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	0.8	Method Av. Wet. Width (m):	MS
Av. Max. Rif. Depth (cm):	0	Av. Max. Riffle Depth (cm):	
Av. Max. Pool Depth (cm):	0	Av. Max. Pool Depth (cm):	0
Gradient (%):	1.5	Method Gradient:	CL
% Pool:	0	% Riffle:	0
% Side Channel:	0	% Run:	0
% Debris Area:	0-10	% Other:	0
		Method:	
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data					
0.8	0.9	0.8	0.6	0.8	1.1

Cover

Cover Total % :	10	Method Cover Total %:	GE
Dp Pool :	0	L.O.D.:	30
Crown Closure % :	10	Method Crown Closure:	GE
		Boulder:	0
		In Veg.:	0
		Over Veg:	70
		Cutbank:	0
		Aspect :	SE
		Method Aspect:	C

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s) :
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data					
---------------	--	--	--	--	--

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Bed Material

% Fines (<2mm):	98	% Fines (<2mm):	98
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	2	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	2
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	Low

Banks

Height (m):	0.2	% Unstable:	
Textures Fines:	Yes	Gravel:	No
Confinement:	4	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	L		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	3.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-131-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

- C2
- Note: riffle depth, pool depth and pool % etc. were not recorded in the field.
- C1
- Film 18: 9 u/s
- Note: Reach '999' should read Reach 'A'.
- Fish sampling (electroshocking) was conducted in this reach. No fish were captured or observed.
- This section of stream has been given a S-6 classification under the Forest Practices Code.



Photo 97. Upstream view of Stream EDI-530 at Reach A.

4.1.9.5 Stream 182-6976-879-131-821

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-879-131-821
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	025
Cutblock Number	075
Operating Area	Ocock
Development Type	Cutblock
Survey Date	04-Oct-95
Reach Number	4
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	1.78
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-3*
Fish Species Identified	None
Description: This mid-gradient (9.0%) reach flows in a southwesterly direction approximately 100 m northwest of the northwest corner of the cutblock. Cover consisted of 60% overhanging vegetation, 30% large organic debris, and 5% boulder and undercut bank/ The bed material of this confined site was dominated by larges (60%) and gravels (35%). Fish sampling (electroshocking) was conducted, however, no fish were captured or observed. This reach provided good potential rearing and spawning habitat. It was, therefore, defaulted to S-3* classification under the Forest Practices Code. Recommendation: Further survey is recommended to determine fish presence and to find the upper limit of fish distribution.	

24-Feb-98

Stream: Unnamed

Watershed Code:

182-6976-879-131-821-000-000-000-000-000-000

Stream Name:	Unnamed
Watershed Code:	182-6976-879-131-821-000-000-000-000-000-000
Location:	025-075 Ocock

Stream "Local": N/A

Access: FT

Reach No.: 4 Reach Length (km): 0.10000 Method: MW

Site No.: 0 Length surveyed (m): 100.0 Method: MW

Fish Card:	N	Field:	Yes	Historical:	No
------------	---	--------	-----	-------------	----

Photos: 18:10 **Air Photos:**

Date: 95/10/04 Time: 10:00 Agency: EDI Survey Crew: TW \ BR \ EL \ \ \ \ \

Av. Chan. Width (m):	1.8	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	0.0	Method Av. Wet. Width (m):	
Av. Max. Rif. Depth (cm):	0	Av. Max. Riffle Depth (cm):	
Av. Max. Pool Depth (cm):	0	Av. Max. Pool Depth (cm):	0
Gradient (%):	9.0	Method Gradient:	CL
% Pool: 0	% Riffle: 0	% Run: 0	% Other: 0
% Side Channel:	0	Method Side Channel:	GE
% Debris Area:	10-40	Method Debris Area:	GE

Specific Data

1.9 1.8 1.7 1.5 1.8 2.1

% Fines (<2mm):	5	% Fines (<2mm):	5
% Gravels:	35	Small (2-16mm):	5
		Large (16-64mm):	30
% Larges:	60	Small cobble (64-128mm):	50
		Large cobble (128-256mm):	10
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	25	Compaction:	High

Cover Total % :			Method Cover Total %:							
Dp Pool :	0	L.O.D.: 30	Boulder:	5	In Veg.:	0	Over Veg:	60	Cutbank:	5
Crown Closure % :			Method Crown Closure:			Aspect : SW			Method Aspect:	

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s) :
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
1000 ft wide, 100 ft deep, 1:1 slope	Gravel, sand, silt
500 ft wide, 50 ft deep, 1:1 slope	Gravel, sand, silt
250 ft wide, 25 ft deep, 1:1 slope	Gravel, sand, silt
125 ft wide, 12.5 ft deep, 1:1 slope	Gravel, sand, silt
62.5 ft wide, 6.25 ft deep, 1:1 slope	Gravel, sand, silt
31.25 ft wide, 3.125 ft deep, 1:1 slope	Gravel, sand, silt
15.625 ft wide, 1.5625 ft deep, 1:1 slope	Gravel, sand, silt
7.8125 ft wide, 0.78125 ft deep, 1:1 slope	Gravel, sand, silt
3.90625 ft wide, 0.390625 ft deep, 1:1 slope	Gravel, sand, silt
1.953125 ft wide, 0.1953125 ft deep, 1:1 slope	Gravel, sand, silt
0.9765625 ft wide, 0.09765625 ft deep, 1:1 slope	Gravel, sand, silt
0.48828125 ft wide, 0.048828125 ft deep, 1:1 slope	Gravel, sand, silt
0.244140625 ft wide, 0.0244140625 ft deep, 1:1 slope	Gravel, sand, silt
0.1220703125 ft wide, 0.01220703125 ft deep, 1:1 slope	Gravel, sand, silt
0.06103515625 ft wide, 0.006103515625 ft deep, 1:1 slope	Gravel, sand, silt
0.030517578125 ft wide, 0.0030517578125 ft deep, 1:1 slope	Gravel, sand, silt
0.0152587890625 ft wide, 0.00152587890625 ft deep, 1:1 slope	Gravel, sand, silt
0.00762939453125 ft wide, 0.000762939453125 ft deep, 1:1 slope	Gravel, sand, silt
0.003814697265625 ft wide, 0.0003814697265625 ft deep, 1:1 slope	Gravel, sand, silt
0.0019073486328125 ft wide, 0.00019073486328125 ft deep, 1:1 slope	Gravel, sand, silt
0.00095367431640625 ft wide, 0.000095367431640625 ft deep, 1:1 slope	Gravel, sand, silt
0.000476837158203125 ft wide, 0.0000476837158203125 ft deep, 1:1 slope	Gravel, sand, silt
0.0002384185791015625 ft wide, 0.00002384185791015625 ft deep, 1:1 slope	Gravel, sand, silt
0.00011920928955078125 ft wide, 0.000011920928955078125 ft deep, 1:1 slope	Gravel, sand, silt
0.000059604644775390625 ft wide, 0.0000059604644775390625 ft deep, 1:1 slope	Gravel, sand, silt
0.0000298023223876953125 ft wide, 0.00000298023223876953125 ft deep, 1:1 slope	Gravel, sand, silt
0.00001490116119384765625 ft wide, 0.000001490116119384765625 ft deep, 1:1 slope	Gravel, sand, silt
0.000007450580596923828125 ft wide, 0.0000007450580596923828125 ft deep, 1:1 slope	Gravel, sand, silt
0.0000037252902984619140625 ft wide, 0.00000037252902984619140625 ft deep, 1:1 slope	Gravel, sand, silt
0.00000186264514923095703125 ft wide, 0.000000186264514923095703125 ft deep, 1:1 slope	Gravel, sand, silt
0.000000931322574615478515625 ft wide, 0.0000000931322574615478515625 ft deep, 1:1 slope	Gravel, sand, silt
0.0000004656612873077392578125 ft wide, 0.00000004656612873077392578125 ft deep, 1:1 slope	Gravel, sand, silt
0.00000023283064365386962890625 ft wide, 0.000000023283064365386962890625 ft deep, 1:1 slope	Gravel, sand, silt
0.000000116415321826934814453125 ft wide, 0.0000000116415321826934814453125 ft deep, 1:1 slope	Gravel, sand, silt
0.0000000582076609134674072265625 ft wide, 0.00000000582076609134674072265625 ft deep, 1:1 slope	Gravel, sand, silt
0.00000002910383045673370361328125 ft wide, 0.000000002910383045673370361328125 ft deep, 1:1 slope	Gravel, sand, silt
0.000000014551915228366851806640625 ft wide, 0.0000000014551915228366851806640625 ft deep, 1:1 slope	Gravel, sand, silt
0.0000000072759576141834259033203125 ft wide, 0.00000000072759576141834259033203125 ft deep, 1:1 slope	Gravel, sand, silt
0.00000000363797880709171295166015625 ft wide, 0.000000000363797880709171295166015625 ft deep, 1:1 slope	Gravel, sand, silt
0.000000001818989403545856475830078125 ft wide, 0.0000000001818989403545856475830078125 ft deep, 1:1 slope	Gravel, sand, silt
0.0000000009094947017729282379150390625 ft wide, 0.00000000009094947017729282379150390625 ft deep, 1:1 slope	Gravel, sand, silt
0.00000000045474735088646411895751953125 ft wide, 0.000000000045474735088646411895751953125 ft deep, 1:1 slope	Gravel, sand, silt
0.000000000227373675443232059478759765625 ft wide, 0.0000000000227373675443232059478759765625 ft deep, 1:1 slope	Gravel, sand, silt
0.0000000001136868377216160297393798828125 ft wide, 0.00000000001136868377216160297393798828125 ft deep, 1:1 slope	Gravel, sand, silt
0.00000000005684341886080801486968994140625 ft wide, 0.000000000005684341886080801486968994140625 ft deep, 1:1 slope	Gravel, sand, silt
0.000000000028421709430404007434844970703125 ft wide, 0.0000000000028421709430404007434844970703125 ft deep, 1:1 slope	Gravel, sand, silt
0.0000000000142108547152020037174224853515625 ft wide, 0.00000000000142108547152020037174224853515625 ft deep, 1:1 slope	Gravel, sand, silt
0.00000000000710542735760100185871124267578125 ft wide, 0.000000000000710542735760100185871124267578125 ft deep, 1:1 slope	Gravel, sand, silt

Height (m):	0.3	% Unstable:	
Textures Fines:	Yes	Gravel:	Yes
Confinement:	2	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	Dry		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
02 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):		Method Temperature:	
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

24-Feb-98

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-131-821-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

- C2
- Note: Wet width, riffle depth, pool depth, and pool % etc. were not recorded in the field.
- C1
- Film 18: 10
- Fish sampling (electroshocking) was conducted. No fish were captured or observed.
- This site has been given a defaulted S-3 classification under the Forest Practices Code.



Photo 98. Upstream view of Stream 182-6976-879-131-821 at Reach 4.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-879-131-821
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93/12
TRIM Map	93J051
Cutting Permit	025
Cutblock Number	105
Operating Area	Ocock
Development Type	Right-of-Way
Survey Date	17-May-95
Reach Number	Not Applicable
Site Number	1
Water Temperature (°C)	Not Recorded
Stream Width (m)	2.7
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	1~
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This low gradient (1%) survey site is located approximately 500 m east of the cutblock. The rearing habitat found in this site was comprised of 65% large organic debris, and 20% instream vegetation. Bed materials of this frequently confined reach were made up entirely of fines. This was a relatively flat section of stream with a low flow velocity. Approximately 20 m downstream of this site, a swampy area exists. Fish sampling was not conducted and no fish were observed. This site contained low quality fish habitat, and no fish were observed. This site was not assigned a stream classification under the Forest Practices Code, however the data gathered will be used for right-of-way design. Note: ~ means that the stream was not indicated on the TRIM based map.	

DFO/MoELP Stream Survey Form

27-Feb-98

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-879-131-821-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-879-131-821-000-000-000-000-000-000	Reach No.:	0	Reach Length (km):	Method:
Location:	025-105 Ocock	Site No.:	1	Length surveyed (m):	100.0 Method: MW
		Map #:	93J/12	Fish Card:	N Field: Yes Historical: No
		U.T.M. :	10.437020.6049180	Photos:	1: 15 Air Photos:
Date:	95/05/17	Time:	15:05	Agency:	EDI
		Survey Crew:	RV\ELRJ\ \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	2.7	Method Av. Chan. Width (m):	TF	Specific Data					
Av. Wet. Width (m):	1.4	Method Av. Wet. Width (m):	TF						
Av. Max. Rif. Depth (cm):		Av. Max. Riffle Depth (cm):	TF						
Av. Max. Pool Depth (cm):	9	Av. Max. Pool Depth (cm):							
Gradient (%):	1.0	Method Gradient:	CL						
% Pool:	50	% Riffle:	0	% Run:	50	% Other:	0	Method:	GE
% Side Channel:		0-10	Method Side Channel:	GE					
% Debris Area:		10-40	Method Debris Area:	GE					

Cover

Cover Total % :		Method Cover Total %:	
Dp Pool :	5	L.O.D.:	65
Boulder:	0	In Veg.:	20
Over Veg:	5	Cutbank:	5
Crown Closure % :	20	Method Crown Closure:	GE
Aspect :	N	Method Aspect:	C

Discharge

Wetted Width (m) :		Method Wetted Width (m) :		Specific Data
Mean Depth (m) :		Method Mean Depth (m) :		
Mean Velocity (m/s) :		Method Mean Velocity (m/s)		
Discharge (m3/s) :		Method Discharge (m3/s) :		

Reach Symbol

(Fish)	
(Width, Valley: Channel, Slope)	(Bed Material)

Bed Material

% Fines (<2mm):	100	% Fines (<2mm):	100
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	0	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	0.1	% Unstable:	5
Textures Fines:	Yes	Gravel: No	Larges: No
Bedrock:	No		
Confinement:	3		
Valley: Chan. Ratio:			
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:		Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):		Method Temperature:	
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

27-Feb-98

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-131-821-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1	Film 1: 15 w/s
	Fish sampling was not conducted. No fish were observed.
	This site was assigned a S-6 classification under the Forest Practices Code.



Photo 99. Upstream view of Stream 182-6976-879-131-821 at Site 1.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-879-131-821
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	028
Cutblock Number	104
Operating Area	Ocock
Development Type	Cutblock
Survey Date	04-Oct-95
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	3.5
Stream Width (m)	1.1
Length Surveyed (m)	700
Habitat Type	Wetland/Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This small, low gradient (0.5%) reach is located in a wetland along the southeastern boundary of the cutblock. It flows in an easterly direction and its substrates are 100% fines. A high total cover of 60% is comprised mainly of overhanging vegetation (90%). The channel at this point, wa filled with water, but flow was minimal. Fish sampling was conducted in this channel within the wetland, however, no fish were captured or observed. This reach contained low quality fish habitat, and since no fish were captured, it was classified as S-6 under the Forest Practices Code. Due to the fact that this reach is surrounded by a wetland, a wetland classification should be applied to this area.	

DFO/MoELP Stream Survey Form

27-Feb-98

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-131-821-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-879-131-821-000-000-000-000-000-000-000	Reach No.:	999	Reach Length (km):	0.7 Method: MW
Location:	028-104 Ocock	Site No.:	0	Length surveyed (m):	700.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
Date: 95/10/04	Time: 12:20	Map #:	93J/12	Photos:	18: 11 Air Photos:
		U.T.M.:	10.437521.6048203		
Agency:	EDI	Survey Crew:	PW\BR\EL\ \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	1.1	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	0.8	Method Av. Wet. Width (m):	MS
Av. Max. Rif. Depth (cm):		Av. Max. Riffle Depth (cm):	
Av. Max. Pool Depth (cm):		Av. Max. Pool Depth (cm):	
Gradient (%):	0.5	Method Gradient:	CL
% Pool: 0	% Riffle: 0	% Run: 0	% Other: 100
% Side Channel:	0	Method Side Channel:	GE
% Debris Area:	0-10	Method Debris Area:	GE

Specific Data					
1.0	1.2	1.1	1.0	1.1	1.0

Bed Material

% Fines (<2mm):	100	% Fines (<2mm):	100
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	0	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	0	Compaction:	High

Cover

Cover Total % :	60	Method Cover Total %:	GE
Dp Pool : 0	L.O.D.: 10	Boulder: 0	In Veg.: 0
Crown Closure % :		Over Veg: 90	Cutbank: 0
	Method Crown Closure:	Aspect : E	Method Aspect: C

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s)
Discharge (m3/s) :	Method Discharge (m3/s) :

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) | (Bed Material)

Banks

Height (m):	0.3	% Unstable:	
Textures Fines:	Yes	Gravel: No	Larges: No Bedrock: No
Confinement:	5		
Valley: Chan. Ratio:			
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	3.5	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (umhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

27-Feb-98

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-131-821-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1

Film 18: 11

Note: Reach '999' should read Reach 'A'.

Fish sampling (electrofishing) was conducted. No fish were captured or observed.

This reach was assigned a S-6 classification under the Forest Practices Code.



Photo 100. Upstream view of Stream 182-6976-879-131-821 at Reach A.

4.1.10 Watershed 182-6976-879-779

Watershed 182-6976-879-779 is located within BC Environment Management Unit 7-25 (BC Recreational Atlas 1993), and covers a small portion of the east border of the Stuart Lake Watershed Group (Fig. 11). This system flows directly into Tsilcoh River which drains into Pinchi Lake. Occupying 1,546 ha of the Stuart Lake Provincial Forest, the geographical relief ranges from approximately 840 m at the confluence of the main system and Tsilcoh River to approximately 1,130 m at its headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977). Only a small section in the western section of this watershed was surveyed by *Environmental Dynamic* in 1996.

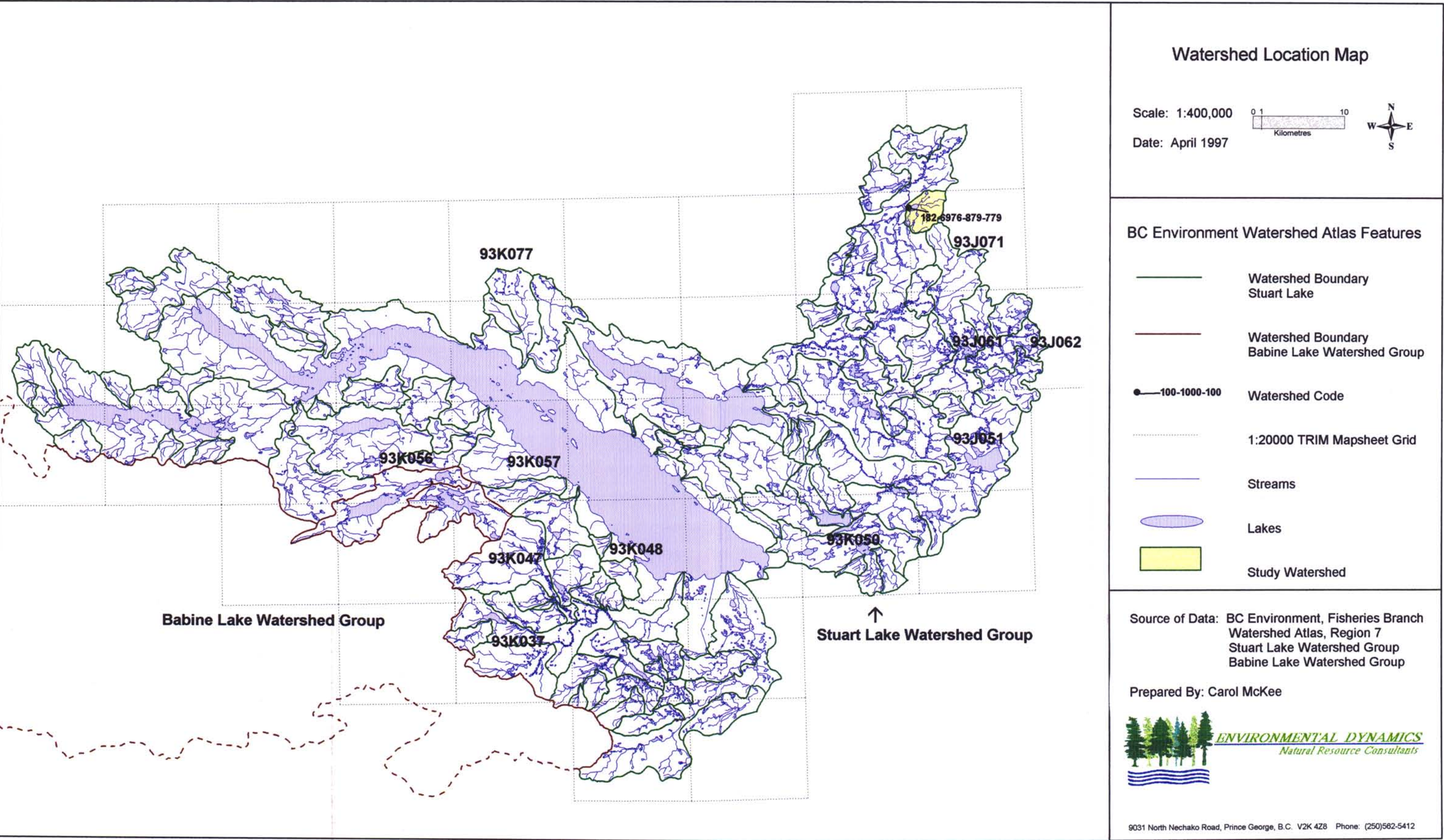
According to the biogeoclimatic units of the Prince George Forest Region, this watershed is dominated by sub-zone/variant the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3) (DeLong et al. 1993).

According to the updated FISS data (1995), no fish species have been documented in Watershed 182-6976-879-779 (BC Environment 1995). As this system drains into Pinchi Lake, it has high potential to contain the following fish species: kokanee, lake whitefish, mountain whitefish, rainbow trout, redbelt shiner, peamouth chub, northern squawfish, longnose sucker and largescale sucker (BC Environment 1997b).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. WMC's are not located within Watershed 182-6976-879-779 (Canfor 1996).

Since this watershed lies within a portion of Canfor's North Salmon Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel road located in this watershed is the Germansen-Tsilcoh FSR and its adjoining sideroads (Canfor 1996).

Figure 11. Location of Watershed 182-6976-879-779 within the Stuart Lake Watershed Group



4.1.10.1 Stream 182-6976-879-779-112

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-879-779-112
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/13
TRIM Map	93J071
Cutting Permit	Sal
Cutblock Number	030
Operating Area	North Salmon
Development Type	Cutblock
Survey Date	18-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This seepage is located north of the cutblock and flows in a northerly direction into an unnamed lake. The seepage was vegetated with black spruce, mosses, bunchberry and horsetail. Fish sampling was not conducted. No fish were observed. As this is a seepage, stream classification is not required under the Forest Practices Code.	

4.1.10.2 Stream 182-6976-879-779-227

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-879-779-227
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/13
TRIM Map	93J071
Cutting Permit	Sal
Cutblock Number	030
Operating Area	North Salmon
Development Type	Cutblock
Survey Date	18-Jun-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	15
Stream Width (m)	1.9
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-3*
Fish Species Identified	RSC - Redside Shiner
Description: This low gradient (1%) reach flows in a northerly direction along the northeastern boundary of the proposed cutblock. Total cover was 30%, with the majority being overhanging vegetation (55%). Bed materials were dominated by fines (40%) and larges (40%). A 75 m wide by 2 m high beaver dam was present at the upper limit of this reach, 400 m upstream of the confluence with the lake, and is a barrier to fish passage. Fish sampling (electroshocking) was conducted for 104 sec. One redside shiner was caught and several fish were observed. Since this reach provides some potential fish habitat and contains redside shiner, it has been classified by default as a S-3* under the Forest Practices Code. Recommendation: Should the presence of regionally significant fish need to be confirmed, further sampling would be required.	

DFO/MoELP Stream Survey Form

02-Sep-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-779-227-000-000-000-000-000-000

Header Information

Stream Name: Unnamed

Stream "Local": N/A

Watershed Code: 182-6976-879-779-227-000-000-000-000-000-000

Location: Sal 30

Map #: 93J/13

U.T.M.: 10.436530.6070810

Date: 6/18/96

Time: 14:35

Agency: EDI

Survey Crew: LL\RVS\ \ \ \ \ \

Reach No.:

Access:

FT

Site No.:

Reach Length (km):

0.10000

Method: MW

Fish Card:

Length surveyed (m):

100.0 Method: MW

Photos:

#5: 16, 17, 18, 19

Field: Yes

Historical: No

Air Photos:

Channel Characteristics

Av. Chan. Width (m): 1.9 Method Av. Chan. Width (m): MS
Av. Wet. Width (m): 1.6 Method Av. Wet. Width (m): MS
Av. Max. Rif. Depth (cm): 10 Av. Max. Riffle Depth (cm): MS
Av. Max. Pool Depth (cm): 20 Av. Max. Pool Depth (cm): 10
Gradient (%): 1.0 Method Gradient: CL
% Pool: 15 % Riffle: 45 % Run: 40 % Other: 0 Method: GE
% Side Channel: 0 Method Side Channel: GE
% Debris Area: 10-40 Method Debris Area: GE

Specific Data

1.9	2.0	2.1	2.2	1.8	1.6
-----	-----	-----	-----	-----	-----

Bed Material

% Fines (<2mm): 40 % Fines (<2mm): 40
% Gravels: 20 Small (2-16mm): 10
Large (16-64mm): 10
% Larges: 40 Small cobble (64-128mm): 30
Large cobble (128-256mm): 10
Boulder cobble (>256mm): 0
% Bedrock: 0 % Bedrock: 0
D90 (cm): 12 Compaction: High

Cover

Cover Total %: 30 Method Cover Total %: GE
Dp Pool: 10 L.O.D.: 15 Boulder: 0 In Veg.: 10 Over Veg: 55 Cutbank: 10
Crown Closure %: 10 Method Crown Closure: GE Aspect: N Method Aspect: C

Discharge

Wetted Width (m): 2.0 Method Wetted Width (m): MS
Mean Depth (m): 0.1 Method Mean Depth (m): MS
Mean Velocity (m/s): 0.75 Method Mean Velocity (m/s): F
Discharge (m3/s): 0.15 Method Discharge (m3/s): F

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Banks

Height (m): 0.4 % Unstable: 5
Textures Fines: Yes Gravel: No Larges: No Bedrock: No
Confinement: 4
Valley: Chan. Ratio:
Stage: M
Flood Signs Ht(m): 0.25 Method Flood Signs: MS
Braided: N Method Braided:
Bars (%): Method Bars:
pH: Method pH:
02 (ppm): Method Dissolved Oxygen:
Water Temp. (°C): 15.0 Method Temperature: HT
Turb. (cm): Method Turbidity:
Cond. (µmhos): Method Conductivity:

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-879-779-227-000-000-000-000-000-000-000

Fish Summary

Species	Number	Size Range (mm)	Age Class	Sex	Length	Weight	Notes/Remarks
RSC	1	70.0	A	R			EL

Obstructions

Obstruction ID	Type	Location
2	BD	1.0

Comments

- C1

Film 5: 19 d/s, 18 u/s, 16&17--beaver dam @ upper limit of stream A (obstruction).

Fish sampling (electroshocking) was conducted for 104 seconds and one RSC was caught. Unidentified observations were made on dozens of other fish.

This stream contains good rearing and spawning habitat and flows into a lake. As a result, it has been defaulted to an S-3 stream under the Forest Practices Code.
- C2

Location 1: There is a 75 m wide 2 m high beaver dam present at the upper limit of this reach, 400 m upstream of the confluence with the lake, which is likely an obstruction to fish passage.



Photo 101. Upstream view of Stream 182-6976-879-779-227 at Reach 1.



Photo 102. Downstream view of Stream 182-6976-879-779-227 at Reach 1.

4.1.11 Ocock River Watershed 182-6976-928

Ocock River Watershed is located BC Environment management units 7-25 and 7-14 (BC Recreational Atlas 1993), and covers part of the eastern portion of the Stuart Lake Watershed Group, east of Pinchi Lake (Fig. 12). Within the Stuart Lake Watershed Group, the Ocock River flows south into Ocock Lake and Carrier Lake before flowing east into Pinchi Lake. The Ocock River Watershed is the second largest basin in the Stuart Lake Watershed Group, occupying 23,770 ha of the Stuart Lake Provincial Forest. The geographical relief ranges from approximately 710 m at the Pinch Lake inlet to approximately 1,400 m at the headwaters on Murray Ridge (BC Environment 1995; Department of Energy, Mines and Resources 1977).

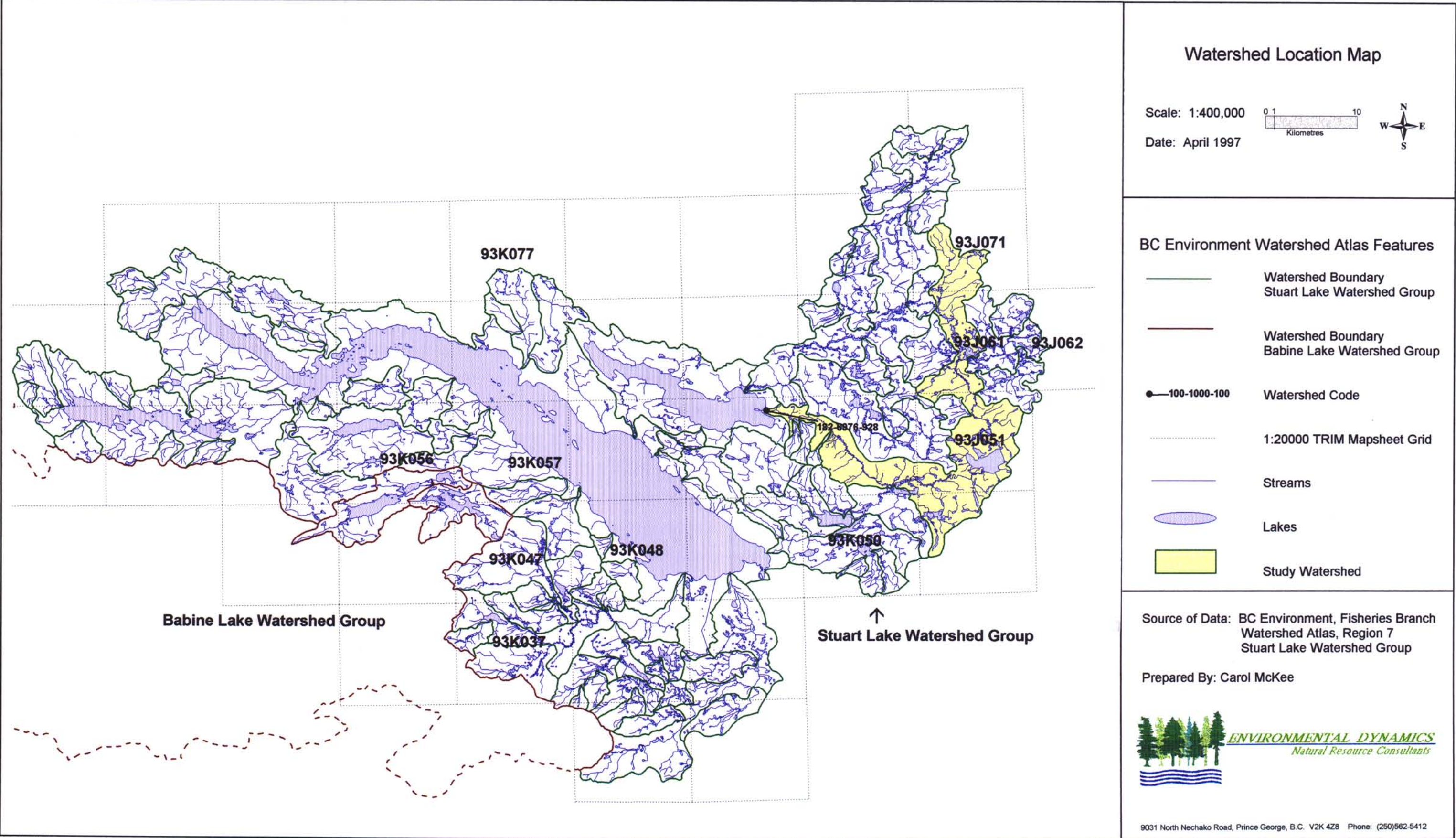
The Ocock River Watershed is dominated by two sub-zones/variants according to the biogeoclimatic units of the Prince George Forest Region. These units include the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3), and the Nechako Moist Very Cold Engelmann Spruce-Subalpine Fir (ESSFmv1) (DeLong et al. 1993).

According to the updated FISS data (1995), no fish species have been documented in the Ocock River Watershed (BC Environment 1995). BC Environment lake inventories have indicated the presence of rainbow trout, peamouth chub, prickly sculpin, redbside shiner, large scale sucker, longnose sucker, northern squawfish and mountain whitefish in Carrier Lake. Ocock Lake was found to contain rainbow trout, peamouth chub, burbot, redbside shiner, mountain whitefish, large scale suckers, longnose suckers, and northern squawfish (BC Environment 1997b). Also, rainbow trout and suckers have been noted at the Ocock South Main road crossing (Hickey Pers. Comm.1997). The Ocock River drains into Pinchi Lake, and, therefore, has the potential to contain several fish species including mountain whitefish, rainbow trout, and kokanee (BC Environment 1997b).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. There is a WMC that surrounds the riparian area of the Ocock River, and extends throughout the watershed (Canfor 1996).

Since this watershed lies within a portion of Canfor's Ocock, Zap-Carrier, North Salmon and Squawfish operating areas, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel roads located in this watershed are the Germansen Landing North Road, the Teardrop-Carrier Forest FSR, the Ocock FSR, the Ocock South Main, and the Ocock West FSR and its adjoining sideroads (Canfor 1996).

Figure 12. Location of Ocock River Watershed (182-6976-928) within the Stuart Lake Watershed Group



4.1.11.1. Stream EDI-532

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	532
Nearest Downstream Watershed Code	182-6976-928-489
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	025
Cutblock Number	071
Operating Area	Ocock
Development Type	Right-of-Way
Survey Date	18-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	0.40
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	1~
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This small, low gradient (4.0%) site drains in a southerly direction towards the northeastern corner of cutblock 025-071. The area contained a definable channel with minimal flow. The bed materials of the confined site were comprised entirely of fines, eliminating the possibility of salmonid spawning. Logging had previously occurred at the site and the old road came up to the channel Fish sampling was not conducted at this site area, and no fish were observed. Since this site contained low quality fish habitat and no fish were observed, it was classified as a S-6 under the Forest Practices Code. Note: ~ means that this stream was not indicated on TRIM base map.	



Photo 103. Upstream view of Stream EDI-532 at Right-of-Way (at previously logged cutblock).

4.1.11.2 Stream 182-6976-928-520

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-520
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	031
Cutblock Number	225B
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	02-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	500
Habitat Type	Dry Gully
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: At the time of survey, 182-6976-928-520 was not a stream, but a dry gully. It was located along the southwestern boundary of the cutblock and contained no evidence of water. This gully does have potential to channel spring runoff. Fish sampling was not conducted and no fish were observed. Since this was a dry gully and not a stream, classification is not required under the Forest Practices Code. Note: Cutblock 031-225A was located approximately 400 m west of this area and no stream could be found in the cutblock.	

4.1.11.3 Stream 182-6976-928-527

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-527
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	031
Cutblock Number	225B
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	02-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Dry Gully
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This area was not a stream, but a dry gully. It was located along the northern boundary of the cutblock and was completely dry at the time of survey. A defined channel with moss covered substrate were apparent. This gully is most likely a spring run-off channel. Fish sampling was not conducted. No fish were observed. Since this was a dry gully, stream classification is not required under the Forest Practices Code.	

4.1.11.4 Stream EDI-793

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	793
Nearest Downstream Watershed Code	182-6976-928
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	Car
Cutblock Number	087
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	25-May-96
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	8.0
Stream Width (m)	0.95
Length Surveyed (m)	200
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	None
Description: This unnamed tributary flows in a southwesterly direction along the southeastern edge of the cutblock. It is a small, low gradient (4.0%) reach dominated by run. The substrate consists of fairly equal portions of fines (40%) and gravels (55%). A total cover of 25% is provided by 40% large organic debris, 20% deep pools and overhanging vegetation. Fish sampling (electroshocking) was conducted for 85 sec. No fish were caught or observed. Although there no fish were caught or observed, this reach contains potentially good spawning and rearing habitat, and this stream is a direct tributary to the Ocock River. It was, therefore, defaulted to S-4* classification under the Forest Practices Code. Recommendation: Further surveying is recommended to determine fish presence, and to fish the upper limit of distribution.	

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report
182-6976-928-999-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI 793	Access:	FT
Watershed Code:	182-6976-928-999-000-000-000-000-000-000-000	Reach No.:	999	Reach Length (km):	0.20000 Method: MW
Location:	87 Carrier	Site No.:	0	Length surveyed (m):	200.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
		Photos:	#56: 10,11	Air Photos:	
Date:	5/25/96	Time:	12:00	Agency:	EDI
		Survey Crew:	WC\NHP\ \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	0.9	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	0.8	Method Av. Wet. Width (m):	MS
Av. Max. Rif. Depth (cm):	10	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	40	Av. Max. Pool Depth (cm):	10
Gradient (%):	4.0	Method Gradient:	CL
% Pool:	25	% Riffle:	10
% Side Channel:	0-10	Method Side Channel:	GE
% Debris Area:	10-40	Method Debris Area:	GE
% Run:	65	% Other:	0
Method: GE			

Specific Data					
1.0	0.8	0.8	1.1	0.9	1.2

Bed Material

% Fines (<2mm):	40	% Fines (<2mm):	40
% Gravels:	55	Small (2-16mm):	35
		Large (16-64mm):	20
% Larges:	5	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	10	Compaction:	High

Cover

Cover Total % :	25	Method Cover Total %:	GE
Dp Pool :	20	L.O.D.:	40
Boulder:	0	In Veg.:	5
Over Veg:	20	Cutbank:	15
Crown Closure % :	10	Method Crown Closure:	GE
Aspect :	SW	Method Aspect:	C

Discharge

Wetted Width (m) :	0.9	Method Wetted Width (m) :	MS
Mean Depth (m) :	0.1	Method Mean Depth (m) :	MS
Mean Velocity (m/s) :	0.50	Method Mean Velocity (m/s)	F
Discharge (m3/s) :	0.70	Method Discharge (m3/s) :	f

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Banks

Height (m):	0.2	% Unstable:	10
Textures Fines:	Yes	Gravel:	No
Confinement:	3	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	H		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	8.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-999-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film # 56: 10 U/S, 11 D/S.

Note: Reach '999' should read Reach 'A'.

Fish sampling (electroshocking) was conducted for 85 seconds. No fish were captured or observed.

This reach has been defaulted to a S-4 classification under the Forest Practices Code.



Photo 104. Upstream view of Stream EDI-793 at Reach A.



Photo 105. Downstream view of Stream EDI-793 at Reach A.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	793
Nearest Downstream Watershed Code	182-6976-928
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	Car
Cutblock Number	087
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	25-May-96
Reach Number	B
Site Number	Not Applicable
Water Temperature (°C)	9.0
Stream Width (m)	0.73
Length Surveyed (m)	550
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	None
Description: This unnamed tributary flows in a southwesterly direction along the southeastern edge of the cutblock. It is a small, low gradient (4.0%) reach which flows directly across the proposed road crossing. This reach is dominated by run and large cobbles. The area surrounding the proposed road crossing consists of good gravels and cover (50%) for rearing and spawning. Fish sampling (electroshocking) was conducted on two separate surveys, May 25,1996 for 50 sec, and May 26, 1996 for 126 sec. No fish were caught or observed. Although there no fish were caught or observed, this reach contains potentially good spawning and rearing habitat, and this stream is a direct tributary to the Ocock River. It was, therefore, defaulted to a S-4* classification under the Forest Practices Code. Recommendation: Further surveying is recommended to determine fish presence, and to fish the upper limit of distribution.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-999-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI 793	Access:	FT
Watershed Code:	182-6976-928-999-000-000-000-000-000-000-000	Reach No.:	998	Reach Length (km):	0.55000 Method: MW
Location:	87 Carrier	Site No.:	0	Length surveyed (m):	550.0 Method: MW
		Map #:	93J/12	Fish Card:	N
		U.T.M.:	10.444510.6046550	Field:	Yes
				Historical:	No
Date:	25/05/96	Time:	13:15	Photos:	56: 12, 13
Agency:	EDI	Survey Crew:	WC/NHP \ \ \ \ \	Alt Photos:	

Channel Characteristics

Av. Chan. Width (m):	0.7	Method Av. Chan. Width (m):	MS	Specific Data					
Av. Wet. Width (m):	0.7	Method Av. Wet. Width (m):	MS	0.7	0.7	0.8	0.7	0.7	0.8
Av. Max. Rif. Depth (cm):	7	Av. Max. Riffle Depth (cm):							
Av. Max. Pool Depth (cm):	30	Av. Max. Pool Depth (cm):	7						
Gradient (%):	4.0	Method Gradient:	CL						
% Pool:	15	% Riffle:	20	% Run:	65	% Other:	0	Method:	GE
% Side Channel:	0-10	Method Side Channel:	GE						
% Debris Area:	>40	Method Debris Area:	GE						

Cover

Cover Total %:	35	Method Cover Total %:	GE								
Dp Pool:	10	L.O.D.:	30	Boulder:	5	In Veg.:	0	Over Veg:	50	Cutbank:	5
Crown Closure %:	5	Method Crown Closure:	GE	Aspect:	S	Method Aspect:	C				

Discharge

Wetted Width (m):	0.7	Method Wetted Width (m):	MS	Specific Data					
Mean Depth (m):	0.1	Method Mean Depth (m):	MS						
Mean Velocity (m/s):	0.23	Method Mean Velocity (m/s):	F						
Discharge (m3/s):	0.02	Method Discharge (m3/s):	f						

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Bed Material

% Fines (<2mm):	35	% Fines (<2mm):	35
% Gravels:	35	Small (2-16mm):	5
		Large (16-64mm):	30
% Larges:	30	Small cobble (64-128mm):	30
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	20	Compaction:	Medium

Banks

Height (m):	20.0	% Unstable:	5
Textures Fines:	Yes	Gravel:	No
Confinement:	4	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	H		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	9.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-999-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1

Film 56: 12 d/s, 13 u/s.

Note: Reach '998' should read Reach 'B'.

Fish sampling (electroshocking) was conducted on two separate occasions (25-May-96 for 50 seconds and 26-May-96 for 126 seconds). No fish were captured or observed.

This section of stream has been defaulted to a S-4 classification under the Forest Practices Code.



Photo 106. Upstream view of Stream EDI-793 at Reach B.



Photo 107. Downstream view of Stream EDI-793 at Reach B.

4.1.11.5 Stream 182-6976-928-613

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-613
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	Car
Cutblock Number	087
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	16-May-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	11.0
Stream Width (m)	2.65
Length Surveyed (m)	300
Habitat Type	Stream
Stream Order (1:20,000)	3
Forest Practices Code Stream Classification	S-3
Fish Species Identified	RB-Rainbow Trout
Description: The low gradient (4%) reach flows in a southerly direction along the northwestern side of the cutblock and into the Ocock River. The substrate is dominated by fines (70%) with a smaller component of gravels, (30%). The downstream end of the reach contains decent gravels and potential spawning habitat for fish. Good rearing habitat is provided by overhanging vegetation, deep pools and large organic debris. This reach was originally surveyed on May 16, 1996 and one rainbow trout was observed jumping at the mouth of the Ocock River. It was resurveyed on May 26, 1996, and fish sampling (electroshocking) was conducted for 62 sec and revealed the presence of rainbow trout. Additionally, adult rainbow trout were observed spawning in this reach on May 26, 1996. This reach contains good spawning and rearing habitat, and since regionally significant fish were captured, it was classified S-3 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-613-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-613-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.30000 Method: MW
Location:	Car 87	Site No.:	0	Length surveyed (m):	300.0 Method: MW
		Map #:	93J/12	Fish Card:	N
		U.T.M. :	10.443810.6047120	Field:	Yes
				Historical:	No
Date: 16/05/96	Time: 11:40	Agency: EDI	Survey Crew: BR \NHP\NC\ \ \ \ \	Photos:	#56: 1,2
				Alr Photos:	

Channel Characteristics

Av. Chan. Width (m):	2.7	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	2.4	Method Av. Wet. Width (m):	MS
Av. Max. Rif. Depth (cm):	15	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	65	Av. Max. Pool Depth (cm):	15
Gradient (%):	4.0	Method Gradient:	CL
% Pool:	20	% Riffle:	20
% Side Channel:	0-10	% Run:	60
% Debris Area:	>40	% Other:	0
		Method:	GE
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data					
2.7	2.4	1.9	2.8	3.4	2.9

Cover

Cover Total % :	60	Method Cover Total %:	GE
Dp Pool : 10 L.O.D.:	30	Boulder:	0
Crown Closure % :	5	In Veg.:	5
		Over Veg:	50
		Cutbank:	5
		Aspect :	SW
		Method Aspect:	C

Discharge

Wetted Width (m) :	2.4	Method Wetted Width (m) :	MS
Mean Depth (m) :	0.1	Method Mean Depth (m) :	MS
Mean Velocity (m/s) :	1.00	Method Mean Velocity (m/s)	F
Discharge (m3/s) :	0.35	Method Discharge (m3/s) :	F

Specific Data					

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Bed Material

% Fines (<2mm):	70	% Fines (<2mm):	70
% Gravels:	30	Small (2-16mm):	20
		Large (16-64mm):	10
% Larges:	0	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	2	Compaction:	High

Banks

Height (m):	0.5	% Unstable:	15
Textures Fines:	Yes	Gravel:	No
Confinement:	3	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	H		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	Y	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	11.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-000-000-000-000-000-000-000

Fish Summary

Species	Number	Size (Length in mm)	Age	Sex	Notes	Method/Remarks
RB	2	300-320	A	S		EL
RB	1	100.0	J	R		EL

Obstructions

Comments

- C1 Film 56: 1 u/s (at Ocock River mouth), 2 d/s (at card site).
Stream was originally surveyed on May.16, 1996 and one rainbow was observed jumping at the mouth of the Ocock River. It was re-surveyed on May. 26, 1996. Fish sampling (electroshocking) was conducted for 62 seconds and the presence of rainbow trout was revealed. This stream is used by RB for spawning.
This stream was classed as a S-3 fish bearing classification under the Forest Practices Code due to the presence of regionally significant fish.
- C2 Temperature was taken at a later date (May 25/96).
- C3 These fish were captured at a later date (May 26/96). Temperature was taken at this time as well.



Photo 108. Upstream view of marshland on Stream 182-6976-928-613 at Reach 1.



Photo 109. Downstream view of Stream 182-6976-928-613 at Reach 1.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-613
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	Car
Cutblock Number	087
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	16-May-96
Reach Number	2
Site Number	Not Applicable
Water Temperature (°C)	12.0
Stream Width (m)	2.40
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-3*
Fish Species Identified	None
Description: This reach flows in a southwesterly direction along the northwestern edge of the cutblock. It is a moderately sized, low gradient (1.0%) reach which is dominated by fine substrates. The total cover of 70% was provided by large organic debris (40%), deep pool (25%) and undercut bank (25%). Fish sampling (electroshocking) was conducted on two separate surveys, May 16, 1996 for 91 sec, and May 26, 1996 for 50 sec. No fish were caught or observed. This reach contains good rearing habitat and there are no obstructions to fish movement. As regionally significant fish were captured in the lower reach, it was classified by default as S-3* under the Forest Practices Code.	

Header Information

Stream Name: Unnamed

Watershed Code: 182-6976-928-613-000-000-000-000-000-000-000

Location: Car 87

Date: 16/05/96

Time: 13:00

Agency: EDI

Survey Crew: NC\NHP\BR\ \ \ \ \

Stream "Local": N/A

Map #: 93J/12

U.T.M.: 10.443970.6047330

Access: FT

Reach No.: 2

Site No.: 0

Fish Card: N

Photos: #56:3,4

Reach Length (km): 0.10000

Length surveyed (m): 100.0

Field: Yes

Historical: No

Air Photos:

Method: MW

Method: MW

Channel Characteristics

Av. Chan. Width (m): 2.1

Av. Wet. Width (m): 1.9

Av. Max. Rif. Depth (cm): 0

Av. Max. Pool Depth (cm): 85

Gradient (%): 1.0

% Pool: 20

% Side Channel: 10-40

% Debris Area: >40

Method Av. Chan. Width (m): MS

Method Av. Wet. Width (m): MS

Av. Max. Riffle Depth (cm): MS

Av. Max. Pool Depth (cm): 0

Method Gradient: CL

% Riffle: 0

% Run: 80

% Other: 0

Method Side Channel: GE

Method Debris Area: GE

Specific Data

1.8

1.4

2.0

1.6

2.6

3.4

Method: GE

Cover

Cover Total % : 70

Dp Pool : 25

Crown Closure % : 0

Method Cover Total %: GE

L.O.D.: 40

Method Crown Closure: GE

Boulder: 0

In Veg.: 5

Aspect : SW

Over Veg: 5

Cutbank: 25

Method Aspect: C

Discharge

Wetted Width (m) : 1.4

Mean Depth (m) : 0.4

Mean Velocity (m/s) : 0.25

Discharge (m3/s) : 0.14

Method Wetted Width (m) : MS

Method Mean Depth (m) : MS

Method Mean Velocity (m/s) : F

Method Discharge (m3/s) : F

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Bed Material

% Fines (<2mm): 95

% Gravels: 5

% Larges: 0

% Bedrock: 0

D90 (cm): 0

% Fines (<2mm): 95

Small (2-16mm): 5

Large (16-64mm): 0

Small cobble (64-128mm): 0

Large cobble (128-256mm): 0

Boulder cobble (>256mm): 0

% Bedrock: 0

Compaction: High

Banks

Height (m): 0.5

Textures Fines: Yes

Confinement: 5

Valley: Chan. Ratio:

Stage: H

Flood Signs Ht(m):

Braided: Y

Bars (%):

pH:

O2 (ppm):

Water Temp. (°C): 12.0

Turb. (cm):

Cond. (µmhos):

% Unstable: 5

Gravel: No

Larges: No

Bedrock: No

Method Flood Signs:

Method Braided:

Method Bars:

Method pH:

Method Dissolved Oxygen:

Method Temperature: HT

Method Turbidity:

Method Conductivity:

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

- C1

Film 56: 3 (pond with beaver dam and lodge), 4 u/s.
Fish sampling (electroshocking) was conducted on two separate occasions (16-May-96 and 26-May-96) and both times fish were neither caught nor observed.
Stream was defaulted to an S-3 under the Forest Practices Code due to good habitat and the presence of regionally significant fish downstream.
- C2

Temperature was recorded at a later date (May 25/96)



Photo 110. Upstream view of Stream 182-6976-928-613 at Reach 2.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-613
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	031
Cutblock Number	084
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	1-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	0.98
Length Surveyed (m)	1000
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This section of stream flows in a westerly direction along the southwestern border of the cutblock. It was examined earlier in the season and the channel contained ample flow. Only isolated pockets of water and a dry stream bed were present during the June, 1995 survey. Reach cards were not completed in either survey. Fish sampling was not conducted. No fish were observed. Due to the lack of fisheries habitat, this section of stream was classified as S-6 under the Forest Practice Code.	

4.1.11.6 Stream EDI-576

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	576
Nearest Downstream Watershed Code	182-6976-928-613
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	018
Cutblock Number	082
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	16-May-95
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	2.3
Length Surveyed (m)	850
Habitat Type	Stream
Stream Order (1:20,000)	1~
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This stream is located on the northern border of the cutblock, and flows in a westerly direction. It has a low gradient (1%), and it is characterized by run (50%) and shallow pools (50%). The substrate is dominated by fines. Fish sampling (minnow trapping) was conducted and no fish were captured or observed. This reach was given a S-6 classification under the Forest Practices Code, due to the presence of low quality fish habitat and the absence of fish. Note: ~ means that this stream was not indicated on the TRIM base map.	

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-999-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI 576	Access:	FT
Watershed Code:	182-6976-928-613-999-000-000-000-000-000-000	Reach No.:	999	Reach Length (km):	0.08500 Method: MW
Location:	ND/WSC: 182-6976-928-613; 18-082 Carrier	Map #:	93I/12	Site No.:	0 Length surveyed (m): 85.0 Method: MW
		U.T.M.:	10.446110.6047060	Fish Card:	N Field: Yes Historical: No
Date:	5/16/95	Time:	13:15	Photos:	1: 8 Air Photos:
Agency:	EDI	Survey Crew:	EL\SC\BR\ \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	2.3	Method Av. Chan. Width (m):	TF	Specific Data					
Av. Wet. Width (m):	0.6	Method Av. Wet. Width (m):	TF						
Av. Max. Rif. Depth (cm):		Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	12	Av. Max. Pool Depth (cm):							
Gradient (%):	1.0	Method Gradient:	CL						
% Pool:	50	% Riffle:	0	% Run:	50	% Other:	0	Method:	GE
% Side Channel:	0	Method Side Channel:							
% Debris Area:	10-40	Method Debris Area:	GE						

Cover

Cover Total % :	15	Method Cover Total %:	GE				
Dp Pool :	L.O.D.:	Boulder:	In Veg.:	Over Veg:	Cutbank:		
Crown Closure % :	10	Method Crown Closure:	GE	Aspect :	W	Method Aspect:	C

Discharge

Wetted Width (m) :	0.6	Method Wetted Width (m) :	TF	Specific Data
Mean Depth (m) :	0.1	Method Mean Depth (m) :	TF	
Mean Velocity (m/s) :	0.10	Method Mean Velocity (m/s)	F	
Discharge (m3/s) :	0.01	Method Discharge (m3/s) :	f	

Reach Symbol

(Fish)	
(Width, Valley: Channel, Slope)	(Bed Material)

Bed Material

% Fines (<2mm):	95	% Fines (<2mm):	95
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	5	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	

Banks

Height (m):	0.5	% Unstable:	
Textures Fines:	Yes	Gravel:	No
Confinement:	5	Larges:	No
Valley: Chan. Ratio:	5	Bedrock:	No
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	Y	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):		Method Temperature:	
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-999-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

-
- | | |
|----|---|
| C2 | Note: Side Channel (%) was not recorded in the field notes. |
| C1 | Film 1: 8 |
| | Note: Reach '999' should read Reach 'A'. |
| | Fish sampling (minnow trapping) was conducted. No fish were captured or observed. |
| | This section of the stream was assigned a S-6 classification under the Forest Practices Code. |
-



Photo 111. Upstream view of Stream EDI-576 at Reach A.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	576
Nearest Downstream Watershed Code	182-6976-928-613
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	018
Cutblock Number	082
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	16-May-95
Reach Number	B
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	0.70
Length Surveyed (m)	850
Habitat Type	Stream
Stream Order (1:20,000)	1~
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This stream is located within the cutblock flowing in a westerly direction. It is characterized by riffle habitat (60%) and shallow pools (40%). The substrate is dominated by fines (85%) with minor components of large gravels and large cobbles. Fish sampling was not conducted in this reach and no fish were observed. Fish sampling (minnow trapping) was conducted in reaches just downstream of this reach, however no fish were captured. This reach was given a S-6 classification under the Forest Practices Code, due to the presence of low quality fish habitat. The knowledge that the reaches downstream had low quality fish habitat contributed to the decision to the classification of this reach. Note: ~ means that this stream wasn't indicated on the TRIM base map.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-999-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI 576	Access:	FT
Watershed Code:	182-6976-928-613-999-000-000-000-000-000-000	Reach No.:	998	Reach Length (km):	0.08500 Method: MW
Location:	ND/WSC: 182-6976-928-613; 18-082 Carrier	Site No.:	0	Length surveyed (m):	85.0 Method: MW
		Map #:	93J/12	Fish Card:	N Field: Yes Historical: No
		U.T.M.:	10.446270.6047060	Photos:	1:9 Air Photos:
Date: 16/05/95	Time: 12:30	Agency: EDI	Survey Crew: ELA SCA BR \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	0.7	Method Av. Chan. Width (m):	TF
Av. Wet. Width (m):	0.3	Method Av. Wet. Width (m):	TF
Av. Max. Rif. Depth (cm):	3	Av. Max. Riffle Depth (cm):	TF
Av. Max. Pool Depth (cm):	10	Av. Max. Pool Depth (cm):	3
Gradient (%):	3.0	Method Gradient:	CL
% Pool: 40	% Riffle: 60	% Run: 0	% Other: 0 Method: GE
% Side Channel:	0	Method Side Channel:	GE
% Debris Area:	0-10	Method Debris Area:	GE

Specific Data

Bed Material

% Fines (<2mm):	85	% Fines (<2mm):	85
% Gravels:	5	Small (2-16mm):	0
		Large (16-64mm):	5
% Larges:	10	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	10
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	Medium

Cover

Cover Total % :	10	Method Cover Total %:	GE
Dp Pool : 0 L.O.D.:	50	Boulder: 0	In Veg.: 0 Over Veg: 50 Cutbank: 0
Crown Closure % :	5	Method Crown Closure:	GE Aspect : W Method Aspect: C

Discharge

Wetted Width (m) :	0.3	Method Wetted Width (m) :	MS
Mean Depth (m) :	0.1	Method Mean Depth (m) :	MS
Mean Velocity (m/s) :	0.10	Method Mean Velocity (m/s)	F
Discharge (m3/s) :	0.00	Method Discharge (m3/s) :	f

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Banks

Height (m):	15.0	% Unstable:	0
Textures Fines:	Yes	Gravel: No	Larges: No Bedrock: No
Confinement:	2		
Valley: Chan. Ratio:	5		
Stage:	M		
Flood Signs Ht(m):	0.4	Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):		Method Temperature:	
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-999-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 1: 8

Note: Reach '998' should read Reach 'B'.

Fish sampling was not conducted in this reach. No fish were observed.

This section of stream was assigned a S-6 classification under the Forest Practices Code.



Photo 112. Upstream view of Stream EDI-576 at Reach B.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	576
Nearest Downstream Watershed Code	182-6976-928-613
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	018
Cutblock Number	082
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	16-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	200
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This section of the drainage did not contain a definable channel. This area was a treed wetland, with some water flowing in the depression formed by the terrain. Fish sampling was not conducted. No fish or observed. Since this is a wetland, stream classification is not required under the Forest Practices Code.	

4.1.11.7 Stream 182-6976-928-613-110

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-613-110
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	Car
Cutblock Number	085
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	26-May-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	7
Stream Width (m)	1.05
Length Surveyed (m)	700
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This small stream is located along the western boundary of the cutblock and flows south. This mid-gradient reach (11%) was frequently confined and was dominated by 60% run habitat. The 25% total cover was evenly distributed between deep pools, LOD, boulders and overhanging vegetation. There was also a small percentage of instream vegetation and undercut banks (5% each). This stream began as a seepage area at the northern boundary of the cutblock, and ended as a seepage area at the road crossing. Since there is not a culvert at the road, water flowed in the ditch along the roadside. The area south of the road was surveyed, and no definable channel or water was found. Fish sampling was not conducted since fish access to this reach is impossible. No fish were observed. This stream contains low quality fish habitat and is inaccessible to fish. It has, therefore, been classified as S-6 under the Forest Practices Code. Recommendation: At the road crossing, a culvert may be needed to prevent the road from eroding.	

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-613-110-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.7 Method: MW
Location:	Car 85	Site No.:	0	Length surveyed (m):	700.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
		U.T.M.:	10.444050.6047900	Air Photos:	
Date:	5/26/96	Time:	17:00	Photos:	#56:17,18
Agency:	EDI	Survey Crew:	NHP\WC \ \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	1.0	Method Av. Chan. Width (m):	MS	Specific Data					
Av. Wet. Width (m):	0.7	Method Av. Wet. Width (m):	MS	1.1	1.4	1.0	1.1	0.7	1.0
Av. Max. Rif. Depth (cm):	10	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	10						
Gradient (%):	11.0	Method Gradient:	CL						
% Pool:	15	% Riffle:	25	% Run:	60	% Other:	0	Method: GE	
% Side Channel:	0-10	Method Side Channel:	GE						
% Debris Area:	>40	Method Debris Area:	GE						

Bed Material

% Fines (<2mm):	30	% Fines (<2mm):	30
% Gravels:	35	Small (2-16mm):	20
		Large (16-64mm):	15
% Larges:	35	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	20
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	30	Compaction:	Medium

Cover

Cover Total % :	25	Method Cover Total %:	GE								
Dp Pool :	20	L.O.D.:	25	Boulder:	15	In Veg.:	5	Over Veg:	30	Cutbank:	5
Crown Closure % :	5	Method Crown Closure:	GE	Aspect :	S	Method Aspect:	C				

Banks

Height (m):	0.3	% Unstable:	5				
Textures Fines:	Yes	Gravel:	No	Larges:	No	Bedrock:	No
Confinement:	3						
Valley: Chan. Ratio:							
Stage:	M						
Flood Signs Ht(m):	0.2	Method Flood Signs:					
Braided:		Method Braided:					
Bars (%):		Method Bars:					
pH:		Method pH:					
O2 (ppm):		Method Dissolved Oxygen:					
Water Temp. (°C):	7.0	Method Temperature:	HT				
Turb. (cm):		Method Turbidity:					
Cond. (µmhos):		Method Conductivity:					

Discharge

Wetted Width (m) :	0.7	Method Wetted Width (m) :		Specific Data					
Mean Depth (m) :	0.1	Method Mean Depth (m) :							
Mean Velocity (m/s) :	0.28	Method Mean Velocity (m/s)							
Discharge (m3/s) :	0.01	Method Discharge (m3/s) :							

Reach Symbol

(Fish)	
(Width, Valley: Channel, Slope)	(Bed Material)

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-110-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

- C1

Film 56: 15 u/s and 16 d/s

This stream begins as a seepage area and ends abruptly at the road crossing due to a lack of culvert. Instead the water flows along the road in a ditch. On the south side (downstream) of the right-of-way crossing there wasn't any water or defineable channel.

Due to its size and substrate quality this stream was classified as a S-6 for Forest Practices Code.

Fish sampling (electroshocking) was not conducted as fish access to this reach is impossible. No fish were visually observed.
- C2

Stream flow appears to be impeded by absence of culvert.



Photo 113. Upstream view of Stream 182-6976-928-613-110 at Reach 1.



Photo 114. Downstream view of Stream 182-6976-928-613-110 at Reach 1.

4.1.11.8 Stream EDI-794

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	794
Nearest Downstream Watershed Code	182-6976-928-613-110
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	Car
Cutblock Number	085
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	26-May-96 95
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	11
Stream Width (m)	0.62
Length Surveyed (m)	500
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This small stream is located west of the cutblock and flows south. This low gradient reach (2%) was occasionally confined and was characterized by 60% run, 30% pool and 10% riffle habitat. The 50% total cover was dominated by overhanging vegetation (40%), deep pools (20%) and LOD (20%). The bed material was evenly distributed between fines, gravels and larges. This reach flowed subsurface for approximately 60% of its length. This stream ends in a seepage approximately 10 m above the road crossing. The headwaters of this stream begin as seepage in an old cutblock. It should be noted that the stream goes sub-terrainian at the road crossing and does not connect via a channel with any other waterbody. Fish sampling was not conducted as fish would be unable access this stream reach. No fish were observed. This stream has low quality fish habitat and is inaccessible due to subsurface flow. This stream has been classified as S-6 under the Forest Practices Code. Recommendation: The culvert at the lower reach break is damaged and should be repaired to negate potential damage to the road subgrade.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-110-999-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	ED 794	Access:	FT
Watershed Code:	182-6976-928-613-110-999-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.5 Method: MW
Location:	ND/WSC: 182-6976-928-613-110; 85 Carrier	Site No.:	0	Length surveyed (m):	100.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
Date: 26/05/95	Time: 15:00	Agency: EDI	Survey Crew: WCNHP \ \ \ \ \	Photos:	56: 15, 16 Air Photos:
		Map #:	93J/12		
		U.T.M.:	10.443680.6047830		

Channel Characteristics

Av. Chan. Width (m):	0.6	Method Av. Chan. Width (m):	MS						
Av. Wet. Width (m):	0.6	Method Av. Wet. Width (m):	MS						
Av. Max. Rif. Depth (cm):	10	Av. Max. Riffle Depth (cm):							
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	10						
Gradient (%):	2.0	Method Gradient:	CL						
% Pool:	30	% Riffle:	10	% Run:	60	% Other:	0	Method:	GE
% Side Channel:	0	Method Side Channel:	GE						
% Debris Area:	10-40	Method Debris Area:	GE						

Cover

Cover Total % :	50	Method Cover Total %:	GE								
Dp Pool :	20	L.O.D.:	20	Boulder:	0	In Veg.:	10	Over Veg:	40	Cutbank:	10
Crown Closure % :	15	Method Crown Closure:	GE	Aspect :	S	Method Aspect:	C				

Discharge

Wetted Width (m) :	0.6	Method Wetted Width (m) :	MS						
Mean Depth (m) :	0.1	Method Mean Depth (m) :	MS						
Mean Velocity (m/s) :	0.13	Method Mean Velocity (m/s)	F						
Discharge (m3/s) :	0.01	Method Discharge (m3/s) :	f						

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Bed Material

% Fines (<2mm):	40	% Fines (<2mm):	40
% Gravels:	30	Small (2-16mm):	10
		Large (16-64mm):	20
% Larges:	30	Small cobble (64-128mm):	20
		Large cobble (128-256mm):	10
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	0.3	% Unstable:	5				
Textures Fines:	Yes	Gravel:	No	Larges:	No	Bedrock:	No
Confinement:	4						
Valley: Chan. Ratio:							
Stage:	M						
Flood Signs Ht(m):	0.1	Method Flood Signs:					
Braided:	N	Method Braided:					
Bars (%):		Method Bars:					
pH:		Method pH:					
02 (ppm):		Method Dissolved Oxygen:					
Water Temp. (°C):	11.0	Method Temperature:	HT				
Turb. (cm):		Method Turbidity:					
Cond. (umhos):		Method Conductivity:					

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-110-999-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 56: 15 w/s, 16 d/s

Fish sampling was not conducted. No fish were observed.

This stream was assigned a S-6 classification under the Forest Practices Code.



Photo 115. Upstream view of Stream EDI-794 at Reach 1.



Photo 116. Downstream view of Stream EDI-794 at Reach 1.

4.1.11.9 Stream 182-6976-928-613-380

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-613-380
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	Car
Cutblock Number	087
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	24-May-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	8.0
Stream Width (m)	0.70
Length Surveyed (m)	400
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This unnamed tributary flows in a southwesterly direction along the northeastern side of the cutblock. It is a small, low gradient (3.0%) reach which is possibly ephemeral. The reach is dominated by run and fine substrate. A seepage begins just upstream of the upper limit of this reach. Fish sampling (electroshocking) was conducted. No fish were captured or observed. This stream was given a S-6 classification under the Forest Practices Code due to the absence of fish and lack of good quality fish habitat.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-380-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-613-380-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.40000 Method: MW
Location:	Car 87	Site No.:	0	Length surveyed (m):	400.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
Date: 24/05/96	Time: 12:45	Agency: EDI	Survey Crew: BR WHPA \ \ \ \ \	Photos:	#12:9,10 Air Photos:

Channel Characteristics

Av. Chan. Width (m):	0.7	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	0.6	Method Av. Wet. Width (m):	MS
Av. Max. Rif. Depth (cm):	5	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	5
Gradient (%):	3.0	Method Gradient:	CL
% Pool: 10	% Riffle: 10	% Run: 80	% Other: 0
Method: GE			
% Side Channel:	0	Method Side Channel:	GE
% Debris Area:	>40	Method Debris Area:	GE

Specific Data					
0.7	0.8	0.9	0.6	0.8	0.6

Cover

Cover Total % :	75	Method Cover Total %:	GE
Dp Pool : 10 L.O.D.:	15	Boulder: 0	In Veg.: 0
Crown Closure % :	15	Method Crown Closure:	GE
Over Veg:	70	Cutbank:	5
Aspect :	W	Method Aspect:	C

Discharge

Wetted Width (m) :	0.8	Method Wetted Width (m) :	MS
Mean Depth (m) :	0.1	Method Mean Depth (m) :	MS
Mean Velocity (m/s) :	0.11	Method Mean Velocity (m/s)	F
Discharge (m3/s) :	0.00	Method Discharge (m3/s) :	F

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Bed Material

% Fines (<2mm):	100	% Fines (<2mm):	100
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	0	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	0	Compaction:	Medium

Banks

Height (m):	0.1	% Unstable:	95
Textures Fines:	Yes	Gravel: No	Larges: No
Confinement:	5	Bedrock:	No
Valley: Chan. Ratio:			
Stage:	H		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	8.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-613-380-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 12: 9 d/s, 10 u/s.

Fish sampling (electroshocking) was conducted. No fish were captured or observed.

This stream was given an S-6 classification under the Forest Practices Code.



Photo 117. Downstream view of Stream 182-6976-928-613-380 at Reach 1.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-613-380
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	031
Cutblock Number	084
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	01-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	0.50
Length Surveyed (m)	1000
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (2%) reach flows in a westerly direction along the northern boundary of the cutblock. At the time of survey, only isolated pockets of standing water were present within the stream channel. The lower limits of this reach is a seepage area. A stream card was not completed at the sample site. Fish sampling was not conducted. No fish were observed. Due to the lack of fisheries habitat, this reach was classified as S-6 under the Forest Practices Code.	

4.1.11.10 Stream 182-6976-928-704

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-704
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	167
Operating Area	Ocock
Development Type	None
Survey Date	15-May-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	3
Stream Width (m)	3.7
Length Surveyed (m)	500
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-3
Fish Species Identified	RB - Rainbow Trout
Description: This low gradient (2.5%) reach located northeast of the cutblock, flows in a northeasterly direction into the Ocock River. A total cover of 30% was comprised of 40% LOD and overhanging vegetation. Bed materials of this confined reach were made up of fines (60%), gravels (30%) and larges (10%). This reach flows directly into the Ocock River which is a known fish-bearing system. Fish sampling (electroshocking) was conducted for 415 sec. One rainbow trout was captured and one was observed. This reach provides decent rearing habitat and potentially good spawning habitat. Since it flows directly into Ocock River, and regionally significant fish were captured, it was classified as S-3 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-704-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-704-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.5 Method: MW
Location:	Oco 167	Site No.:	0	Length surveyed (m):	500.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
Date: 15/05/96	Time: 10:15	Agency: EDI	Survey Crew: EDI \ \ \ \ \	Photos:	#A: 11 Air Photos:

Channel Characteristics

Av. Chan. Width (m):	3.8	Method Av. Chan. Width (m):	TF	3.0	4.0	3.4	4.1	4.6	3.4
Av. Wet. Width (m):	3.0	Method Av. Wet. Width (m):	TF						
Av. Max. Rif. Depth (cm):	20	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	57	Av. Max. Pool Depth (cm):	20						
Gradient (%):	2.5	Method Gradient:	CL						
% Pool: 20	% Riffle: 20	% Run: 60	% Other: 0	Method: GE					
% Side Channel:	0	Method Side Channel:	GE						
% Debris Area:	10-40	Method Debris Area:	GE						

Cover

Cover Total % :	30	Method Cover Total %:	GE						
Dp Pool : 5 L.O.D.:	40	Boulder: 5	In Veg.: 5	Over Veg: 40	Cutbank: 5				
Crown Closure % :	10	Method Crown Closure:	GE	Aspect : NE	Method Aspect: C				

Discharge

Wetted Width (m) :	3.0	Method Wetted Width (m) :	TF						
Mean Depth (m) :	0.4	Method Mean Depth (m) :	MS						
Mean Velocity (m/s) :	0.30	Method Mean Velocity (m/s)	F						
Discharge (m3/s) :	0.36	Method Discharge (m3/s) :	f						

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Bed Material

% Fines (<2mm):	60	% Fines (<2mm):	60
% Gravels:	30	Small (2-16mm):	10
		Large (16-64mm):	20
% Larges:	10	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	11	Compaction:	High

Banks

Height (m):	0.8	% Unstable:	5	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	2			
Valley: Chan. Ratio:				
Stage:	H			
Flood Signs Ht(m):	0.5	Method Flood Signs:	MS	
Braided:		Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
O2 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	3.0	Method Temperature:	HT	
Turb. (cm):		Method Turbidity:		
Cond. (µmhos):		Method Conductivity:		

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-704-000-000-000-000-000-000-000

Fish Summary

Obstructions

Species	Number	NEZ Code (000)	Life Stage	Sex	Length (mm)	Weight (g)	Visual Reference
RB	2	200-240	A	S			EL

Comments

- C1

Film A: 11 w/s

Fish sampling (electroshocking) was conducted for 415 seconds. One rainbow trout (adult) was captured.

This stream is classified a S-3 stream under the Forest Practices Code.
- C2

One of the rainbow trout was visually observed and not captured.



Photo 118. Upstream view of Stream 182-6976-928-704 at Reach 1.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-704
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	167
Operating Area	Ocock
Development Type	None
Survey Date	15-May-96
Reach Number	2
Site Number	Not Applicable
Water Temperature (°C)	4
Stream Width (m)	2.3
Length Surveyed (m)	700
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-3*
Fish Species Identified	None
Description: This low gradient (1.5%) reach is located northeast of the cutblock and flows in a northeasterly direction. Total cover of 30% is comprised of 45% LOD, 30 % overhanging vegetation, and 10% deep pool. Bed materials of this confined reach are made up of fines (75%), larges (15%) and gravels (10%). The upper limit of this reach is a large beaver dam (40 cm high), however, it is not likely an impass to fish migration. The culvert situated at the Ocock Main road appears to be too small for the stream channel. The CSP is 600 mm in diameter. This results in a large amount of pooled water on both sides of the road. Fish sampling (electroshocking) was conducted for 82 sec, however, no fish were captured or observed. The Forestry supervisor for this operating area stated that BC Environment staff had captured rainbow trout within this reach in the summer of 1995. This reach provides good rearing and potentially good spawning habitat. Although no fish were captured at the time of the survey, this stream flows directly into Ocock River. It was, therefore, defaulted to S-3* under the Forest Practices Code. Recommendation: The culvert at Ocock Main road will need to be replaced with a larger culvert as the present culvert is too small. There are large pools on either side of the culvert, and the high velocity of the flow confirmed the insufficient size. At the time of the survey, this culvert was an impediment to fish movement.	

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-704-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-704-000-000-000-000-000-000-000	Reach No.:	2	Reach Length (km):	0.7 Method: MW
Location:	Oco 167	Map #:	93J/12	Length surveyed (m):	700.0 Method: MW
		U.T.M. :	10.440160.6051170	Fish Card:	N Field: Yes Historical: No
Date: 5/15/96	Time: 13:45	Agency: EDI	Survey Crew: RV\RM \ \ \ \ \ \	Photos:	#WT: 9 Air Photos:

Channel Characteristics

Av. Chan. Width (m):	2.3	Method Av. Chan. Width (m):	TF
Av. Wet. Width (m):	3.1	Method Av. Wet. Width (m):	TF
Av. Max. Rif. Depth (cm):	20	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	60	Av. Max. Pool Depth (cm):	20
Gradient (%):	1.5	Method Gradient:	CL
% Pool: 20	% Riffle: 10	% Run: 70	% Other: 0 Method: GE
% Side Channel:	0-10	Method Side Channel:	GE
% Debris Area:	>40	Method Debris Area:	GE

Specific Data					
2.3	2.7	1.8	1.9	2.2	2.8

Bed Material

% Fines (<2mm):	75	% Fines (<2mm):	75
% Gravels:	10	Small (2-16mm):	5
		Large (16-64mm):	5
% Larges:	15	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	11	Compaction:	High

Cover

Cover Total % :	30	Method Cover Total %:	GE
Dp Pool : 10 L.O.D.:	45	Boulder: 5 In Veg.: 5	Over Veg: 30 Cutbank: 5
Crown Closure % :	5	Method Crown Closure:	GE Aspect : N Method Aspect: C

Discharge

Wetted Width (m) :	2.5	Method Wetted Width (m) :	TF
Mean Depth (m) :	0.4	Method Mean Depth (m) :	MS
Mean Velocity (m/s) :	0.60	Method Mean Velocity (m/s)	F
Discharge (m3/s) :	0.53	Method Discharge (m3/s) :	f

Specific Data					

Reach Symbol

(Fish)	
(Width, Valley: Channel, Slope)	(Bed Material)

Banks

Height (m):	0.1	% Unstable:	5
Textures Fines:	Yes	Gravel: No	Larges: No Bedrock: No
Confinement:	2		
Valley: Chan. Ratio:			
Stage:	H		
Flood Signs Ht(m):	0.2	Method Flood Signs:	MS
Braided:		Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	9.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-704-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

- C1

Film WT: 9 Stream A, Reach 2.

Fish sampling (electroshocking) was conducted for 82 seconds. No fish were captured.

This stream has been assigned a defaulted S-3 classification under the Forest Practices Code as fish were caught in its lower fish and there is no barrier to fish passage.
- C2

The culvert at the Ocock Main road appear to be too small for the stream channel. There were pools formed on either side of the culvert. At the time of survey, the water velocity through the culvert was too fast for fish passage.



Photo 119. Upstream view of Stream 182-6976-928-704 at Reach 2.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-704
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	167
Operating Area	Ocock
Development Type	Right-of-Way
Survey Date	15-May-96
Reach Number	3
Site Number	Not Applicable
Water Temperature (°C)	4.5
Stream Width (m)	2.0
Length Surveyed (m)	900
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-3*
Fish Species Identified	None
Description: This frequently confined low gradient (1%) reach is located west of the cutblock and flows in an easterly direction. It is characterized by a high component of run habitat (75%) and a high amount of instream debris (>15%). The total cover (40%) was primarily due to L.O.D. (50%) and overhanging vegetation (30%) and the bed material was dominated by fines (70%), with a smaller percentage of gravels and larges (15% each). This reach began upstream of a wetland which contained a number of beaver dams. None of these beaver dams, however, posed an impass to fish movement. The upper section of the wetland was approximately 400 m wide, contained a defined channel and was vegetated with aspen, alder, spruce, salix and grasses. The site at the proposed crossing was confined within a deep gully. Fish sampling (electroshocking) was conducted for 119 sec. No fish were caught or observed. This reach has defaulted to a S-3* stream classification under the Forest Practices Code. It contains good rearing potential and is free of barriers to fish passage.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-704-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-704-000-000-000-000-000-000	Reach No.:	3	Reach Length (km):	0.9 Method: MW
Location:	Oco 167	Site No.:	0	Length surveyed (m):	900.0 Method: MW
		Map #:	93J/12	Fish Card:	N
		U.T.M.:	10.439410.6050920	Field:	Yes
				Historical:	No
Date:	15/05/96	Time:	15:10	Photos:	no photos
Agency:	EDI	Survey Crew:	LL\BC\ \ \ \ \ \	Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	2.1	Method Av. Chan. Width (m):	TF
Av. Wet. Width (m):	2.0	Method Av. Wet. Width (m):	TF
Av. Max. Rif. Depth (cm):	10	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	40	Av. Max. Pool Depth (cm):	10
Gradient (%):	1.0	Method Gradient:	CL
% Pool:	15	% Riffle:	10
% Side Channel:	0	% Run:	75
% Debris Area:	>40	% Other:	0
		Method:	GE
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data					
2.0	1.3	2.7	2.0	2.0	2.8

Cover

Cover Total %:	40	Method Cover Total %:	GE
Dp Pool:	5	L.O.D.:	50
Crown Closure %:	5	Method Crown Closure:	GE
		Boulder:	5
		In Veg.:	5
		Over Veg:	30
		Cutbank:	5
		Aspect:	E
		Method Aspect:	C

Discharge

Wetted Width (m):	2.0	Method Wetted Width (m):	
Mean Depth (m):	0.3	Method Mean Depth (m):	
Mean Velocity (m/s):	0.50	Method Mean Velocity (m/s):	
Discharge (m3/s):	0.30	Method Discharge (m3/s):	

Specific Data					

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Bed Material

% Fines (<2mm):	70	% Fines (<2mm):	70
% Gravels:	15	Small (2-16mm):	5
		Large (16-64mm):	10
% Larges:	15	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	13	Compaction:	High

Banks

Height (m):	0.1	% Unstable:	5
Textures Fines:	Yes	Gravel:	No
Confinement:	3	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	H		
Flood Signs Ht(m):	0.4	Method Flood Signs:	MS
Braided:		Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
02 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	4.5	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (umhos):		Method Conductivity:	

Fish Summary

Obstructions

Comments

C1

Fish sampling (electroshocking) was conducted for 119 seconds. No fish were captured.

This reach has been assigned a defaulted S-3 classification under the Forsest Practices Code because it has fisheries potential and fish were caught in its lower reach.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-704
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	167
Operating Area	Ocock
Development Type	Cutblock
Survey Date	16-May-96
Reach Number	4
Site Number	Not Applicable
Water Temperature (°C)	4.5
Stream Width (m)	0.9
Length Surveyed (m)	500
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	None
Description: This low gradient (1%) reach flows in a northeasterly direction along the northwest edge of the cutblock. It is characterized by primarily run habitat (80%), and a moderate amount of instream debris (5-15%). The total cover (65%) is primarily due to overhanging vegetation (65%), and L.O.D. (15%). The substrate is dominated by fines (75%), and gravels (25%). This reach is bordered on either end by two wetlands. Both wetlands contain beaver dams which do not pose as impasses to fish migration. The lower wetland contains a small pond and the upper one a small lake created by the beaver dam. Both bodies of water contain a high potential for fish. Fish sampling (electroshocking) was conducted for 93 sec. No fish were captured or observed. This reach was defaulted to a S-4* stream classification under the Forest Practices Code due to its good quality rearing habitat. The absence of barriers between Reach 1 and Reach 4 and the capture of regionally significant fish further downstream leave no reason to believe fish would not utilize this reach for rearing purposes. Note: Should the presence or absence of fish need to be confirmed, further sampling may be required.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-704-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-704-000-000-000-000-000-000-000	Reach No.:	4	Reach Length (km):	0.5 Method: MW
Location:	Oco 167	Site No.:	0	Length surveyed (m):	500.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
Date: 16/05/96	Time: 11:30	Agency: EDI	Survey Crew: LL\RV\RM\ \ \ \ \ \	Photos:	#WT:10,11 Air Photos:

Channel Characteristics

Av. Chan. Width (m):	1.0	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	1.3	Method Av. Wet. Width (m):	MS
Av. Max. Rif. Depth (cm):		Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	
Gradient (%):	1.0	Method Gradient:	CL
% Pool: 20	% Riffle: 0	% Run: 80	% Other: 0 Method: GE
% Side Channel:	0-10	Method Side Channel:	GE
% Debris Area:	10-40	Method Debris Area:	GE

Cover

Cover Total % :	65	Method Cover Total %:	GE		
Dp Pool : 5 L.O.D.:	15	Boulder: 0	In Veg.: 10	Over Veg: 65	Cutbank: 5
Crown Closure % :	15	Method Crown Closure:	GE	Aspect : NE	Method Aspect: C

Discharge

Wetted Width (m) :	0.9	Method Wetted Width (m) :	
Mean Depth (m) :	0.1	Method Mean Depth (m) :	
Mean Velocity (m/s) :	1.20	Method Mean Velocity (m/s)	
Discharge (m3/s) :	0.16	Method Discharge (m3/s) :	

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Specific Data

1.4 0.9 0.8 0.8 0.9 1.3

Bed Material

% Fines (<2mm):	75	% Fines (<2mm):	75
% Gravels:	25	Small (2-16mm):	20
		Large (16-64mm):	5
% Larges:	0	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	0.1	% Unstable:	5	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	3			
Valley: Chan. Ratio:				
Stage:	H			
Flood Signs Ht(m):	0.35	Method Flood Signs:	MS	
Braided:		Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
O2 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	4.5	Method Temperature:	HT	
Turb. (cm):		Method Turbidity:		
Cond. (µmhos):		Method Conductivity:		

Fish Summary

Obstructions

Comments

C1

Film white tag:10 and 11- view not specified.

Fish sampling (electroshocking) was conducted for 93 seconds.

This reach has been defaulted to a S-4 classification under the Forest Practices Code because fish were caught in the lower reach and there are no barriers to fish passage.



Photo 120. Upstream view of Stream 182-6976-928-704 at Reach 4.



Photo 121. Downstream view of Stream 182-6976-928-704 at Reach 4.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-704
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	Oco
Cutblock Number	108
Operating Area	Ocock
Development Type	Cutblock
Survey Date	1-May-96
Reach Number	5
Site Number	Not Applicable
Water Temperature (°C)	0.0
Stream Width (m)	1.10
Length Surveyed (m)	800
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	None
Description: This reach is located upstream of a small lake and north of the cutblock. It contains a low gradient (4.5%), and is characterized mainly by run (80%). The total cover was high (80%), and was primarily due to overhanging vegetation (80%). The bed material was comprised of 85% fines, 10% gravels and 5% small cobbles. The upper limit of this reach is a seepage. Fish sampling (electroshocking) was conducted for 85 sec. No fish were captured or observed. This reach has been defaulted to a S-4* stream classification under the Forest Practices Code. This classification is due to the good rearing habitat and its close proximity to a small lake that contains a high potential for fish presence.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-704-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-704-000-000-000-000-000-000-000	Reach No.:	5	Reach Length (km):	0.80000 Method: MW
Location:	Oco 108	Site No.:	0	Length surveyed (m):	800.0 Method: MW
		Map #:	93J/12	Fish Card:	N Field: Yes Historical: No
		U.T.M.:	10.437180.6050340	Photos:	#WT:13,14 Air Photos:
Date: 16/05/96	Time: 11:30	Agency: EDI	Survey Crew: LL RRV ARM \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	1.1	Method Av. Chan. Width (m):	MS	Specific Data					
Av. Wet. Width (m):	1.3	Method Av. Wet. Width (m):	MS	1.3	1.2	0.8	1.0	1.0	1.4
Av. Max. Rif. Depth (cm):	10	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	30	Av. Max. Pool Depth (cm):	10						
Gradient (%):	4.5	Method Gradient:	CL						
% Pool: 10	% Riffle: 10	% Run: 80	% Other: 0	Method: GE					
% Side Channel:	0	Method Side Channel:	GE						
% Debris Area:	>40	Method Debris Area:	GE						

Cover

Cover Total %:	80	Method Cover Total %:	GE				
Dp Pool: 5 L.O.D.:	10	Boulder: 0	In Veg.: 0	Over Veg: 80	Cutbank:	5	
Crown Closure %:	10	Method Crown Closure:	GE	Aspect: NE	Method Aspect:	C	

Discharge

Wetted Width (m):	Method Wetted Width (m):	Specific Data					
Mean Depth (m):	Method Mean Depth (m):						
Mean Velocity (m/s):	Method Mean Velocity (m/s)						
Discharge (m3/s):	Method Discharge (m3/s):						

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Bed Material

% Fines (<2mm):	85	% Fines (<2mm):	85
% Gravels:	10	Small (2-16mm):	5
		Large (16-64mm):	5
% Larges:	5	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	0.1	% Unstable:	5	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	3			
Valley: Chan. Ratio:				
Stage:	H			
Flood Signs Ht(m):	0.15	Method Flood Signs:		
Braided:		Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
O2 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	4.5	Method Temperature:		HT
Turb. (cm):		Method Turbidity:		
Cond. (µmhos):		Method Conductivity:		

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-704-300-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film white tag: 13 and 14-view not specified.
Fish sampling was not recorded.
This reach has been defaulted to a S-4 classification under the Forest Practices Code because fish were caught in the lower reach and there are no barriers to fish passage.



Photo 122. Upstream view of Stream 182-6976-928-704 at Reach 5.



Photo 123. Downstream view of Stream 182-6976-928-704 at Reach 5.

4.1.11.11 Stream EDI-696

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	696
Nearest Downstream Watershed Code	182-6976-928-704
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	167
Operating Area	Ocock
Development Type	Cutblock
Survey Date	27-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	600
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This tributary is not a stream, it is a seepage. It is located east of the cutblock, and drains in a easterly direction into stream 182-6976-928-704. The first 20 m of this seepage has definable channel. Upstream of this point, there is no definable bank or continuous channel. The water flows through an alder patch, and over mossy sections. Fish sampling was not conducted. No fish were observed. This seepage does not require a stream classification under the Forest Practices Code.	

4.1.11.12 Stream EDI-695

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	695
Nearest Downstream Watershed Code	182-6976-928-704
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	167
Operating Area	Ocock
Development Type	Cutblock
Survey Date	27-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	300
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This tributary is not a stream, it is a seepage. It is located east of the cutblock, and drains in a easterly direction into stream 182-6976-928-704. The first 20 m of this seepage has definable channel. Upstream of this point, there is no definable bank or continuous channel. The water flows through an alder patch, and over mossy sections. Fish sampling was not conducted. No fish were observed. This seepage does not require a stream classification under the Forest Practices Code.	

4.1.11.13 Stream EDI-692

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	692
Nearest Downstream Watershed Code	182-6976-928-704
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	167
Operating Area	Ocock
Development Type	Cutblock
Survey Date	27-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This tributary is not a stream, it is a seepage. It consisted of a network of pooled water within a gully, with no definable channel. The substrate was mainly organic fines and moss. The entire area was overgrown with alder. Fish sampling was not conducted. No fish were observed. This seepage does not require a stream classification under the Forest Practices Code.	

4.1.11.14 Stream EDI-693

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	693
Nearest Downstream Watershed Code	182-6976-928-704
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	167
Operating Area	Ocock
Development Type	Cutblock
Survey Date	27-May-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	10.5
Stream Width (m)	0.9
Length Surveyed (m)	200
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This small stream flows in an easterly direction into stream 182-6976-928-704. It contained a low gradient (1%) and was characterized by run (40%) and pool habitat (40%). The total cover (20%) was mainly provided by overhanging vegetation, large organic debris and deep pools. The bed material consisted of 75% fines, 10% gravels and 15% larges. This reach contained a few small beaver dams and was bordered on either end by a wetland. These wetlands consisted mostly of grasses. Fish sampling (electroshocking) was conducted for 34 sec. No fish were captured or observed. This stream reach was assigned a S-6 classification under the Forest Practices Code due to the low quality fish habitat.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-704-999-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI 693	Access:	FT
Watershed Code:	182-6976-928-704-999-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.20000 Method: MW
Location:	ND/WSC: 182-6979-928-704; 167 Ocock	Site No.:	0	Length surveyed (m):	200.0 Method: MW
		Map #:	93J/12	Fish Card:	N
		U.T.M.:	10.438390.6051080	Field:	Yes
				Historical:	No
Date:	27/05/96	Time:	15:05	Photos:	3: 16, 17
Agency:	EDI	Survey Crew:	BC \RM \RV \ \ \ \ \ \	Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	0.9	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	0.8	Method Av. Wet. Width (m):	MS
Av. Max. Rif. Depth (cm):	5	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	5
Gradient (%):	1.0	Method Gradient:	CL
% Pool:	40	% Riffle:	15
% Side Channel:	0	% Run:	40
% Debris Area:	10-40	% Other:	5
		Method:	GE
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data						
0.9	1.0	0.7	1.1	1.0	0.5	

Cover

Cover Total % :	20	Method Cover Total %:	GE
Dp Pool : 15 L.O.D.:	20	Boulder: 5	In Veg.: 0
Crown Closure % :	10	Over Veg: 50	Cutbank: 10
		Aspect : E	Method Aspect: C

Discharge

Wetted Width (m) :	0.8	Method Wetted Width (m) :	MS
Mean Depth (m) :		Method Mean Depth (m) :	
Mean Velocity (m/s) :		Method Mean Velocity (m/s)	
Discharge (m3/s) :		Method Discharge (m3/s) :	

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Bed Material

% Fines (<2mm):	75	% Fines (<2mm):	75
% Gravels:	10	Small (2-16mm):	10
		Large (16-64mm):	0
% Larges:	15	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	0.2	% Unstable:	5
Textures Fines:	Yes	Gravel: No	Larges: No
Confinement:	2	Bedrock: No	
Valley: Chan. Ratio:			
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):	0	Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	10.5	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-704-999-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 3: 16 d/s, 17 w/s.

Fish sampling (electroshocking) was conducted for 34 seconds. No fish were captured or observed.

This stream has been assigned a S-6 classification under the Forest Practices Code.



Photo 124. Upstream view of Stream EDI-693 at Reach 1.



Photo 125. Downstream view of Stream EDI-693 at Reach 1.

4.1.11.15 Stream EDI-694

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	694
Nearest Downstream Watershed Code	182-6976-928-704
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	167
Operating Area	Ocock
Development Type	Cutblock
Survey Date	27-May-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	4.0
Stream Width (m)	0.90
Length Surveyed (m)	800
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This small stream flows in an northeasterly direction into stream 182-6976-928-704. It contained a low gradient (1.5%) and the reach was characterized by run (55%) and riffle habitat (30%). The total cover (25%) was mainly provided by overhanging vegetation and large organic debris. The bed material consisted of 70% fines, 20% gravels and 10% larges. The high banks present at the time of survey indicated that the stream has a high volume of water at peak flow periods. Fish sampling was not conducted. No fish were captured or observed. This stream reach was assigned a S-6 classification under the Forest Practices Code due to the low quality fish habitat.	

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI 694	Access:	FT
Watershed Code:	182-6976-928-704-999-000-000-000-000-000-000			Reach No.:	1
Location:	ND/WSC: 182-6979-928-704; 167 Ocock			Site No.:	0
		Map #:	93J/12	Length surveyed (m):	800.0
		U.T.M.:	10.438080.6050610	Method:	MW
Date:	27/05/96	Time:	11:30	Fish Card:	N
Agency:	EDI	Survey Crew:	BC\RM\RV\ \ \ \ \ \	Field:	Yes
				Historical:	No
				Photos:	3: 14, 15
				Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	0.9	Method Av. Chan. Width (m):	MS	Specific Data					
Av. Wet. Width (m):	0.8	Method Av. Wet. Width (m):	MS	0.9	0.8	0.9	0.8	1.4	0.7
Av. Max. Rif. Depth (cm):	8	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	8						
Gradient (%):	1.5	Method Gradient:	CL						
% Pool:	15	% Riffle:	30	% Run:	55	% Other:	0	Method:	GE
% Side Channel:	0	Method Side Channel:	GE						
% Debris Area:	10-40	Method Debris Area:	GE						

Cover

Cover Total % :	25	Method Cover Total %:	GE						
Dp Pool :	10	L.O.D.:	20	Boulder:	0	In Veg.:	0	Over Veg:	60
Crown Closure % :	10	Method Crown Closure:	GE	Aspect :	NE	Method Aspect:	C	Cutbank:	10

Discharge

Wetted Width (m) :	0.8	Method Wetted Width (m) :	MS	Specific Data					
Mean Depth (m) :		Method Mean Depth (m) :							
Mean Velocity (m/s) :		Method Mean Velocity (m/s)							
Discharge (m3/s) :		Method Discharge (m3/s) :							

Reach Symbol

(Fish)	
(Width, Valley: Channel, Slope)	(Bed Material)

Bed Material

% Fines (<2mm):	70	% Fines (<2mm):	70
% Gravels:	20	Small (2-16mm):	15
		Large (16-64mm):	5
% Larges:	10	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	0.3	% Unstable:	5
Textures Fines:	Yes	Gravel:	No
Confinement:	3	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	M		
Flood Signs Ht(m):	0.6	Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):	0	Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	4.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-704-999-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 3: 14 u/s, 15 d/s.

Fish sampling was not conducted. No fish were observed.

This stream has been assigned a S-6 classification under the Forest Practices Code.



Photo 126. Upstream view of Stream EDI-694 at Reach 1.



Photo 127. Downstream view of Stream EDI-694 at Reach 1.

4.1.11.16 Stream EDI-540

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	540
Nearest Downstream Watershed Code	182-6976-928
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	028
Cutblock Number	144
Operating Area	Ocock
Development Type	Cutblock
Survey Date	06-Oct-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	200
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This treed wetland is located along the southern boundary of the cublock, and drains in a northeasterly direction. At the time of survey, the area contained plenty of deadfall and brush, but a definable channel was not found. The dominant vegetation included alder and twinberry. Fish sampling was not conducted in this wetland, and no fish were observed. Since this is a wetland, it does not require a stream classification under the Forest Practices Code. This wetland should be protected accordingly.	

4.1.11.17 Stream EDI-690

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	690
Nearest Downstream Watershed Code	182-6976-928
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	011
Cutblock Number	131
Operating Area	Ocock
Development Type	Cutblock
Survey Date	25-May-95
Reach Number	Not Applicable
Site Number	1
Water Temperature (°C)	12.0
Stream Width (m)	1.2
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (2.0%) section of stream flows in an easterly direction along the northern side of the cutblock. The substrate was comprised almost entirely of fines (90%), limiting any spawning potential for salmonids. A moderate amount (15%) of cover was available but was low quality, mainly consisting of overhanging vegetation and large organic debris over the stream channel. Two minnow traps were baited with roe and left to fish overnight. No fish were captured or observed. This section of stream was classified as S-6 under the Forest Practices Code because it contained very poor fish habitat and no fish were captured.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-999-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI 690	Access:	FT
Watershed Code:	182-6976-928-999-000-000-000-000-000-000-000	Reach No.:	0	Reach Length (km):	Method:
Location:	ND/WSC: 182-6976-928; 011-131 Ocok	Site No.:	1	Length surveyed (m):	100.0 Method: MW
		Fish Card:	N	Field: Yes	Historical: No
Date: 25/05/95	Time: 16:00	Agency: EDI	Survey Crew: RV \ \ \ \ \ \ \	Photos:	2: 6 Air Photos:

Channel Characteristics

Av. Chan. Width (m):	1.2	Method Av. Chan. Width (m):	TF						
Av. Wet. Width (m):	0.9	Method Av. Wet. Width (m):	TF						
Av. Max. Rif. Depth (cm):	10	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	40	Av. Max. Pool Depth (cm):	10						
Gradient (%):	2.0	Method Gradient:	CL						
% Pool: 80	% Riffle: 5	% Run: 15	% Other: 0	Method: GE					
% Side Channel:	0-10	Method Side Channel:	GE						
% Debris Area:	0-10	Method Debris Area:	GE						

Cover

Cover Total % :	15	Method Cover Total %:	GE						
Dp Pool :	L.O.D.:	Boulder:	In Veg.:	Over Veg:	Cutbank:				
Crown Closure % :	10	Method Crown Closure:	GE	Aspect :	Method Aspect:				

Discharge

Wetted Width (m) :	Method Wetted Width (m) :				
Mean Depth (m) :	Method Mean Depth (m) :				
Mean Velocity (m/s) :	Method Mean Velocity (m/s)				
Discharge (m3/s) :	Method Discharge (m3/s) :				

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Bed Material

% Fines (<2mm):	90	% Fines (<2mm):	90
% Gravels:	10	Small (2-16mm):	5
		Large (16-64mm):	5
% Larges:	0	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	Medium

Banks

Height (m):	0.3	% Unstable:	0	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	3			
Valley: Chan. Ratio:				
Stage:	M			
Flood Signs Ht(m):		Method Flood Signs:		
Braided:	N	Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
O2 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	12.0	Method Temperature:		HT
Turb. (cm):		Method Turbidity:		
Cond. (µmhos):		Method Conductivity:		

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-999-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 2: 6 u/s.

Fish sampling (minnow traps) was conducted. No fish were captured or observed.

This section of stream has been assigned a S-6 classification under the Forest Practices Code.



Photo 128. Upstream view of Stream EDI-690 at Site 1.

4.1.11.18 Stream EDI-691

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	691
Nearest Downstream Watershed Code	182-6976-928
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	011
Cutblock Number	131
Operating Area	Ocock
Development Type	Cutblock
Survey Date	26-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	Not Recorded
Length Surveyed (m)	1000
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This section of stream flows in an easterly direction along the southern side of the cutblock. Its channel was braided and contained very little flow at the time of survey. Fish sampling was not conducted. No fish were observed. This stream was classified as S-6 under the Forest Practices Code because it contained poor fish habitat and several potential barriers to fish passage.	

4.1.11.19 Stream 182-6976-928-740

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-740
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	011
Cutblock Number	131
Operating Area	Ocock
Development Type	Cutblock
Survey Date	15-Jul-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	12.5
Stream Width (m)	1.53
Length Surveyed (m)	600
Habitat Type	Stream
Stream Order (1:20,000)	3
Forest Practices Code Stream Classification	S-3
Fish Species Identified	RB-Rainbow Trout
Description: This low gradient reach (2.5%) is located approximately 400 m north of cutblock 011-131 and flowed east into a wetland where the stream enters the Ocock River. Bed material was dominated by fines (55%), and gravels (30%). Total cover (35%) consisted mainly of overhanging vegetation (50%), undercut bank (20%) and large woody debris (15%). A few side channels were also present. Fish sampling (electroshocking) was conducted for 670 sec. Three juvenile rainbow trout were caught. This reach contains good spawning substrate and good cover for rearing. As regionally significant fish were caught, the reach was classified as S-3 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-740-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-740-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.7 Method: MW
Location:	011-131 Ocock	Site No.:	0	Length surveyed (m):	700.0 Method: MW
		Fish Card:	N	Field: Yes	Historical: No
Date: 15/07/96	Time: 14:30	Agency: EDI	Survey Crew: PT VRD \ \ \ \ \	Photos:	#11:4,5 Air Photos:

Channel Characteristics

Av. Chan. Width (m):	1.5	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	0.9	Method Av. Wet. Width (m):	MS
Av. Max. Rif. Depth (cm):	10	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	10
Gradient (%):	2.5	Method Gradient:	CL
% Pool:	15	% Riffle:	25
% Side Channel:	0-10	% Run:	60
% Debris Area:	10-40	% Other:	0
		Method:	GE
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data					
1.4	1.5	1.8	1.2	1.3	2.1

Cover

Cover Total % :	35	Method Cover Total %:	GE
Dp Pool : 10 L.O.D.:	15	Boulder: 0	In Veg.: 5
Crown Closure % :	20	Over Veg: 50	Cutbank: 20
		Aspect : E	Method Aspect: C

Discharge

Wetted Width (m) :	1.2	Method Wetted Width (m) :	
Mean Depth (m) :	0.1	Method Mean Depth (m) :	
Mean Velocity (m/s) :	0.20	Method Mean Velocity (m/s)	
Discharge (m3/s) :	0.02	Method Discharge (m3/s) :	

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Bed Material

% Fines (<2mm):	55	% Fines (<2mm):	55
% Gravels:	30	Small (2-16mm):	20
		Large (16-64mm):	10
% Larges:	15	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	12	Compaction:	High

Banks

Height (m):	0.7	% Unstable:	20
Textures Fines:	Yes	Gravel: No	Larges: No
Confinement:	4	Bedrock:	No
Valley: Chan. Ratio:			
Stage:	M		
Flood Signs Ht(m):	0.8	Method Flood Signs:	MS
Braided:		Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	12.5	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (umhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-740-000-000-000-000-000-000-000

Fish Summary

Obstructions

Species	Count	Size Range (mm)	Juvs	Imm	Ad	Sub	Notes
RB	6	30-100	J	R			EL

Comments

- C1

Film 11: 4 d/s, 5 u/s.

Fish sampling (electroshocking) was conducted for 671 seconds. Three juvenile rainbow trout were captured.

This stream is classified as a S-3 stream under the Forest Practices Code.
- C2

Fifteen juvenile rainbow trout were visually observed.



Photo 129. Upstream view of Stream 182-6976-928-740 at Reach 1.



Photo 130. Downstream view of Stream 182-6976-928-740 at Reach 1.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-740
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	011
Cutblock Number	131
Operating Area	Ocock
Development Type	Cutblock
Survey Date	15-Jul-96
Reach Number	2
Site Number	Not Applicable
Water Temperature (°C)	12.5
Stream Width (m)	2.1
Length Surveyed (m)	1400
Habitat Type	Stream
Stream Order (1:20,000)	3
Forest Practices Code Stream Classification	S-3
Fish Species Identified	RB-Rainbow Trout

Description:

This low gradient reach (1.0%) is located approximately 600 m northwest of cutblock 011-131 and flows in a easterly direction into the Ocock River. It was characterized by minimal flow, and a few side channels. The substrate was composed of a mixture of fines (45%), gravels (30%) and larges (25%) and the cover was dominated by deep pools (15%) and overhanging vegetation (55%). A 2 m high beaver dam located approximately 400 m upstream of the lower reach boundary may act as an impass to fish movement during low flow. No rainbow trout were captured upstream of this point. This reach is located between two wetlands. The lower wetland is approximately 800 m in length. It contains a large pond which may be used as overwintering habitat. Regionally significant fish were captured at both ends of this wetland, suggesting the absence of barriers. The upper wetland surrounds a lake and extends south for approximately 800 m. It also contains good wildlife habitat and should be protected accordingly.

Fish sampling (electroshocking) was conducted for 656 secs. One juvenile rainbow trout was caught.

This reach contains good spawning substrate, and regionally significant fish were caught. Therefore, the reach was classified as S-3 under the Forest Practices Code.

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-740-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-740-000-000-000-000-000-000-000	Reach No.:	2	Reach Length (km):	1.4 Method: MW
Location:	028-144 Ocock	Site No.:	0	Length surveyed (m):	1400.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
		Photos:	#42: 12,13	Air Photos:	
Date:	7/16/96	Time:	15:13	Agency:	EDI
		Survey Crew:	ST\LL\ \ \ \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	2.1	Method Av. Chan. Width (m):	TF	Specific Data					
Av. Wet. Width (m):	1.3	Method Av. Wet. Width (m):	MS	2.0	1.8	2.3	1.7	2.5	2.4
Av. Max. Rif. Depth (cm):	3	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	28	Av. Max. Pool Depth (cm):	3						
Gradient (%):	1.0	Method Gradient:	CL						
% Pool: 50	% Riffle: 50	% Run: 0	% Other: 0	Method: GE					
% Side Channel:	0-10	Method Side Channel:	GE						
% Debris Area:	0-10	Method Debris Area:	GE						

Cover

Cover Total % :	20	Method Cover Total %:	GE					
Dp Pool : 15	L.O.D.: 10	Boulder: 5	In Veg.: 10	Over Veg: 55	Cutbank:	5		
Crown Closure % :	25	Method Crown Closure:	GE	Aspect : SW	Method Aspect:	C		

Discharge

Wetted Width (m) :	Method Wetted Width (m) :	Specific Data							
Mean Depth (m) :	Method Mean Depth (m) :								
Mean Velocity (m/s) :	Method Mean Velocity (m/s) :								
Discharge (m3/s) :	Method Discharge (m3/s) :								

Reach Symbol

{Fish}	
(Width, Valley: Channel, Slope)	(Bed Material)

Bed Material

% Fines (<2mm):	45	% Fines (<2mm):	45
% Gravels:	30	Small (2-16mm):	15
		Large (16-64mm):	15
% Larges:	25	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	10
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	6	Compaction:	Medium

Banks

Height (m):	0.2	% Unstable:	20
Textures Fines:	Yes	Gravel: No	Larges: No
Confinement:	3	Bedrock:	No
Valley: Chan. Ratio:			
Stage:	L		
Flood Signs Ht(m):	0.2	Method Flood Signs:	MS
Braided:		Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	12.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

17-Dec-97

Stream: Unnamed

Watershed Code:

182-6976-928-740-000-000-000-000-000-000-000-000

Obstructions

Obstruction Ht(m)	Type	Location
2	BD	1.0

Comments

C1	Film 42: 12 u/s, 13 d/s. Fish sampling (electroshocking) was conducted for 656 seconds. One juvenile rainbow trout was captured. This stream was classified as a S-3 stream under the Forest Practices Code.
C2	Crown closure was due to alder. Beaver dam was located 2 km u/s of the confluence with 182-6976-928. It is not likely that this is a barrier but it is an impediment to fish passage.
C3	Discharge was not recorded because there was insufficient flow.



Photo 131. Upstream view of Stream 182-6976-928-740 at Reach 2.



Photo 132. Downstream view of Stream 182-6976-928-740 at Reach 2.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-740
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	028
Cutblock Number	143
Operating Area	Ocock
Development Type	Cutblock
Survey Date	06-Oct-95
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	5.0
Stream Width (m)	1.03
Length Surveyed (m)	400
Habitat Type	Stream
Stream Order (1:20,000)	3
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	None
Description: This low gradient reach (3.0%) is located along the northern boundary of the cutblock and flows in an easterly direction. Total cover (65%) was provided by 45% overhanging vegetation, 35% large organic debris, and 15% undercut bank. Bed materials of this confined reach were composed of fines (90%) and larges (10%). Fish sampling (electroshocking) was conducted for 120 sec on October 6, 1995) and 206 sec on May 15, 1996. Fish were not captured and no fish were observed. Although no fish were captured or observed, this reach contained good potential rearing habitat for salmonids. It was, therefore, defaulted to a S-4 * stream classification under the Forest Practices Code. Recommendation: In order to confirm fish distribution in this system, further inventory should be conducted downstream of this reach.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-740-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-740-000-000-000-000-000-000-000	Reach No.:	999	Reach Length (km):	0.40000 Method: MW
Location:	028-143 Ocock	Site No.:	0	Length surveyed (m):	400.0 Method: MW
		Map #: 93J/12		Fish Card:	N Field: Yes Historical: No
		U.T.M. : 10.437060.6051453		Photos:	18: 16 Air Photos:
Date: 06/10/95	Time: 13:32	Agency: EDI	Survey Crew: PW\BR\EL\ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	1.0	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	1.0	Method Av. Wet. Width (m):	MS
Av. Max. Rlf. Depth (cm):	9	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	9
Gradient (%):	3.0	Method Gradient:	CL
% Pool: 10	% Riffle: 35	% Run: 55	% Other: 0 Method: GE
% Side Channel:	0	Method Side Channel:	GE
% Debris Area:	10-40	Method Debris Area:	GE

Specific Data

1.0	0.9	0.9	1.2	1.1	1.1
-----	-----	-----	-----	-----	-----

Bed Material

% Fines (<2mm):	90	% Fines (<2mm):	90
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	10	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	10
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Cover

Cover Total % :	65	Method Cover Total %:	GE
Dp Pool : 5 L.O.D.:	35	Boulder: 0	In Veg.: 0 Over Veg: 45 Cutbank: 15
Crown Closure % :	10	Method Crown Closure:	GE Aspect : E Method Aspect: C

Discharge

Wetted Width (m) :	0.9	Method Wetted Width (m) :	MS
Mean Depth (m) :	0.1	Method Mean Depth (m) :	MS
Mean Velocity (m/s) :		Method Mean Velocity (m/s)	
Discharge (m3/s) :		Method Discharge (m3/s) :	

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Banks

Height (m):	0.4	% Unstable:	5
Textures Fines:	Yes	Gravel: No	Larges: No Bedrock: No
Confinement:	2		
Valley: Chan. Ratio:			
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	5.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-740-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1

Film 18: 16 d/s.

Note: Reach '999' should read Reach 'A'.

Fish sampling (electroshocking) was conducted for 120 seconds on Oct. 6 '95 and 206 seconds on May 15, '96. No fish were captured or observed on either occasion.

This reach was defaulted to a S-4 classification under the Forest Practices Code.



Photo 133. Upstream view of Stream 182-6976-928-740 at Reach A.

4.1.11.20 Stream EDI-539

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	539
Nearest Downstream Watershed Code	182-6976-928-740
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	028
Cutblock Number	144
Operating Area	Ocock
Development Type	Cutblock
Survey Date	06-Oct-95
Reach Number	Not Applicable
Site Number	1
Water Temperature (°C)	Not Recorded
Stream Width (m)	Not Recorded
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This site is located in the northeastern portion of the cutblock, and drains in a northerly direction. At the time of survey, a definable channel was found, however, little flow was present. The water which was present within the channel was turbid and brown in colour. Fish sampling (electroshocking) was conducted in this survey area, however, no fish were captured or observed. This survey section contained low quality fish habitat, and no fish were captured. It was, therefore, classified as S-6 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

21-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-740-999-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI 539	Access:	FT
Watershed Code:	182-6976-928-740-999-000-000-000-000-000-000	Reach No.:	0	Reach Length (km):	Method:
Location:	ND/WSC: 182-6976-928-740; 028-143 Ocock	Site No.:	1	Length surveyed (m):	100.0 Method: MW
		Fish Card:	N	Field: Yes	Historical: No
Date: 06/10/95	Time: 15:00	Agency: EDI	Survey Crew: PWA BR\ EL\ \ \ \ \	Photos:	18: 15 Air Photos:
		Map #:	93J/12		
		U.T.M.:	10.438120.6052295		

Channel Characteristics

Av. Chan. Width (m):	0.5	Method Av. Chan. Width (m):	MS	Specific Data					
Av. Wet. Width (m):	0.7	Method Av. Wet. Width (m):	MS	0.5	0.9	0.1	0.6	0.5	0.5
Av. Max. Rif. Depth (cm):	5	Av. Max. Rifle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	15	Av. Max. Pool Depth (cm):	5						
Gradient (%):	18.0	Method Gradient:	CL						
% Pool: 25	% Riffle: 50	% Run: 25	% Other: 0	Method: GE					
% Side Channel:	0	Method Side Channel:	GE						
% Debris Area:	10-40	Method Debris Area:	GE						

Cover

Cover Total % :	70	Method Cover Total %:	GE				
Dp Pool : 10 L.O.D.:	35	Boulder: 0	In Veg.: 0	Over Veg: 45	Cutbank:	10	
Crown Closure % :	70	Method Crown Closure:	GE	Aspect : W	Method Aspect:	C	

Discharge

Wetted Width (m) :	0.3	Method Wetted Width (m) :	MS	Specific Data				
Mean Depth (m) :	0.1	Method Mean Depth (m) :	MS					
Mean Velocity (m/s) :	0.06	Method Mean Velocity (m/s)	F					
Discharge (m3/s) :	Method Discharge (m3/s) :							

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Bed Material

% Fines (<2mm):	90	% Fines (<2mm):	90
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	10	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	10
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	25.0	% Unstable:	
Textures Fines:	Yes	Gravel: No	Larges: No Bedrock: No
Confinement:	2		
Valley: Chan. Ratio:			
Stage:	L		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	5.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

21-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-740-999-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1

Film 18: 15 w/s.

Fish sampling (electroshocking) was conducted. No fish were captured or observed.

This section of stream was given a S-6 classification under the Forest Practices Code.

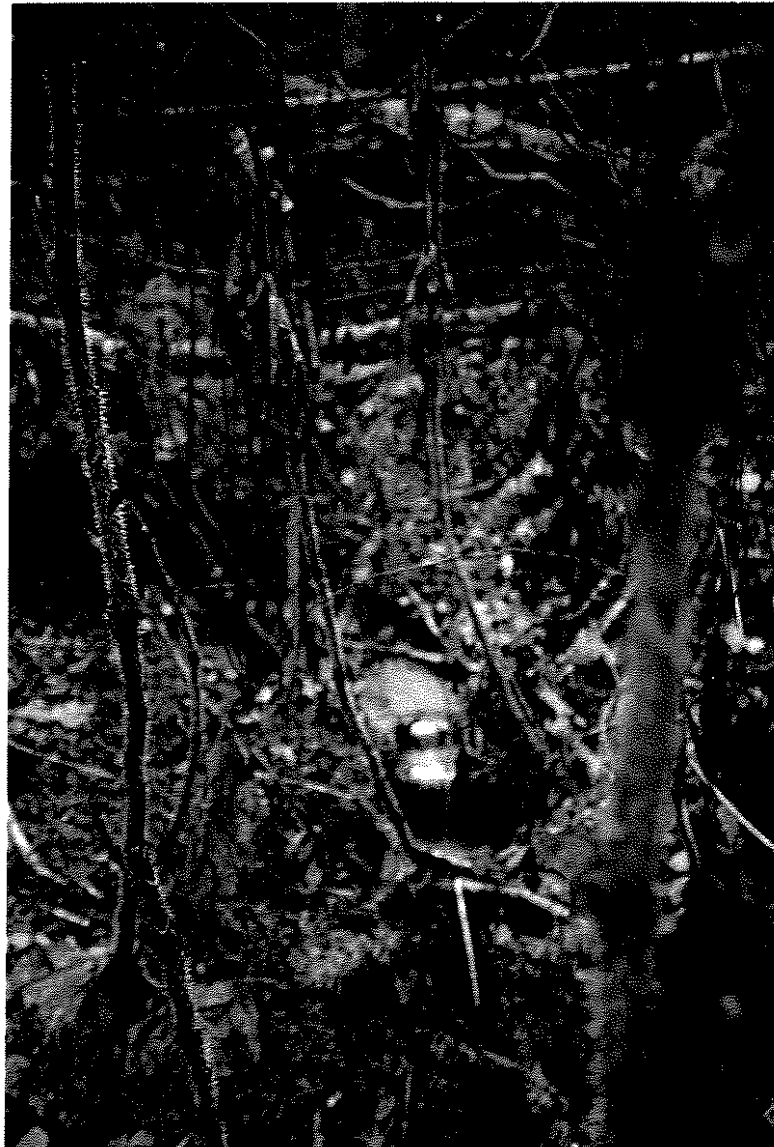


Photo 134. Upstream view of Stream EDI-539 at Site 1.

4.11.21 Stream EDI-755

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	755
Nearest Downstream Watershed Code	182-6976-928-740
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	028
Cutblock Number	144
Operating Area	Ocock
Development Type	Cutblock
Survey Date	06-Oct-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	100
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This seepage drains in a northeasterly direction into stream EDI-539. A continuous defined channel or flowing water was not found. The surrounding area was vegetated with alder, Devil's club and spruce. Fish sampling was not conducted. No fish were observed. As this is a seepage, stream classification is not required under the Forest Practices Code.	

4.1.11.22 Stream EDI-537

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	537
Nearest Downstream Watershed Code	182-6976-928-740
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	028
Cutblock Number	144
Operating Area	Ocock
Development Type	Cutblock
Survey Date	06-Oct-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	100
Habitat Type	Not Applicable
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: According to the 1:20,000 TRIM base map, there is a stream in this area. However, the ground survey indicated that this stream does not exist.	

4.1.11.23 Stream EDI-538

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	538
Nearest Downstream Watershed Code	182-6976-928-740
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	126
Operating Area	Ocock
Development Type	Cutblock
Survey Date	09-Jun-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	6.0
Stream Width (m)	1.0
Length Surveyed (m)	600
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (5%) reach is located on the east side of the cutblock and flows in a northerly direction into a wetland. It is dominated by 60% run and the substrate is comprised mainly of fines (70%) and larges (25%). This reach contains very little cover for rearing and no suitable spawning habitat. Fish sampling was not conducted in this reach, and no fish were observed. This stream contains poor quality fish habitat and is, therefore, classified as a S-6 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

02-Sep-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-740-999-000-000-000-000-000-000

Header Information

Stream Name: Unnamed
Watershed Code: 182-6976-928-740-999-000-000-000-000-000-000
Location: 025-075 Ocock

Stream "Local": EDI 538

Map #: 93J/12
U.T.M.: 10.436710.6050910

Access: FT
Reach No.: 1 Reach Length (km): 0.40000 Method: MW
Site No.: 0 Length surveyed (m): 400.0 Method: MW
Fish Card: N Field: Yes Historical: No
Photos: 5: 8, 9 Air Photos:

Date: 6/9/96 Time: 09:00 Agency: EDI Survey Crew: NC\RV \ \ \ \ \

Channel Characteristics

Av. Chan. Width (m): 1.0 Method Av. Chan. Width (m): MS
Av. Wet. Width (m): 1.0 Method Av. Wet. Width (m): MS
Av. Max. Rif. Depth (cm): 5 Av. Max. Riffle Depth (cm): MS
Av. Max. Pool Depth (cm): 10 Av. Max. Pool Depth (cm): 5
Gradient (%): 5.0 Method Gradient: CL
% Pool: 10 % Riffle: 30 % Run: 60 % Other: 0 Method: GE
% Side Channel: 0-10 Method Side Channel: GE
% Debris Area: 10-40 Method Debris Area: GE

Specific Data

1.4 1.1 0.8 0.7 1.1 1.1

Bed Material

% Fines (<2mm): 70 % Fines (<2mm): 70
% Gravels: 5 Small (2-16mm): 0
Large (16-64mm): 5
% Larges: 25 Small cobble (64-128mm): 10
Large cobble (128-256mm): 15
Boulder cobble (>256mm): 0
% Bedrock: 0 % Bedrock: 0
D90 (cm): Compaction: High

Cover

Cover Total %: 10 Method Cover Total %: GE
Dp Pool: 10 L.O.D.: 20 Boulder: 0 In Veg.: 0 Over Veg: 65 Cutbank: 5
Crown Closure %: Method Crown Closure: Aspect: NW Method Aspect: C

Discharge

Wetted Width (m): Method Wetted Width (m):
Mean Depth (m): Method Mean Depth (m):
Mean Velocity (m/s): Method Mean Velocity (m/s):
Discharge (m3/s): Method Discharge (m3/s):

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Banks

Height (m): 0.1 % Unstable:
Textures Fines: Yes Gravel: No Larges: No Bedrock: No
Confinement: 3
Valley: Chan. Ratio:
Stage: M
Flood Signs Ht(m): Method Flood Signs:
Braided: N Method Braided:
Bars (%): Method Bars:
pH: Method pH:
02 (ppm): Method Dissolved Oxygen:
Water Temp. (°C): 6.0 Method Temperature:
Turb. (cm): Method Turbidity:
Cond. (µmhos): Method Conductivity:

DFO/MoELP Stream Survey Form

02-Sep-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-740-999-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

CI Film 5: 8 u/s, 9 d/s.
Fish sampling was not conducted in this reach. No fish were observed.
This site has been assigned a S-6 classification under the Forest Practices Code.



Photo 135. Upstream view of Stream EDI-538 at Reach 1.



Photo 136. Downstream view of Stream EDI-538 at Reach 1.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	538
Nearest Downstream Watershed Code	182-6976-928-740
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	028
Cutblock Number	143
Operating Area	Ocock
Development Type	Cutblock
Survey Date	06-Oct-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	200
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This treed wetland was located along the northwestern boundary of the cutblock. It drains in a northeasterly direction into a defaulted S-4* stream. Vegetation found in this area was primarily alder. Fish sampling was not conducted in this wetland. No fish were observed. Since this is a wetland, stream classification is not required under the Forest Practices Code. However, this area should be protected accordingly.	

4.1.11.24 Stream EDI-550

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	550
Nearest Downstream Watershed Code	182-6976-928-740
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Oco
Cutblock Number	126
Operating Area	Ocock
Development Type	Cutblock
Survey Date	09-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This seepage area is located on the northern boundary of the cutblock and drains in a northerly direction into stream EDI-538. Some water was noted flowing over moss and organic debris, however, there was no definable channel. The entire area was overgrown with alder and Devil's club. Fish sampling was not conducted in this seepage area. As this is a seepage area and not a stream, no classification is required under the Forest Practices Code.	

4.1.11.25 Stream EDI-798

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	798
Nearest Downstream Watershed Code	182-6976-928
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	017
Cutblock Number	176
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	31-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	600
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This tributary is not a stream, it is a wetland. It is located on the western border, flowing in a northerly direction. There is no definable channel. This area is a low lying marsh area that contains some pooled water. Fish sampling was not conducted. No fish were observed. This wetland does not require a stream classification under the Forest Practices Code. It does require a wetland classification and should be protected accordingly.	

4.1.11.26 Stream EDI-797

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	797
Nearest Downstream Watershed Code	182-6976-928
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	017
Cutblock Number	176
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	31-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	300
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This tributary to stream EDI-798 is not a stream, it is a wetland. It is located north of the cutblock and drains in a westerly direction. This tributary has no definable channel. Fish sampling was not conducted. No fish were observed. Since this is a wetland, a stream classification is not required under the Forest Practices Code. It does require a wetland classification and should be protected accordingly.	

4.1.11.27 Stream 182-6976-928-911

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-911
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J071
Cutting Permit	Squ
Cutblock Number	039
Operating Area	Squawfish
Development Type	Cutblock
Survey Date	28-May-96
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	6.5
Stream Width (m)	0.75
Length Surveyed (m)	1100
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (2%) reach flows in a southeasterly direction between 2 black spruce bogs on the southeastern side of the cutblock. Cover is high (40%), and for a small section the stream flows through old skidder tracks for approximately 150 m before becoming a small, shallow channel. The substrate is composed mainly of fines (50%) and larges and provided poor spawning potential. At the lower limit of this reach, a stream flows into this creek. Which is not indicated on the TRIM map and was not surveyed. Fish sampling (electroshocking) was conducted for 118 sec. No fish were captured or observed. As there were no fish captured or observed and this reach contains low quality fish habitat, it is given a S-6 classification under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-911-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-911-000-000-000-000-000-000-000	Reach No.:	999	Reach Length (km):	1.10000 Method: MW
Location:	Squ 88 & 39	Site No.:	0	Length surveyed (m):	1100.0 Method: MW
		Map #:	93J/12	Fish Card:	N
		U.T.M.:	10.441320.6063420	Field:	Yes
Date:	28/05/96	Time:	11:00	Historical:	No
Agency:	EDI	Survey Crew:	NC \RM \MS \ \ \ \ \	Photos:	#3 :18,19
				Alt Photos:	

Channel Characteristics

Av. Chan. Width (m):	0.7	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	0.9	Method Av. Wet. Width (m):	MS
Av. Max. Rif. Depth (cm):	15	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	15
Gradient (%):	2.0	Method Gradient:	CL
% Pool: 20	% Riffle: 20	% Run: 60	% Other: 0
Method: GE			
% Side Channel:	0-10	Method Side Channel:	GE
% Debris Area:	>40	Method Debris Area:	GE

Specific Data					
0.5	0.9	0.7	0.7	0.6	1.0

Bed Material

% Fines (<2mm):	50	% Fines (<2mm):	50
% Gravels:	25	Small (2-16mm):	15
		Large (16-64mm):	10
% Larges:	25	Small cobble (64-128mm):	25
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Cover

Cover Total % :	40	Method Cover Total %:	GE
Dp Pool : 10	L.O.D.: 30	Boulder: 0	In Veg.: 10
Crown Closure % :		Over Veg: 15	Cutbank: 35
		Aspect : SW	Method Aspect: C

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s) :
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Banks

Height (m):	0.3	% Unstable:	5
Textures Fines:	Yes	Gravel: No	Larges: No
Confinement:	3	Bedrock:	No
Valley: Chan. Ratio:			
Stage:	H		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	6.5	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-911-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 3 : 18 d/s, 19 u/s.

Note: Reach '999' is really Reach A.

Fish sampling (electroshocking) was not conducted.

This stream begins as an old skidder track before making its own channel. Fish habitat is void in this area and was classified as an S-6 under the Forest Practices Code.



Photo 137. Upstream view of Stream 182-6976-928-911 at Reach A.



Photo 138. Downstream view of Stream 182-6976-928-911 at Reach A.

4.1.11.28 Stream EDI-752

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	752
Nearest Downstream Watershed Code	182-6973-928-911
NTS Map (1:50,000)	93J/12
TRIM Map	93J071
Cutting Permit	Squ
Cutblock Number	039
Operating Area	Squawfish
Development Type	Cutblock
Survey Date	28-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	700
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This seepage drains in southwesterly direction into a black spruce bog. It contains little flow, and no definable channel. Where water was present flowing over moss and leaf litter. Fish sampling was not conducted. No fish were observed. Since this is a seepage, stream classification is not required under the Forest Practices Code.	

4.1.11.29 Stream 182-6976-928-932

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-932
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/13
TRIM Map	93J071
Cutting Permit	Sal
Cutblock Number	038
Operating Area	North Salmon
Development Type	Cutblock
Survey Date	19-Jun-96
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	6
Stream Width (m)	1.2
Length Surveyed (m)	550
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	None
Description: This reach flows in a southwesterly direction along the southwestern corner of the cutblock. It has a low gradient (2%) and consists mainly of run (50%) and riffle (40%) habitat. The total cover (15%) is primarily due to large organic debris (40%) and overhanging vegetation (30%) and the substrate is dominated by larges (60%) and fines (35%). A few deep pools provide some potential rearing habitat. Fish sampling (electroshocking) was conducted for 491 sec. No fish were captured or observed. This reach has been defaulted to a S-4* stream classification under the Forest Practices Code, since it has good quality rearing habitat and flows directly into the Ocock River.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-932-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-932-000-000-000-000-000-000-000	Reach No.:	999	Reach Length (km):	0.55000 Method: MW
Location:	Sal 38	Site No.:	0	Length surveyed (m):	550.0 Method: MW
		Map #:	93J/13	Fish Card:	N
		U.T.M. :	10.438920.6067370	Field:	Yes
				Historical:	No
Date:	19/06/96	Time:	12:10	Photos:	#9: 14,15
Agency:	EDI	Survey Crew:	PT\NCA \ \ \ \ \	Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	1.2	Method Av. Chan. Width (m):	MS	1.9	1.0	1.2	1.2	1.0	0.9
Av. Wet. Width (m):	1.0	Method Av. Wet. Width (m):	MS						
Av. Max. Rif. Depth (cm):	6	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	35	Av. Max. Pool Depth (cm):	6						
Gradient (%):	2.0	Method Gradient:	CL						
% Pool: 10	% Riffle: 40	% Run: 50	% Other: 0	Method: GE					
% Side Channel:	0-10	Method Side Channel:	GE						
% Debris Area:	10-40	Method Debris Area:	GE						

Cover

Cover Total % :	15	Method Cover Total %:	GE				
Dp Pool : 10 L.O.D.:	40	Boulder: 10	In Veg.: 0	Over Veg: 30	Cutbank:	10	
Crown Closure % :	4	Method Crown Closure:	GE	Aspect : SW	Method Aspect:	C	

Discharge

Wetted Width (m) :	1.0	Method Wetted Width (m) :	MS				
Mean Depth (m) :	0.2	Method Mean Depth (m) :	MS				
Mean Velocity (m/s) :	0.33	Method Mean Velocity (m/s)	F				
Discharge (m3/s) :	0.06	Method Discharge (m3/s) :	F				

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Bed Material

% Fines (<2mm):	35	% Fines (<2mm):	35
% Gravels:	5	Small (2-16mm):	5
		Large (16-64mm):	0
% Larges:	60	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	30
		Boulder cobble (>256mm):	20
% Bedrock:	0	% Bedrock:	0
D90 (cm):	5	Compaction:	Medium

Banks

Height (m):	0.5	% Unstable:	10
Textures Fines:	Yes	Gravel: No	Larges: No
Confinement:	3	Bedrock:	No
Valley: Chan. Ratio:			
Stage:	M		
Flood Signs Ht(m):	0.3	Method Flood Signs:	MS
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	6.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-932-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1

Film 9: 14 u/s, 15 d/s.
Note: Reach '999' should read Reach 'A'.
Fish sampling (electroshocking) was conducted for 442 seconds. No fish were captured.
This stream has been defaulted to a S-4 classification under the Forest Practices Code, because it has good fisheries potential.



Photo 139. Upstream view of Stream 182-6976-928-932 at Reach A.



Photo 140. Downstream view of Stream 182-6976-928-932 at Reach A.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-932
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/13
TRIM Map	93J071
Cutting Permit	Sal
Cutblock Number	038
Operating Area	North Salmon
Development Type	Cutblock
Survey Date	19-Jun-96
Reach Number	B
Site Number	Not Applicable
Water Temperature (°C)	6
Stream Width (m)	1.05
Length Surveyed (m)	600
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	None
Description: This reach flows in a southerly direction along the eastern corner of the cutblock. It contains a low gradient (2.5%) and is occasionally confined. The total cover (20%) is primarily due to large organic debris (40%) and overhanging vegetation (30%). The bed material is comprised of 60% fines and 35% larges. Fish sampling (electroshocking) was conducted for 183 sec. No fish were captured or observed. This reach has been defaulted to a S-4* stream classification under the Forest Practices Code due the presence of good quality rearing habitat.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-932-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-932-000-000-000-000-000-000-000	Reach No.:	998	Reach Length (km):	0.60000 Method: MW
Location:	Sal 38	Site No.:	0	Length surveyed (m):	600.0 Method: MW
		U.T.M. :	10.439062.6067612	Fish Card:	N Field: Yes Historical: No
Date: 19/06/96	Time: 10:26	Agency: EDI	Survey Crew: PT\NC\ \ \ \ \ \	Photos:	#9: 12, 13 Air Photos:

Channel Characteristics

Av. Chan. Width (m):	1.0	Method Av. Chan. Width (m):	MS	Specific Data					
Av. Wet. Width (m):	1.0	Method Av. Wet. Width (m):	MS	1.0	0.9	0.9	1.1	1.2	1.2
Av. Max. Rif. Depth (cm):	9	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	30	Av. Max. Pool Depth (cm):	9						
Gradient (%):	2.5	Method Gradient:	CL						
% Pool: 20	% Riffle: 20	% Run: 60	% Other: 0	Method: GE					
% Side Channel:	0-10	Method Side Channel:	GE						
% Debris Area:	10-40	Method Debris Area:	GE						

Cover

Cover Total % :	20	Method Cover Total %:	GE				
Dp Pool : 10 L.O.D.:	40	Boulder: 5	In Veg.: 5	Over Veg: 30	Cutbank:	10	
Crown Closure % :	20	Method Crown Closure:	GE	Aspect : S	Method Aspect:	C	

Discharge

Wetted Width (m) :	0.9	Method Wetted Width (m) :	MS	Specific Data				
Mean Depth (m) :	0.1	Method Mean Depth (m) :	MS					
Mean Velocity (m/s) :	0.31	Method Mean Velocity (m/s)	F					
Discharge (m3/s) :	0.04	Method Discharge (m3/s) :	F					

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Bed Material

% Fines (<2mm):	60	% Fines (<2mm):	60
% Gravels:	5	Small (2-16mm):	5
		Large (16-64mm):	0
% Larges:	35	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	25
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	12	Compaction:	Medium

Banks

Height (m):	0.3	% Unstable:	15	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	4			
Valley: Chan. Ratio:				
Stage:	M			
Flood Signs Ht(m):	0.3	Method Flood Signs:	MS	
Braided:	N	Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
O2 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	6.0	Method Temperature:	HT	
Turb. (cm):		Method Turbidity:		
Cond. (umhos):		Method Conductivity:		

Fish Summary

Obstructions

Comments

C1

Film 9: 12 u/s, 13 d/s.

Note: Reach '998' should read Reach 'B'.

Fish sampling (electroshocking) was conducted for 183 seconds. No fish were captured or observed.

This stream has been defaulted to a S-4 classification under the Forest Practices Code, because it has good fisheries potential.



Photo 141. Upstream view of Stream 182-6976-928-932 at Reach B.



Photo 142. Downstream view of Stream 182-6976-928-932 at Reach B.

4.1.11.30 Stream 182-6976-928-932-660

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-932-660
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/13
TRIM Map	93J071
Cutting Permit	Sal
Cutblock Number	038
Operating Area	North Salmon
Development Type	Cutblock
Survey Date	19-Jun-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	6
Stream Width (m)	0.8
Length Surveyed (m)	450
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	None
Description: This reach is located on the southern section of the cutblock and flows south into stream 182-6976-928-932. It contains a low gradient (6.5%) and consists mainly of 75% run and 20% riffle habitat. The total cover (10%) is provided by large organic debris (45%) and overhanging vegetation (20%). The substrate consists of 80% fines and 20% larges. Upstream of the upper reach limit, the channel becomes a seepage. Fish sampling (electroshocking) was conducted for 45 sec. No fish were captured or observed. This reach has been defaulted to a S-4* stream classification under the Forest Practices Code, since it contains potential rearing habitat.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-932-660-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-932-660-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.45 Method: MW
Location:	Sal 38	Site No.:	0	Length surveyed (m):	450.0 Method: MW
		Map #:	93J/13	Fish Card:	N
		U.T.M.:	10.438780.6067450	Field:	Yes
Date: 19/06/96	Time: 14:40	Agency:	EDI	Historical:	No
		Survey Crew:	PT\NC\ \ \ \ \ \	Photos:	#9: 16,17
				Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	0.8	Method Av. Chan. Width (m):	MS	Specific Data					
Av. Wet. Width (m):	0.8	Method Av. Wet. Width (m):	MS	0.8	1.4	0.6	0.8	0.7	0.5
Av. Max. Riff. Depth (cm):	6	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	25	Av. Max. Pool Depth (cm):	6						
Gradient (%):	6.0	Method Gradient:	CL						
% Pool:	5	% Riffle:	20	% Run:	75	% Other:	0	Method:	GE
% Side Channel:	0-10	Method Side Channel:	GE						
% Debris Area:	10-40	Method Debris Area:	GE						

Cover

Cover Total % :	10	Method Cover Total %:	GE								
Dp Pool :	5	L.O.D.:	45	Boulder:	5	In Veg.:	0	Over Veg:	40	Cutbank:	5
Crown Closure % :	6	Method Crown Closure:	GE	Aspect :	S	Method Aspect:	C				

Discharge

Wetted Width (m) :	0.8	Method Wetted Width (m) :	MS	Specific Data					
Mean Depth (m) :	0.2	Method Mean Depth (m) :	MS						
Mean Velocity (m/s) :	0.40	Method Mean Velocity (m/s)	F						
Discharge (m3/s) :	0.06	Method Discharge (m3/s) :	F						

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Bed Material

% Fines (<2mm):	80	% Fines (<2mm):	80
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	20	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	10
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	8	Compaction:	High

Banks

Height (m):	0.2	% Unstable:	5
Textures Fines:	Yes	Gravel:	No
Confinement:	3	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	H		
Flood Signs Ht(m):	0.2	Method Flood Signs:	MS
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	6.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmbos):		Method Conductivity:	

Fish Summary

Obstructions

Comments

C1

Film 9: 16 d/s, 17 u/s.

Fish sampling (electroshocking) was conducted for 45 seconds. No fish were captured or observed.

This stream been defaulted to a S-4 classification under the Forest Practices Code, because it has good fisheries potential.



Photo 143. Upstream view of Stream 182-6976-928-932-660 at Reach 1.



Photo 144. Downstream view of Stream 182-6976-928-932-660 at Reach 1.

4.1.11.31 Stream EDI-574

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	574
Nearest Downstream Watershed Code	182-6972-928-932
NTS Map (1:50,000)	93J/13
TRIM Map	93J071
Cutting Permit	Sal
Cutblock Number	038
Operating Area	North Salmon
Development Type	Cutblock
Survey Date	19-Jun-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	4
Stream Width (m)	0.67
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	None
Description: This reach is located on the northeastern corner of the cutblock and flows south into stream 182-6976-928-932. It contains a low gradient (2.5%) and consists mainly of 60% run and 30% riffle habitat. The total cover (15%) is provided by large organic debris (45%) and overhanging vegetation (30%). The substrate consists of 60% fines, 35% larges and 5% gravels. This reach originates as a seepage. Fish sampling (electroshocking) was conducted for 72 sec. No fish were captured or observed. This reach has been defaulted to a S-4* stream classification under the Forest Practices Code, since it contains potential rearing habitat.	

Header Information

Stream Name: Unnamed

Watershed Code: 182-6976-928-932-999-000-000-000-000-000-000

Location: ND/WSC: 182-6976-928-932; 38 Salmon

Date: 19/06/96

Stream "Local": EDI 574

Map #: 93J/13

U.T.M.: 10.439050.6068300

Time: 16:16

Agency: EDI

Survey Crew: PT\NC\ \ \ \ \ \

Access: FT

Reach No.: 1

Site No.: 0

Fish Card: N

Photos: 9: 10, 11

Reach Length (km): 0.10000

Length surveyed (m): 100.0

Field: Yes

Historical: No

Method: MW

Method: MW

Air Photos:

Channel Characteristics

Av. Chan. Width (m): 0.7

Av. Wet. Width (m): 0.7

Av. Max. Rif. Depth (cm): 9

Av. Max. Pool Depth (cm): 15

Gradient (%): 2.5

% Pool: 10

% Side Channel: 0

% Debris Area: 0-10

Method Av. Chan. Width (m): MS

Method Av. Wet. Width (m): MS

Av. Max. Riffle Depth (cm): MS

Av. Max. Pool Depth (cm): 9

Method Gradient: CL

% Riffle: 30

Method Side Channel: GE

Method Debris Area: GE

% Run: 60

% Other: 0

Method: GE

Specific Data

0.4	0.5	0.5	0.8	1.0	0.8
-----	-----	-----	-----	-----	-----

Cover

Cover Total %: 15

Dp Pool: 5

Crown Closure %: 5

Method Cover Total %: GE

L.O.D.: 45

Method Crown Closure: GE

Boulder: 5

In Veg.: 5

Method Crown Closure: GE

Over Veg: 30

Aspect: SW

Cutbank: 10

Method Aspect: C

Discharge

Wetted Width (m):

Mean Depth (m):

Mean Velocity (m/s):

Discharge (m3/s):

Method Wetted Width (m):

Method Mean Depth (m):

Method Mean Velocity (m/s):

Method Discharge (m3/s):

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Bed Material

% Fines (<2mm): 60

% Gravels: 5

% Larges: 35

% Bedrock: 0

D90 (cm): 10

% Fines (<2mm): 60

Small (2-16mm): 5

Large (16-64mm): 0

Small cobble (64-128mm): 20

Large cobble (128-256mm): 10

Boulder cobble (>256mm): 5

% Bedrock: 0

Compaction: High

Banks

Height (m): 0.3

Textures Fines: Yes

Confinement: 4

Valley: Chan. Ratio: 4

Stage: M

Flood Signs Ht(m):

Braided:

Bars (%):

pH:

O2 (ppm):

Water Temp. (°C): 4.0

Turb. (cm):

Cond. (µmhos):

% Unstable: 80

Gravel: No

Larges: No

Bedrock: No

Method Flood Signs:

Method Braided:

Method Bars:

Method pH:

Method Dissolved Oxygen:

Method Temperature: HT

Method Turbidity:

Method Conductivity:

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-932-999-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1

Film 9: 10 d/s, 11 u/s.

Fish sampling (electroshocking) was conducted for 72 seconds. No fish were captured or observed.

This reach has been given a defaulted S-4 classification under the Forest Practices Code.



Photo 145. Upstream view of Stream EDI-574 at Reach 1.



Photo 146. Downstream view of Stream EDI-574 at Reach 1.

4.1.11.32 Stream EDI-753

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	753
Nearest Downstream Watershed Code	182-6976-928
NTS Map (1:50,000)	93J/12
TRIM Map	93J071
Cutting Permit	Squ
Cutblock Number	088
Operating Area	Squawfish
Development Type	Cutblock
Survey Date	28-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	300
Habitat Type	Dry Depression
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This is not a stream, it is a dry gully. It is located along the southwestern corner of the cutblock. No water was present in this area at the time of survey. Fish sampling was not conducted. No fish were observed. Since this is a dry gully and not a stream, a stream classification is not required under the Forest Practices Code.	

4.1.11.33 Stream 182-6976-928-965

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-965
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J071
Cutting Permit	Squ
Cutblock Number	088
Operating Area	Squawfish
Development Type	Cutblock
Survey Date	28-May-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	9.5
Stream Width (m)	1.05
Length Surveyed (m)	600
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-4
Fish Species Identified	RB - Rainbow Trout
Description: This low gradient (3%) reach flows in a northerly direction along the eastern boundary of cutblock Squ-88. It contained good quality rearing habitat, as it contains large woody debris, deep pools and undercut banks. An abundance of uncompacted gravel substrate (75%) provided excellent spawning potential. Fish sampling (electroshocking) revealed the presence of regionally significant fish. Two juvenile rainbow trout were captured and several other fish were observed. This stream contains good quality fish habitat and a regionally significant fish species. It was, therefore, classified as S-4 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

21-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-965-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-965-000-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.60000 Method: MW
Location:	Squ 88 & 39	Site No.:	0	Length surveyed (m):	600.0 Method: MW
		Map #:	93J/12	Fish Card:	N Field: Yes Historical: No
		U.T.M.:	10.441700.6065030	Photos:	#3: 20,21 Air Photos:
Date: 28/05/96	Time: 15:00	Agency: EDI	Survey Crew: NC\RM\MS\ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	1.1	Method Av. Chan. Width (m):	TF	
Av. Wet. Width (m):	1.0	Method Av. Wet. Width (m):	TF	
Av. Max. Rif. Depth (cm):	5	Av. Max. Riffle Depth (cm):	MS	
Av. Max. Pool Depth (cm):	25	Av. Max. Pool Depth (cm):	5	
Gradient (%):	3.0	Method Gradient:	CL	
% Pool: 30	% Riffle: 40	% Run: 30	% Other: 0	Method: GE
% Side Channel:	0	Method Side Channel:	GE	
% Debris Area:	10-40	Method Debris Area:	GE	

Specific Data					
1.0	1.1	1.0	1.0	0.9	1.3

Cover

Cover Total % :	25	Method Cover Total %:	GE		
Dp Pool : 30 L.O.D.:	15	Boulder: 0	In Veg.: 0	Over Veg: 5	Cutbank: 50
Crown Closure % :	10	Method Crown Closure:	GE	Aspect : NW	Method Aspect: C

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s)
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data					

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Bed Material

% Fines (<2mm):	25	% Fines (<2mm):	25
% Gravels:	75	Small (2-16mm):	50
		Large (16-64mm):	25
% Larges:	0	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	0.3	% Unstable:	95	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	2			
Valley: Chan. Ratio:				
Stage:	H			
Flood Signs Ht(m):	0.4	Method Flood Signs:	MS	
Braided:	N	Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
O2 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	9.5	Method Temperature:	HT	
Turb. (cm):		Method Turbidity:		
Cond. (µmhos):		Method Conductivity:		

DFO/MoELP Stream Survey Form

21-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-965-000-000-000-000-000-000-000

Fish Summary

Species	Number	Size Range (mm)	Life Phase	Use 1	Use 2	Use 3	Method/Reference
RB	2	100.0	J	U			EL
UI	3		UK				VO

Obstructions

Comments

C1 Film 3 : 20 u/s, 21 d/s

Fish sampling (electroshocking) was conducted. Two juvenile RB were caught.

Since regionally significant fish were caught within this reach, it has been classified as an S-4 under the Forest Practices Code. This reach contains excellent spawning habitat.



Photo 147. Upstream view of Stream 182-6976-928-965 at Reach 1.



Photo 148. Downstream view of Stream 182-6976-928-965 at Reach 1.

4.1.12. Watershed 182-6976-928-644

Watershed 182-6976-928-644 is located BC Environment Management Unit 7-25 (BC Recreational Atlas 1993), in the eastern portion of the Stuart Lake Watershed Group, east of Pinchi Lake (Fig. 13). The main system (182-6976-928-644) drains easterly into the Ocock River. The basin is located south of Ocock Lake, north of Carrier Lake and northeast of Murray Ridge. Occupying 946 ha of the Stuart Lake Provincial Forest, the geographical relief ranges from approximately 790 m at Stuart Lake to approximately 950 m in the headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977).

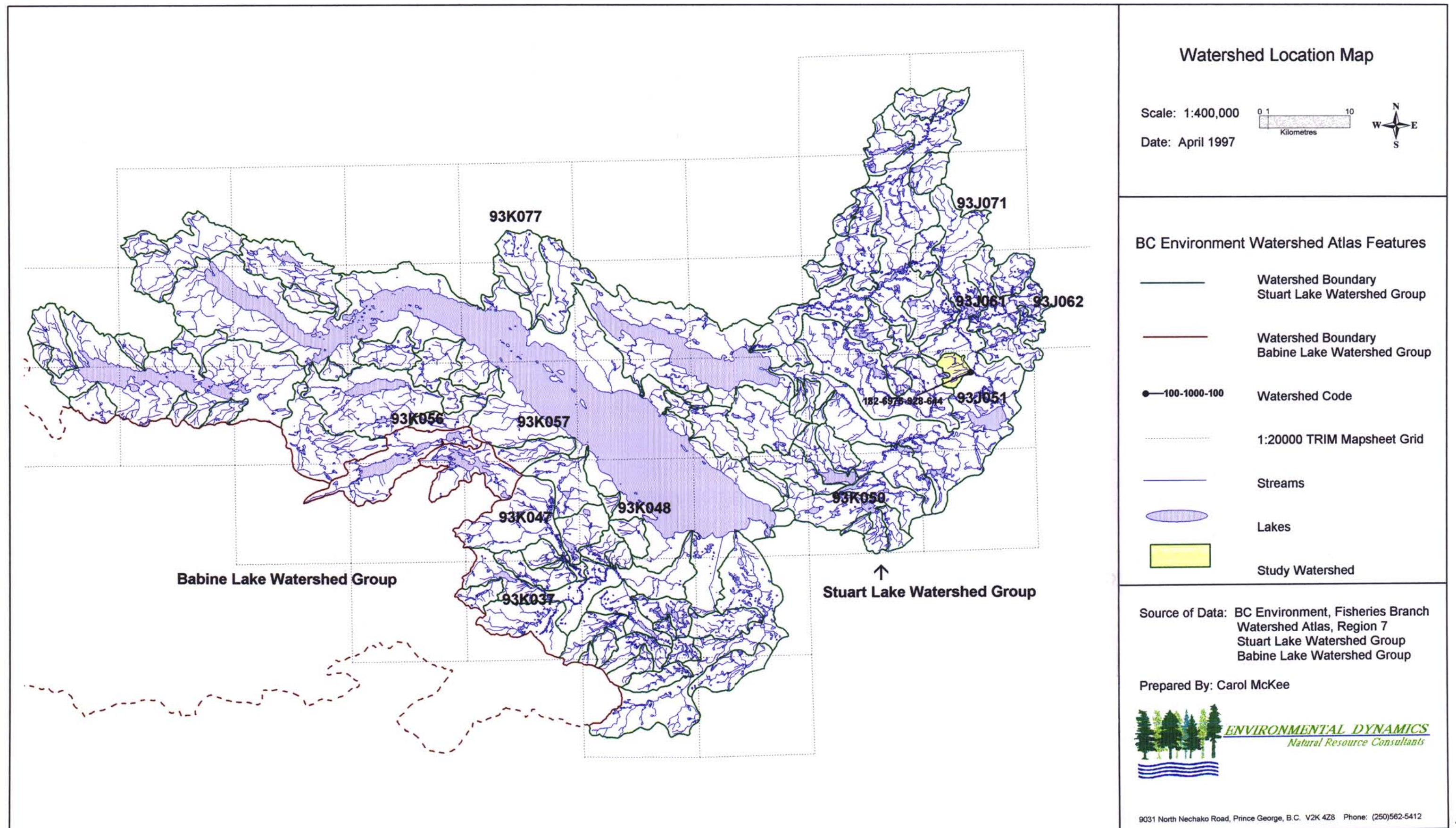
According to the biogeoclimatic units of the Prince George Forest Region, this watershed is dominated by sub-zone/variant the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3) (DeLong et al. 1993).

According to the updated FISS data (1995), no fish species have been documented in Watershed 182-6976-928-644 (BC Environment 1995). However, as this basin is located between Ocock and Carrier lakes and is a tributary to the Ocock River, it has potential to contain: rainbow trout, peamouth chub, prickly sculpin, redbside shiner, large scale sucker, longnose sucker, northern squawfish, mountain and burbot (BC Environment 1997b).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. A small portion of the Ocock River WMC is located at the confluence of the main system 182-6976-928-644 and the Ocock River (Canfor 1996).

Since this watershed lies within a portion of Canfor's North Salmon Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel roads located in this watershed are the Ocock FSR and its adjoining sideroads (Canfor 1996).

Figure 13. Location of Watershed 182-6976-928-644 within the Stuart Lake Watershed Group



4.1.12.1 Stream 182-6976-928-644-158

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-644-158
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	Oco
Cutblock Number	092
Operating Area	Ocock
Development Type	Cutblock
Survey Date	21-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	1100
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This wetland is located along the northern boundary of the proposed cutblock and flows in a northeasterly direction. This wetland lacks a definable channel and flowing water. Periodic pooling was evident throughout this 50 m wide section of the cutblock. Fish sampling was not conducted, and no fish were observed. This wetland does not require a stream classification under the Forest Practices Code. This area should, however, be assigned a wetland classification.	

4.1.12.2 Stream EDI-527

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	527
Nearest Downstream Watershed Code	182-6976-928-644-439
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	025
Cutblock Number	105
Operating Area	Ocock
Development Type	Right-of-Way
Survey Date	17-May-95
Reach Number	Not Applicable
Site Number	1
Water Temperature (°C)	Not Recorded
Stream Width (m)	1.7
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (5.5%) site is located approximately 1500 m east of the cutblock. A low amount of cover was available for rearing, and the bed materials were dominated by fines (80%) and larges (20%). This stream crossing site had been logged prior to this survey. The channel was degraded by skidder tracks, thus making the channel width wider (3.5 m) at the sample site location compared to the rest of the stream. Fish sampling (minnow traps set for 24 hours) was conducted. No fish were captured or observed. Since this site contained low quality fish habitat, and no fish were captured or observed, it was classified as S-6 under the Forest Practices Code.	

Header Information

Stream Name: Unnamed

Watershed Code: 182-6976-928-644-439-999-000-000-000-000-000

Location: ND/WSC: 182-6976-928-644-439; 025-105 Ocock

Date: 17/05/95

Stream "Local": EDI 527

Map #: 93J/12

U.T.M.: 10.438160.6049430

Time: 12:45

Agency: EDI

Survey Crew: RV\EL\RJRV\ \ \ \ \

Access: FT

Reach No.: 0

Site No.: 1

Fish Card: N

Photos:

Reach Length (km):

Length surveyed (m): 100.0

Field: Yes

Air Photos:

Method:

Method: MW

Historical: No

Channel Characteristics

Av. Chan. Width (m): 1.7

Av. Wet. Width (m): 1.7

Av. Max. Rif. Depth (cm): 4

Av. Max. Pool Depth (cm): 6

Gradient (%): 5.5

% Pool: 20

% Side Channel: 0-10

% Debris Area: 0-10

Method Av. Chan. Width (m): TF

Method Av. Wet. Width (m): TF

Av. Max. Riffle Depth (cm): TF

Av. Max. Pool Depth (cm): 4

Method Gradient: CL

% Run: 60

Method Side Channel: GE

Method Debris Area: GE

TF

TF

4

CL

0

GE

GE

Method:

GE

Specific Data

Cover

Cover Total % : 5

Dp Pool : L.O.D.:

Crown Closure % : 0

Method Cover Total %: GE

Boulder: In Veg.:

Method Crown Closure: GE

Over Veg: Cutbank:

Aspect : NE

Method Aspect: C

Discharge

Wetted Width (m):

Mean Depth (m):

Mean Velocity (m/s):

Discharge (m3/s):

Method Wetted Width (m):

Method Mean Depth (m):

Method Mean Velocity (m/s)

Method Discharge (m3/s):

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Bed Material

% Fines (<2mm): 80

% Gravels: 5

% Larges: 15

% Bedrock: 0

D90 (cm):

% Fines (<2mm): 80

Small (2-16mm): 5

Large (16-64mm): 0

Small cobble (64-128mm): 5

Large cobble (128-256mm): 5

Boulder cobble (>256mm): 5

% Bedrock: 0

Compaction:

Banks

Height (m): 0.1

Textures Fines: Yes

Confinement: 3

Valley: Chan. Ratio:

Stage: H

Flood Signs Ht(m):

Braided:

Bars (%):

pH:

O2 (ppm):

Water Temp. (°C):

Turb. (cm):

Cond. (µmhos):

% Unstable:

Gravel: No

Larges: No

Bedrock: No

Method Flood Signs:

Method Braided:

Method Bars:

Method pH:

Method Dissolved Oxygen:

Method Temperature:

Method Turbidity:

Method Conductivity:

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-644-439-999-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Fish sampling (minnow traps) was conducted. No fish were captured or observed.
This site has been assigned a S-6 classification under the Forest Practices Code.

4.1.13 Watershed 182-6976-928-682

Watershed 182-6976-928-682 is located BC Environment Management Unit 7-25 (BC Recreational Atlas 1993), along the eastern border of the Stuart Lake Watershed Group, east of Stuart Lake (Fig. 14). The main system flows directly into the Ocock River. The watershed is surrounded by the Salmon River Watershed Group to the east, Ocock Lake to the northwest and Carrier Lake to the south. Occupying 2,820 ha of the Stuart Lake Provincial Forest, the geographical relief ranges from approximately 790 m at the mainstream confluence with Ocock River to approximately 850 m at the headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977).

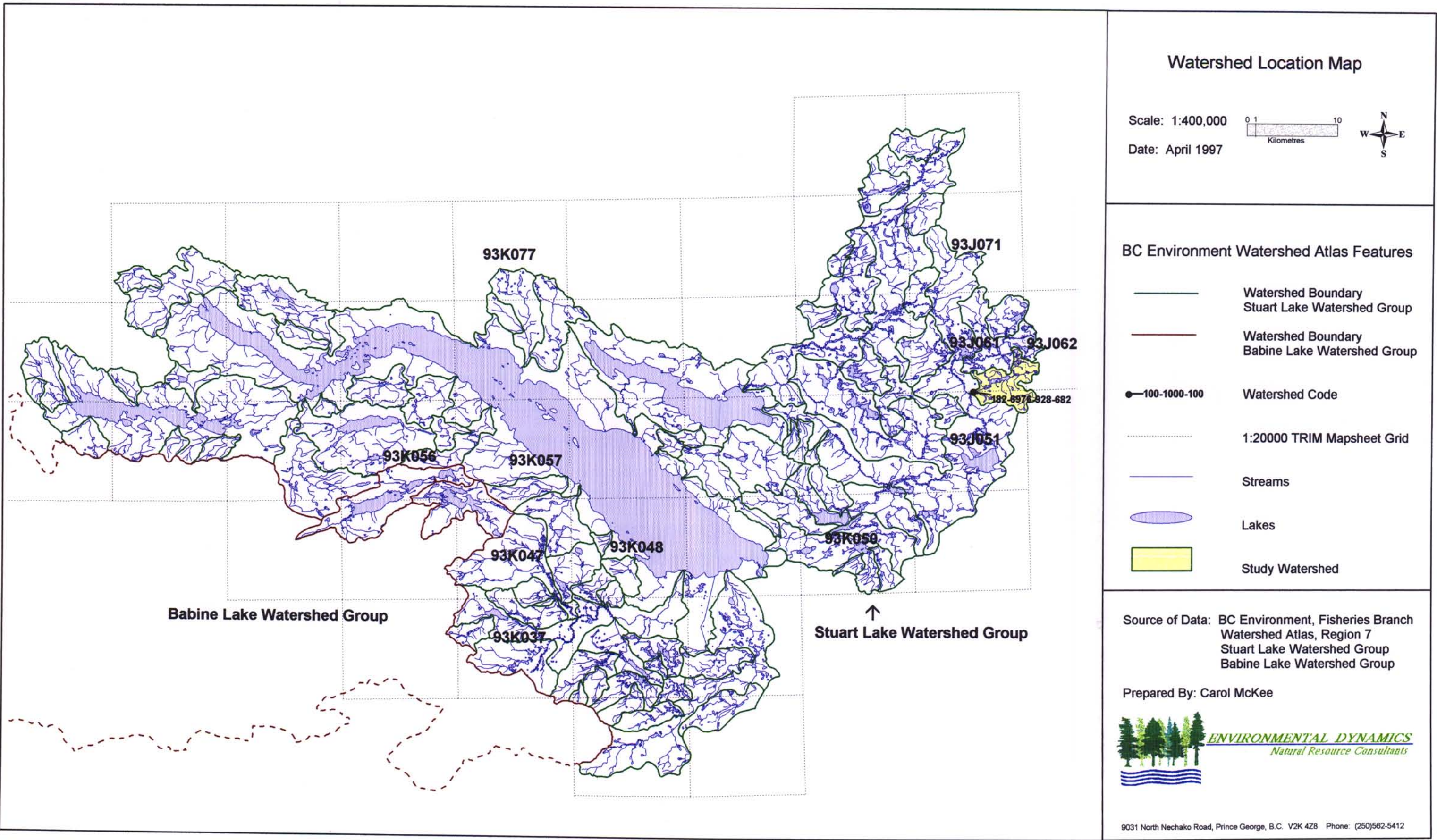
According to the biogeoclimatic units of the Prince George Forest Region, this watershed is dominated by sub-zone/variant the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3) (DeLong et al. 1993).

According to the updated FISS data (1995), no fish species have been documented in Watershed 182-6976-928-682 (BC Environment 1995). However, as this basin is located between Ocock and Carrier lakes and enters the Ocock River, it has potential to contain: rainbow trout, peamouth chub, prickly sculpin, redbside shiner, large scale sucker, longnose sucker, northern squawfish, mountain whitefish and burbot (BC Environment 1997b).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. A small portion of the Ocock River WMC is located at the confluence of the main system 182-6976-928-682 and the Ocock River (Canfor 1996).

Since this watershed lies within a portion of Canfor's Zap Carrier Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel road located in this watershed is the Teardrop-Carrier FSR and its adjoining sideroads (Canfor 1996).

Figure 14. Location of Watershed 182-6976-928-682 within the Stuart Lake Watershed Group



Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-682
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	258
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	27-May-96
Reach Number	2
Site Number	Not Applicable
Water Temperature (°C)	7
Stream Width (m)	2.8
Length Surveyed (m)	200
Habitat Type	Stream
Stream Order (1:20,000)	4, 3
Forest Practices Code Stream Classification	S-3*
Fish Species Identified	None
Description: This low gradient (2%) section of stream is located outside of the eastern boundary of the proposed cutblock and flows west. Total cover was 40% primarily due to undercut banks (60%). Bed material was dominated by gravels (45%) and fines (30%). Fish sampling (electroshocking) was conducted for 322 sec. Fish were observed, but unidentified. No fish were captured. Since this reach contains potential spawning and rearing habitat and is in close proximity to the Ocock River, it was defaulted to a S-3* classification under the Forest Practices Code. Recommendation: Further survey is recommended to determine the presence of regionally significant fish.	

DFO/MoELP Stream Survey Form

31-Dec-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-682-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-682-000-000-000-000-000-000-000	Reach No.:	2	Reach Length (km):	0.5 Method: GE
Location:	Car 258	Site No.:	0	Length surveyed (m):	200.0 Method: GE
		Fish Card:	N	Field: Yes	Historical: No
Date: 5/27/96	Time: 14:30	Agency: EDI	Survey Crew: MS \NHP\ WC\ \ \ \ \ \	Photos:	#56: 21, 22 Air Photos:
		Map #:	93J/12		
		U.T.M. :	10.442990.6050780		

Channel Characteristics

Av. Chan. Width (m):	2.8	Method Av. Chan. Width (m):	TF	Specific Data					
Av. Wet. Width (m):	2.6	Method Av. Wet. Width (m):	TF	2.9	3.7	2.5	2.5	2.6	2.5
Av. Max. Rif. Depth (cm):	30	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	81	Av. Max. Pool Depth (cm):	30						
Gradient (%):	2.0	Method Gradient:	CL						
% Pool: 25	% Riffle: 10	% Run: 60	% Other: 5	Method: GE					
% Side Channel:	0	Method Side Channel:	GE						
% Debris Area:	0-10	Method Debris Area:	GE						

Cover

Cover Total % :	40	Method Cover Total %:	GE				
Dp Pool : 20	L.O.D.: 10	Boulder: 0	In Veg.: 0	Over Veg: 10	Cutbank:	60	
Crown Closure % :	5	Method Crown Closure:	GE	Aspect : W	Method Aspect:	C	

Discharge

Wetted Width (m) :	2.7	Method Wetted Width (m) :	Specific Data			
Mean Depth (m) :	0.8	Method Mean Depth (m) :				
Mean Velocity (m/s) :	0.48	Method Mean Velocity (m/s)				
Discharge (m3/s) :	0.78	Method Discharge (m3/s) :				

Reach Symbol

(Fish)	
(Width, Valley: Channel, Slope)	(Bed Material)

Bed Material

% Fines (<2mm):	30	% Fines (<2mm):	30
% Gravels:	45	Small (2-16mm):	15
		Large (16-64mm):	30
% Larges:	25	Small cobble (64-128mm):	15
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	10	Compaction:	High

Banks

Height (m):	0.7	% Unstable:	5	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	3			
Valley: Chan. Ratio:				
Stage:	H			
Flood Signs Ht(m):		Method Flood Signs:		
Braided:		Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
02 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	7.0	Method Temperature:		HT
Turb. (cm):		Method Turbidity:		
Cond. (µmhos):		Method Conductivity:		

DFO/MoELP Stream Survey Form

31-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-682-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 56: 21 u/s and 22 d/s

Fish sampling (electroshocking) was conducted for 322 seconds over 250m area. Fish were visually observed, but were not captured.

This reach was defaulted to a S-3 classification under the Forest Practices Code due to its close proximity to the Ocock River, visual observation of unidentified fish and presence of good spawning and rearing habitat.



Photo 149. Upstream view of Stream 182-6976-928-682 at Reach 2.



Photo 150. Downstream view of Stream 182-6976-928-682 at Reach 2.

4.1.13.1 Stream EDI-816

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	816
Nearest Downstream Watershed Code	182-6976-928-682
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	258
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	27-May-96 95
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	7
Stream Width (m)	0.85
Length Surveyed (m)	500
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	None
Description: This low gradient (5%) reach is located along the eastern boundary of the proposed cutblock flowing south. Total cover was 45% provided by large organic debris (40%) and overhanging vegetation (20%). Bed materials were dominated by fines (95%). The upper limit of this reach ended in a wetland. Fish sampling (electroshocking) was conducted for 100 sec. No fish were captured or observed. Since this reach was in close proximity to Ocock River, it was defaulted to a S-4* classification under the Forest Practices Code. Recommendation: Further survey is recommended to determine fish presence and to find the upper limit of fish presence.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-682-999-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI 816	Access:	FT
Watershed Code:	182-6976-928-682-999-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.5 Method: MW
Location:	ND/WSC: 182-6976-928-682; 258 Carrier	Site No.:	0	Length surveyed (m):	500.0 Method: MW
		Map #:	93J/12	Fish Card:	N Field: Yes Historical: No
		U.T.M. :	10.442630.6050920	Photos:	56: 19, 20 Air Photos:
Date: 27/05/95	Time: 12:30	Agency: EDI	Survey Crew: MS\WC\NHP\ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	0.9	Method Av. Chan. Width (m):	MS	<table><thead><tr><th colspan="6">Specific Data</th></tr></thead><tbody><tr><td>0.8</td><td>0.7</td><td>1.3</td><td>0.8</td><td>0.9</td><td>0.6</td></tr></tbody></table>						Specific Data						0.8	0.7	1.3	0.8	0.9	0.6
Specific Data																					
0.8	0.7	1.3	0.8	0.9	0.6																
Av. Wet. Width (m):	0.9	Method Av. Wet. Width (m):	MS																		
Av. Max. Rif. Depth (cm):	5	Av. Max. Riffle Depth (cm):	MS																		
Av. Max. Pool Depth (cm):	40	Av. Max. Pool Depth (cm):	5																		
Gradient (%):	5.0	Method Gradient:	CL																		
% Pool: 30	% Riffle: 20	% Run: 50	% Other: 0	Method: GE																	
% Side Channel:	0-10	Method Side Channel:	GE																		
% Debris Area:	>40	Method Debris Area:	GE																		

Cover

Cover Total % :	45	Method Cover Total %:	GE							
Dp Pool : 15 L.O.D.:	40	Boulder: 5	In Veg.: 10	Over Veg: 20	Cutbank:	10				
Crown Closure % :	5	Method Crown Closure:	GE	Aspect : S	Method Aspect:	C				

Discharge

Wetted Width (m) :	0.8	Method Wetted Width (m) :	MS	<table><thead><tr><th colspan="6">Specific Data</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>						Specific Data											
Specific Data																					
Mean Depth (m) :	0.2	Method Mean Depth (m) :	MS																		
Mean Velocity (m/s) :	0.20	Method Mean Velocity (m/s)	F																		
Discharge (m3/s) :		Method Discharge (m3/s) :																			

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Bed Material

% Fines (<2mm):	95	% Fines (<2mm):	95
% Gravels:	0	Small (2-16mm):	0
		Large (16-64mm):	0
% Larges:	5	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	0.1	% Unstable:	5	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	4			
Valley: Chan. Ratio:				
Stage:	M			
Flood Signs Ht(m):		Method Flood Signs:		
Braided:	N	Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
O2 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	7.0	Method Temperature:	HT	
Turb. (cm):		Method Turbidity:		
Cond. (µmhos):		Method Conductivity:		

Fish Summary

Obstructions

Comments

CI

Film 56: 19 u/s, 20 d/s.

Fish sampling (electroshocking) was conducted 100 seconds. No fish were captured or observed.

This reach was given a defaulted S-4 classification under the Forest Practices Code.



Photo 151. Upstream view of Stream EDI-816 at Reach 1.



Photo 152. Downstream view of Stream EDI-816 at Reach 1.

4.1.13.2 Stream 182-6976-928-682-085

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-682-085
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	026
Cutblock Number	144
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	01-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	None
Stream Width (m)	Not Applicable
Length Surveyed (m)	200
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This wetland is located along the southern boundary of the proposed cutblock draining in a westerly direction into a marsh. This area lacks a definable channel and is situated in a low lying marsh area. The marsh is approximately 15 ha in size. Fish sampling was not conducted. No fish were observed. Since this is a wetland, a stream classification is not required under the Forest Practices Code. This wetland should be protected appropriately.	

4.1.13.3 Stream 182-6976-928-682-264

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-682-264
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93KJ/12
TRIM Map	93J061
Cutting Permit	031
Cutblock Number	170
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	01-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	700
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This area is wetland not a stream. No definable channel or flow was found in the wetland. The habitat at the confluence of this system and EDI-792 was a bog marsh. Fish sampling was not conducted in this area. No fish were observed. Due to the fact that this system is wetland, it does not require a stream classification under the Forest Practices Code. However, this area should be protected appropriately.	

4.1.13.4 Stream EDI-792

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	792
Nearest Downstream Watershed Code	182-6976-928-682-264
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	031
Cutblock Number	170
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	01-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This area is wetland not a stream. No definable channel or flow was found in the wetland. The habitat at the confluence of EDI-792 and stream 182-676-928-682-264 was a bog marsh. Fish sampling was not conducted in this area. No fish were observed. Due to the fact that this system is wetland, it does not require a stream classification under the Forest Practices Code. However, this area should be protected appropriately.	

4.1.13.5 Stream EDI-785

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	785
Nearest Downstream Watershed Code	182-6976-928-682
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	026
Cutblock Number	144
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	31-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	500
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This wetland is located along the northwestern boundary of the proposed cutblock, draining in a northerly direction. This area lacks a definable channel and is most likely ephemeral. Fish sampling was not conducted. No fish were observed. Since this is a wetland, a stream classification is not required under the Forest Practices Code. However, this wetland should be protected appropriately	

4.1.13.6 Stream EDI-800

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	800
Nearest Downstream Watershed Code	182-6976-928-682
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	017
Cutblock Number	174
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	01-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	1000
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This tributary is not a stream, it is wetland. The wetland surrounds the western, northern and eastern boundaries of cutblock 17-174. The wetland was surveyed on the eastern and western border of the cutblock. This system is a low lying marsh-bog like area. Fish sampling was not conducted. No fish were observed. Since this is a wetland, a stream classification is not required under the Forest Practices Code. It does require a wetland classification and should be protected accordingly.	



Photo 153. View of wetland-Stream EDI-800.

4.1.13.7 Stream EDI-796

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	796
Nearest Downstream Watershed Code	182-6976-928-682
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	017
Cutblock Number	174
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	01-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	850
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This tributary is not a stream, it is a wetland. It is located along the northern boundary, draining in a easterly direction. There is no definable channel, although there is some pooling. The area is a low lying bog/wetland. Fish sampling was not conducted. No fish were observed. Since this is a wetland, a stream classification is not required under the Forest Practices Code. It does require a wetland classification and should be protected accordingly.	

4.1.13.8 Stream EDI-834

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	834
Nearest Downstream Watershed Code	182-6876-928-682
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	017
Cutblock Number	176
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	31-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	200
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This tributary is not a stream but a wetland. It is located east of the cutblock, flowing in a easterly direction. There was pooled water in this area, and the banks were not defined. This area will probably dry out later in the season. Fish sampling was not conducted. No fish were observed. Since this is a wetland, a stream classification is not required under the Forest Practices Code. It does require a wetland classification and should be protected accordingly.	

4.1.13.9 Stream EDI-795

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	795
Nearest Downstream Watershed Code	182-6976-928-682
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	017
Cutblock Number	176
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	31-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	0.5
Length Surveyed (m)	300
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This stream is located on the southeastern border of the cutblock. It flows in a northeasterly direction into stream EDI-834. This is an ephemeral stream that flows into a swampy bog area. There was very little flow. Fish sampling was not conducted. No fish were observed. This stream reach has been assigned a S-6 classification under the Forest Practices Code due to the low quality fish habitat.	



Photo 154. Upstream view of Stream EDI-795.

4.1.13.10 Stream 182-6976-928-682-327

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-682-327
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	026
Cutblock Number	144
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	31-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	600
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This wetland is located along the northeastern boundary of cutblock 26-144 and drains in a northerly direction. This area consisted of pools and there was no definable channel. At the location of the right-of-way, there was no channel present. Fish sampling was not conducted. No fish were observed. Since this is a wetland, a stream classification is not required under the Forest Practices Code. However, this wetland should be protected accordingly. Note: This system is hanging (not connected to another stream) and the watershed code 182-6976-928-682-327 is the nearest downstream watershed code for this system.	

4.1.13.11 Stream 182-6976-928-682-476

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-682-476
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051
Cutting Permit	018
Cutblock Number	146
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	04-Jun-95
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	8
Stream Width (m)	2.6
Length Surveyed (m)	600
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-3*
Fish Species Identified	None
Description: This low gradient reach is located outside of the northern boundary of the proposed cutblock and flows in a northerly direction. Total cover is 20% with the majority being deep pools (75%). Bed material is dominated by fines (100%). A series of beaver dams were located along this reach which do not impede fish movement. Minnow traps were set and nothing was caught. No fish were observed. Since this reach provides fish habitat and it flows into a stream where fish were observed, this reach has been classified by default as S-3* under the Forest Practices Code. Recommendation: Further surveying (electroshocking) of this reach would be required to determine the presence of regionally significant fish and the upper limit of fish distribution.	

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-682-476-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.60000 Method: MW
Location:	018-146 Carrier	Site No.:	0	Length surveyed (m):	600.0 Method: MW
		Map #:	93J/12	Fish Card:	N
		U.T.M. :	10.446200.6051560	Field:	Yes
Date:	04/06/95	Time:	10:30	Historical:	No
Agency:	EDI	Survey Crew:	BR \ \ \ \ \ \ \ \	Photos:	4: 5
				Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	2.6	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	2.0	Method Av. Wet. Width (m):	HC
Av. Max. Rif. Depth (cm):		Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	90	Av. Max. Pool Depth (cm):	
Gradient (%):	0.5	Method Gradient:	CL
% Pool:	90	% Riffle:	0
% Side Channel:	0-10	% Run:	10
% Debris Area:	0-10	% Other:	0
		Method:	GE
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data					
2.9	2.4	2.4	2.5	3.3	2.3

Bed Material

% Fines (<2mm):	98	% Fines (<2mm):	98
% Gravels:	1	Small (2-16mm):	0
		Large (16-64mm):	1
% Larges:	1	Small cobble (64-128mm):	1
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	Low

Cover

Cover Total % :	20	Method Cover Total %:	GE
Dp Pool :	75	L.O.D.:	0
Crown Closure % :	1	Boulder:	0
		In Veg.:	0
		Over Veg:	20
		Cutbank:	5
		Aspect :	N
		Method Aspect:	C

Discharge

Wetted Width (m) :		Method Wetted Width (m) :	
Mean Depth (m) :		Method Mean Depth (m) :	
Mean Velocity (m/s) :		Method Mean Velocity (m/s)	
Discharge (m3/s) :		Method Discharge (m3/s) :	

Specific Data					

Reach Symbol

(Fish)	
(Width, Valley: Channel, Slope)	(Bed Material)

Banks

Height (m):	0.3	% Unstable:	0
Textures Fines:	Yes	Gravel:	No
Confinement:	2	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	Y	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
02 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	8.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97 Stream: Unnamed Watershed Code:

Stream Survey Report
182-6976-928-682-476-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 4: 5
Fish sampling (minnow traps) was conducted. No fish were captured or observed.
This reach has been defaulted to a S-3 classification under the Forest Practices Code.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-682-476
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J051/61
Cutting Permit	018
Cutblock Number	146
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	18-May-95
Reach Number	2
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	2.5
Length Surveyed (m)	800
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-3*
Fish Species Identified	SU - Suckers (General), NSC - Northern Squawfish
Description: This low gradient (2%) reach is located along the eastern boundary of the proposed cutblock and flows in a northwesterly direction. The total cover is 30%, primarily due to overhanging vegetation (55%). Bed material is dominated by gravels (45%) and fines (40%). The reach ends at the road where the culvert is plugged with debris. The debris jam restricts fish movement, and should be removed. Minnow traps were set and 46 suckers and 1 northern squawfish were captured at the outlet of the culvert. No fish were captured at the inlet of the culvert. Since fish were captured and this reach provides good spawning potential, it has been defaulted to a S-3* under the Forest Practices Code. Recommendation: The debris jam should be removed, and the culvert size should be assessed to determine if it is of sufficient size to accommodate the water flow. Additional fish sampling should be conducted to determine if regionally significant fish utilize this reach.	

DFO/MoELP Stream Survey Form

25-Feb-98

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-682-476-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-682-476-000-000-000-000-000-000	Reach No.:	2	Reach Length (km):	0.80000 Method: MW
Location:	018-146 Carrier	Site No.:	0	Length surveyed (m):	800.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
		Photos:	1: 21	Air Photos:	
Date:	5/18/95	Time:	12:45	Agency:	EDI
		Survey Crew:	RJR\RV\SC \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	2.5	Method Av. Chan. Width (m):	TF	Specific Data					
Av. Wet. Width (m):	1.5	Method Av. Wet. Width (m):	TF						
Av. Max. Rif. Depth (cm):	10	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	25	Av. Max. Pool Depth (cm):	10						
Gradient (%):	2.0	Method Gradient:	GE						
% Pool:	30	% Riffle:	40	% Run:	30	% Other:	0	Method:	GE
% Side Channel:	0	Method Side Channel:	GE						
% Debris Area:	10-40	Method Debris Area:	GE						

Cover

Cover Total % :	30	Method Cover Total %:	GE								
Dp Pool :	15	L.O.D.:	15	Boulder:	0	In Veg.:	0	Over Veg:	55	Cutbank:	15
Crown Closure % :	40	Method Crown Closure:	GE	Aspect :	NW	Method Aspect:	C				

Discharge

Wetted Width (m) :	1.5	Method Wetted Width (m) :	TF	Specific Data
Mean Depth (m) :	0.1	Method Mean Depth (m) :	TF	
Mean Velocity (m/s) :	0.60	Method Mean Velocity (m/s)	F	
Discharge (m3/s) :	0.07	Method Discharge (m3/s) :	f	

Reach Symbol

(Fish)	
(Width, Valley: Channel, Slope)	(Bed Material)

Bed Material

% Fines (<2mm):	40	% Fines (<2mm):	40
% Gravels:	45	Small (2-16mm):	20
		Large (16-64mm):	25
% Larges:	15	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	10	Compaction:	Low

Banks

Height (m):	0.5	% Unstable:	5				
Textures Fines:	Yes	Gravel:	No	Larges:	No	Bedrock:	No
Confinement:	2						
Valley: Chan. Ratio:	5						
Stage:	M						
Flood Signs Ht(m):		Method Flood Sigas:					
Braided:	N	Method Braided:					
Bars (%):		Method Bars:					
pH:		Method pH:					
O2 (ppm):		Method Dissolved Oxygen:					
Water Temp. (°C):		Method Temperature:					
Turb. (cm):		Method Turbidity:					
Cond. (µmhos):		Method Conductivity:					

DFO/MoELP Stream Survey Form

25-Feb-98

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-682-476-000-000-000-000-000-000

Fish Summary

Species	Number	Size Range (mm)	Life Phase	Use 1	Use 2	Use 3	Method/Reference
SU	46	70-90	J	R			MT
NSC	1	75.0	J	R			MT

Obstructions

Obstruction	Ht(m)	Type	Location
	1	CV	1.0

Comments

- C1

Film 1: 21 d/s.

Fish sampling (minnow traps) was conducted. Forty-six suckers and 1 northern squawfish were captured at the outlet of the culvert. No fish were caught at the inlet of the culvert.

This reach has been given a defaulted S-3 classification under the Forest Practices Code.
- C2

Location 1. The culvert is located 1.7 km upstream from the confluence at the upper reach break.



Photo 155. Downstream view of Stream 182-6976-928-682-476 at Reach 2.

4.1.13.12 Stream 182-6976-928-682-476-002

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-682-476-002
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061/51
Cutting Permit	018
Cutblock Number	146
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	18-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	500
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This wetland occupies a heavily braided area with no defined channel and no flowing water. Only isolated pockets of standing water were present. The substrate within this area was dominated by fine organic materials (90%). Two minnow traps were baited with roe and left to fish overnight. No fish were captured or observed. This is a wetland and, therefore, stream classification is not required under the Forest Practices Code. However, this wetland should be protected appropriately.	

4.1.13.13 Stream EDI-751

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	751
Nearest Downstream Watershed Code	182-5976-928-682-586
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	232
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	22-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	1350
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This is a seepage area, not a stream. This area has no definable banks or channels. It is located on the western side of the cutblock and drains in a northerly direction. Fish sampling was not conducted in this seepage area. No fish were observed. As this is a seepage area, stream classification is not required under the Forest Practices Code.	

4.1.13.14 Stream 182-6976-928-682-586-371

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-682-586-371
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	232
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	22-Jun-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	10.5
Stream Width (m)	0.75
Length Surveyed (m)	300
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This reach flows in a northwesterly direction outside the eastern boundary of the cutblock. It is a small, low gradient (2.5%) stream which is characterized by a fair amount of cover (50%). Cover is mainly provided by cutbanks (40%) and overhanging vegetation (35%). The substrate is dominated by fines (60%). There is little fish habitat in this reach. Fish sampling (electroshocking) was conducted for 87 sec. No fish were caught or observed. This reach begins and ends as a seepage area. It contains low quality fish habitat and was, therefore, given a S-6 stream classification under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-682-586-371-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-682-586-371-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.30000 Method: MW
Location:	Car 232	Site No.:	0	Length surveyed (m):	300.0 Method: MW
		Map #:	93J/12	Fish Card:	N Field: Yes Historical: No
		U.T.M.:	10.448330.6052010	Photos:	#41: 8.9 Air Photos:
Date: 22/06/96	Time: 13:15	Agency: EDI	Survey Crew: MSRM \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	0.8	Method Av. Chan. Width (m):	MS						
Av. Wet. Width (m):	0.6	Method Av. Wet. Width (m):	MS						
Av. Max. Rlf. Depth (cm):	5	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	15	Av. Max. Pool Depth (cm):	5						
Gradient (%):	2.5	Method Gradient:	CL						
% Pool: 60	% Riffle: 20	% Run: 20	% Other: 0	Method:	GE				
% Side Channel:	10-40	Method Side Channel:	GE						
% Debris Area:	>40	Method Debris Area:	GE						

Specific Data

0.7	0.8	0.7	0.8	0.9	0.7
-----	-----	-----	-----	-----	-----

Bed Material

% Fines (<2mm):	60	% Fines (<2mm):	60
% Gravels:	30	Small (2-16mm):	25
		Large (16-64mm):	5
% Larges:	10	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	7	Compaction:	High

Cover

Cover Total % :	50	Method Cover Total %:	GE						
Dp Pool : 5 L.O.D.:	20	Boulder: 0	In Veg.: 0	Over Veg: 35	Cutbank:	40			
Crown Closure % :	5	Method Crown Closure:	GE	Aspect : NW	Method Aspect:	C			

Discharge

Wetted Width (m) :	Method Wetted Width (m) :				
Mean Depth (m) :	Method Mean Depth (m) :				
Mean Velocity (m/s) :	Method Mean Velocity (m/s)				
Discharge (m3/s) :	Method Discharge (m3/s) :				

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Banks

Height (m):	0.2	% Unstable:	10
Textures Fines:	Yes	Gravel: No	Larges: No Bedrock: No
Confinement:	4		
Valley: Chan. Ratio:			
Stage:	L		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:		Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	10.5	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-682-586-371-000-000-000-000-000

Fish Summary

Obstructions

Comments

CI Film 41: 8 d/s, 9 u/s.

Fish sampling (electroshocking) was conducted for 87 seconds.

This stream has been assigned a S-6 classification under the Forest Practices Code.



Photo 156. Upstream view of Stream 182-6976-928-682-586-371 at Reach 1.



Photo 157. Downstream view of Stream 182-6976-928-682-586-371 at Reach 1.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-682-586-371
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J062
Cutting Permit	Car
Cutblock Number	232
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	22-Jun-96
Reach Number	2
Site Number	Not Applicable
Water Temperature (°C)	14.5
Stream Width (m)	0.58
Length Surveyed (m)	200
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This reach flows in a northwesterly direction outside the eastern boundary of the cutblock. It is a small, low gradient (1.5%) stream which consists of 90% run and limited cover (5%). The substrate is dominated by fines (70%) with smaller components of gravels (20%) and larges (10%). Most of this reach is flowing through old skidder tracks. There is little or no fish habitat in this reach. Fish sampling (electroshocking) was conducted throughout the reach, however, no fish were captured or observed. This reach begins as a seepage area and contains minimal fisheries potential. This along with the fact that there were no fish observed resulted in a S-6 classification under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-682-586-371-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	
Watershed Code:	182-6976-928-682-586-371-000-000-000-000-000	Reach No.:	2	Reach Length (km):	0.20000 Method: MW
Location:	Car 232	Site No.:	0	Length surveyed (m):	200.0 Method: MW
		Map #:	93J/12	Field:	Yes Historical: No
		U.T.M.:	10.448500.6051850	Fish Card:	N
Date: 22/06/96	Time: 11:00	Agency: EDI	Survey Crew: RM \MS \ \ \ \ \ \	Photos:	#41:6,7
				Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	0.6	Method Av. Chan. Width (m):	MS	
Av. Wet. Width (m):	0.6	Method Av. Wet. Width (m):	MS	
Av. Max. Rlf. Depth (cm):	5	Av. Max. Riffle Depth (cm):	MS	
Av. Max. Pool Depth (cm):	10	Av. Max. Pool Depth (cm):	5	
Gradient (%):	1.5	Method Gradient:	CL	
% Pool: 5	% Riffle: 5	% Run: 90	% Other: 0	Method: GE
% Side Channel:	0-10	Method Side Channel:	GE	
% Debris Area:	0-10	Method Debris Area:	GE	

Specific Data					
0.5	0.6	0.7	0.8	0.3	0.6

Cover

Cover Total % :	5	Method Cover Total %:	GE		
Dp Pool : 5 L.O.D.:	10	Boulder: 0	In Veg.: 5	Over Veg: 5	Cutbank: 75
Crown Closure % :	0	Method Crown Closure:	GE	Aspect : NW	Method Aspect: C

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s)
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data					

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) | (Bed Material)

Bed Material

% Fines (<2mm):	70	% Fines (<2mm):	70
% Gravels:	20	Small (2-16mm):	10
		Large (16-64mm):	10
% Larges:	10	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	9	Compaction:	High

Banks

Height (m):	0.2	% Unstable:	10	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	5			
Valley: Chan. Ratio:	5			
Stage:	L			
Flood Signs Ht(m):		Method Flood Signs:		
Braided:		Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
O2 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	14.5	Method Temperature:		HT
Turb. (cm):		Method Turbidity:		
Cond. (umhos):		Method Conductivity:		

Fish Summary

Obstructions

Comments

- C1

Film 41: 6 u/s, 7 d/s

Fish sampling (electroshocking) was conducted throughout the reach, however no fish were captured or observed.

This reach contains begins as a seepage area and contains minimal fisheries potential. This along with the fact that there weren't any fish observed, resulted in an S-6 fish stream classification under the Forest Practices Code.

Note: Much of this reach is following old skidder tracks.
- C2

Stream too low to measure discharge



Photo 158. Upstream view of Stream 182-6976-928-682-586-371 at Reach 2.



Photo 159. Downstream view of Stream 182-6976-928-682-586-371 at Reach 2.

4.1.13.15 Stream EDI-749

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	749
Nearest Downstream Watershed Code	182-6976-928-682-586-371
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	232
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	22-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	500
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This tributary is a seepage area, not a stream. It has no definable banks or channel. It drains in a northerly direction across the northeastern boundary of the proposed cutblock. The dominant vegetation in this area included Devil's club, grasses and sedges. Fish sampling was not conducted in this seepage area. No fish were observed. As this is a seepage area, stream classification is not required under the Forest Practices Code.	

4.1.13.16 Stream EDI-750

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	750
Nearest Downstream Watershed Code	182-6976-928-682-586-371
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	232
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	22-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	500
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This is a seepage area, not a stream. This area has no definable banks or channel. It drains in a northerly direction through the northeastern boundary of the block. Fish sampling was not conducted in this seepage area. No fish were observed. As this is a seepage area, stream classification is not required under the Forest Practices Code.	

4.1.14. Watershed 182-6976-928-761

Watershed 182-6976-928-761 is located within BC Environment Management Unit 7-25 (BC Recreational Atlas 1993), the eastern portion of the Stuart Lake Watershed Group (Fig. 15), on the eastern side of Stuart Lake. The main system flows directly into Ocock Lake, and is surrounded by the Salmon River to the east, Ocock River to the west, and Carrier Lake to the south. Occupying 3,987 ha of the Stuart Lake Provincial Forest, the geographical relief is low and ranges from approximately 800 m at Ocock Lake to approximately 900 m in the headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977).

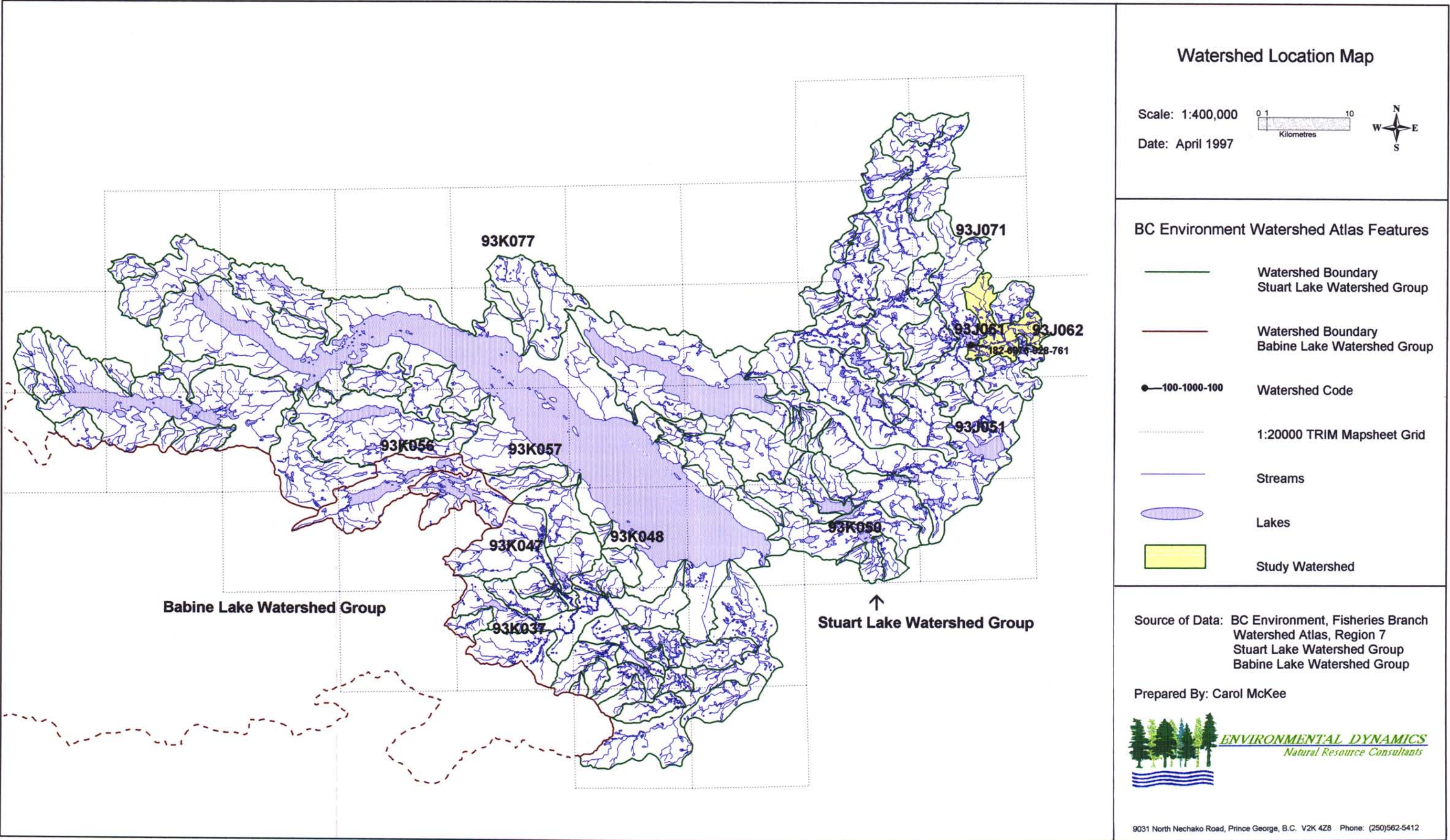
According to the biogeoclimatic units of the Prince George Forest Region, this watershed is dominated by sub-zone/variant the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3) (DeLong et al. 1993).

According to the updated FISS data (1995), no fish species have been documented in Watershed 182-6976-928-761 (BC Environment 1995). However, BC Environment lake inventories indicate Ocock Lake was found to contain rainbow trout, peamouth chub, burbot, reidside shiner, mountain whitefish, large scale suckers, longnose suckers, and northern squawfish. Therefore, this basin has high potential to support these fish species (BC Environment 1997b).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. A small portion of the Ocock River WMC is located at the confluence of the main system 182-6976-928-761 and the Ocock River (Canfor 1996).

Since this watershed lies within a portion of Canfor's Carrier Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel road located in this watershed is the Ocock FSR and its adjoining sideroads (Canfor 1996).

Figure 15. Location of Watershed 182-6976-928-761 within the Stuart Lake Watershed Group



Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-761
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	194
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	28-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	1100
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This wetland was located along the southeastern corner of the cutblock and flowed in a southwesterly direction. A defined channel was not found in this area. It should be considered a Fisheries Sensitive Zone as it flows into a wetland/stream complex that supported fish. Fish sampling was not conducted and no fish were observed. Since this area was a wetland, stream classification is not required under the Forest Practices Code. However, this wetland should be considered a Fisheries Sensitive Zone and be protected accordingly.	

4.1.14.1 Stream EDI-791

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	791
Nearest Downstream Watershed Code	182-6976-928-761-388
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	183
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	29-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	600
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream, it is a seepage. It is located on the northwestern boundary of the cutblock and drains westerly into an unnamed lake. The area is dominated by spruce, alder and willow. Fish sampling was not conducted in this seepage and no fish were observed. As this is a seepage, it does not require a stream classification under the Forest Practices Code.	

4.1.15 Watershed 182-6976-928-761-582

Watershed 182-6976-928-761-582 is located within BC Environment Management Unit 7-25 (BC Recreational Atlas 1993), along the eastern border of the Stuart Lake Watershed Group, east of Stuart Lake (Fig. 16). The main system flows in a southerly direction into stream 182-6976-928-761, which drains into Ocock Lake. The basin is surrounded by the Salmon River to the east, Ocock River to the west, and Carrier Lake to the south. Occupying 1,600 ha of the Stuart Lake Provincial Forest, the geographical relief is low and ranges from approximately 800 m at the confluence to approximately 900 m at the headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977).

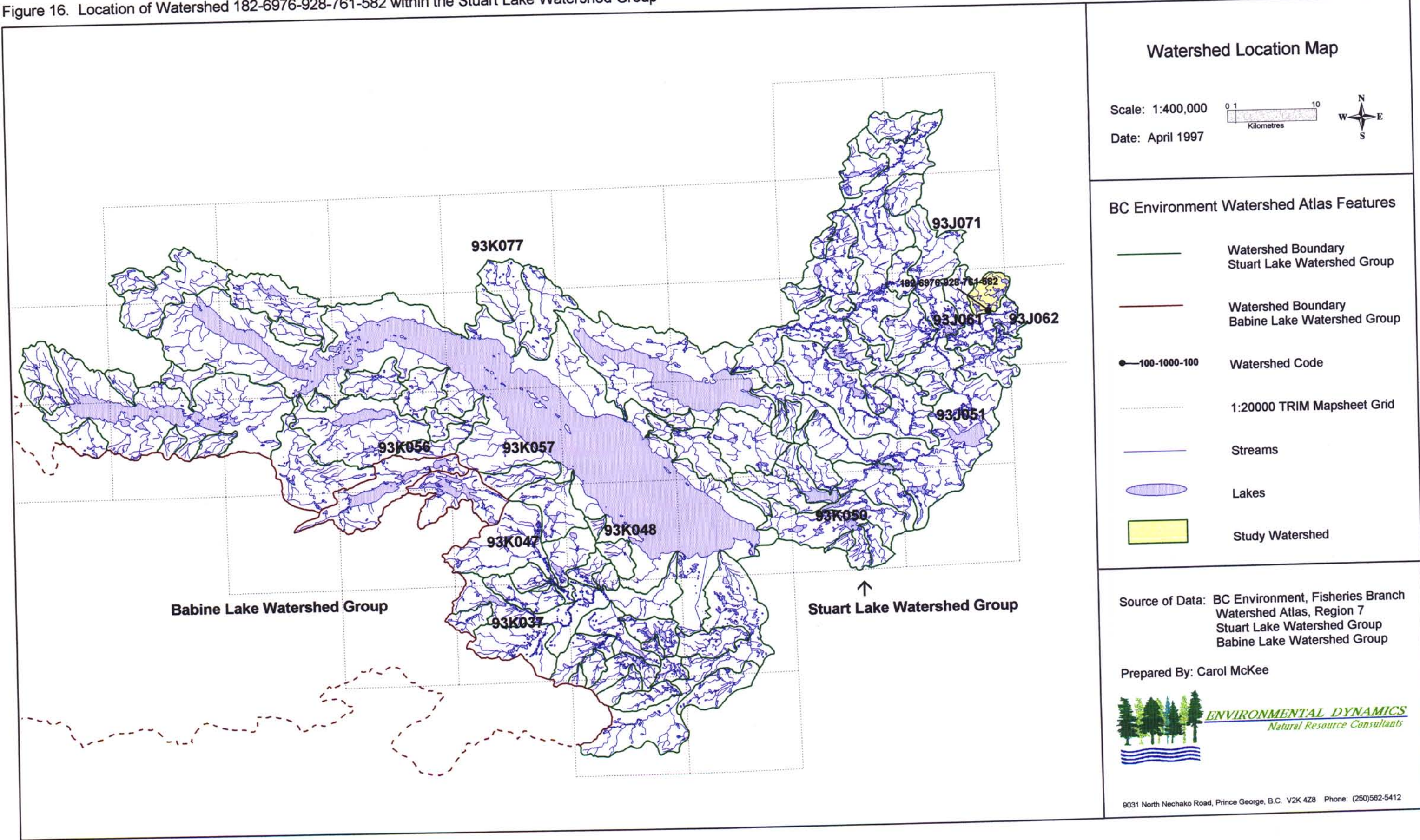
According to the biogeoclimatic units of the Prince George Forest Region, this watershed is dominated by sub-zone/variant the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3) (DeLong et al. 1993).

According to the updated FISS data (1995), no fish species have been documented in Watershed 182-6976-928-761-582 (BC Environment 1995). Nonetheless, this system flows into a tributary of Ocock Lake which may contain: rainbow trout, peamouth chub, burbot, redbreasted sunfish, mountain whitefish, large scale suckers, longnose suckers, and northern squawfish (BC Environment 1995). Therefore, this basin has high potential to support these fish species.

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. WMC's are not located within Watershed 182-6976-928-761-582 (Canfor 1996).

Since this watershed lies within a portion of Canfor's Carrier Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel road located in this watershed is the Ocock FSR and its adjoining sideroads (Canfor 1996).

Figure 16. Location of Watershed 182-6976-928-761-582 within the Stuart Lake Watershed Group



Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-761-582
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	25-May-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	6.5
Stream Width (m)	2.2
Length Surveyed (m)	450
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-3
Fish Species Identified	RB - Rainbow Trout, LSU - Longnose Sucker
Description: This unnamed stream flows in a southeasterly direction above the northern edge of the cutblock. This small low gradient (1.5%) stream is characterized by 65% run, and 20% pool. The total cover 35% was provided by undercut banks (40%) deep pools (25%) and large organic debris (15%). The bed material consisted of 40% fines, 40% gravels, and 20% larges. Numerous redds were observed, proving the area to be excellent spawning habitat. Fish sampling (electroshocking) was conducted due to the presence of spawning fish. Rainbow trout were observed in spawning colors. Due to excellent spawning habitat and the presence of regionally significant fish this reach was classified as S-3 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-761-582-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-761-582-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.45 Method: MW
Location:	Car 279	Site No.:	0	Length surveyed (m):	450.0 Method: MW
		Fish Card:	N	Field: Yes	Historical: No
Date: 25/05/96	Time: 12:15	Map #:	93J/12	Photos:	#57:11,12
		U.T.M.:	10.447960.6060380	Air Photos:	
Agency: EDI	Survey Crew: PTRM \ \ \ \ \				

Channel Characteristics

Av. Chan. Width (m):	2.2	Method Av. Chan. Width (m):	TF						
Av. Wet. Width (m):	2.2	Method Av. Wet. Width (m):	TF						
Av. Max. Rlf. Depth (cm):	20	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	65	Av. Max. Pool Depth (cm):	20						
Gradient (%):	1.5	Method Gradient:	CL						
% Pool: 20	% Riffle: 15	% Run: 65	% Other: 0	Method: GE					
% Side Channel:	0-10	Method Side Channel:	GE						
% Debris Area:	10-40	Method Debris Area:	GE						

Specific Data						
2.0	2.2	2.2	2.4	1.7	2.5	

Bed Material

% Fines (<2mm):	40	% Fines (<2mm):	40
% Gravels:	40	Small (2-16mm):	30
		Large (16-64mm):	10
% Larges:	20	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	12	Compaction:	High

Cover

Cover Total %:	35	Method Cover Total %:	GE						
Dp Pool: 25	L.O.D.: 15	Boulder: 5	In Veg.: 5	Over Veg: 10	Cutbank: 40				
Crown Closure %:	10	Method Crown Closure:	GE	Aspect: SE	Method Aspect: C				

Discharge

Wetted Width (m):	2.2	Method Wetted Width (m):	TF						
Mean Depth (m):	0.5	Method Mean Depth (m):	MS						
Mean Velocity (m/s):	0.51	Method Mean Velocity (m/s):	F						
Discharge (m3/s):	0.56	Method Discharge (m3/s):	f						

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Banks

Height (m):	0.2	% Unstable:	5
Textures Fines:	Yes	Gravel: No	Larges: No
Confinement:	4	Bedrock:	No
Valley: Chan. Ratio:			
Stage:	H		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:		Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	6.5	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-761-582-000-000-000-000-000-000

Fish Summary

Obstructions

Species	Count	Size (mm)	Sex	Age	Length	Weight	Notes
RB	4	150-400	A	S			EL

Comments

- C2

Some of these fish were visually observed.
Redds containing eggs were observed on stream substrate.
- C1

Film 57: 11 u/s, 12 d/s.
Fish sampling (electroshocking) was conducted for 31 seconds and rainbow trout were captured and visually observed.
This stream has a S-3 classification.



Photo 160. Upstream view of Stream 182-6976-928-761-582 at Reach 1.



Photo 161. Downstream view of Stream 182-6976-928-761-582 at Reach 1.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-761-582
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	25-May-96
Reach Number	2
Site Number	Not Applicable
Water Temperature (°C)	6
Stream Width (m)	1.4
Length Surveyed (m)	1200
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-3*
Fish Species Identified	None
Description: This unnamed stream flows in a southeasterly direction above the northern corner of the cutblock. It is a small, low gradient reach (2.5%), which is characterized by 50% run, and 35% pool. The total cover (50%) is primarily due to overhanging vegetation(40%) and undercut bank (20%). The substrate consists of 40% fines, 40% gravels and 20% larges. Recent beaver activity was observed in the area, however, no major obstructions were present which would prevent fish passage. A 600 m section of the drainage upstream of Reach 2 is a wetland. This wetland contains 8 beaver dams. Fish sampling (electroshocking) was conducted for 330 sec and no fish were captured or observed. Due to the good spawning and rearing habitat, a lack of any major obstructions, and the presence of regionally significant fish downstream, this reach was defaulted to a S-3* classification for Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-761-582-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-761-582-000-000-000-000-000-000	Reach No.:	2	Reach Length (km):	1.20000 Method: MW
Location:	Car 279	Site No.:	0	Length surveyed (m):	1200.0 Method: MW
		Map #:	93J/12	Fish Card:	N
		U.T.M.:	10.447120.6060680	Field:	Yes
Date: 25/05/96	Time: 10:14	Agency:	EDI	Historical:	No
		Survey Crew:	RD \RM \ \ \ \ \ \ \ \	Alr Photos:	
				Photos:	#57: 9,10

Channel Characteristics

Av. Chan. Width (m):	1.4	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	1.4	Method Av. Wet. Width (m):	MS
Av. Max. Rlf. Depth (cm):	16	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	36	Av. Max. Pool Depth (cm):	16
Gradient (%):	2.5	Method Gradient:	CL
% Pool: 35	% Riffle: 15	% Run: 50	% Other: 0
Method: GE			
% Side Channel:	0	Method Side Channel:	GE
% Debris Area:	10-40	Method Debris Area:	GE

Specific Data					
1.6	1.1	1.0	1.7	1.7	1.4

Cover

Cover Total % :	50	Method Cover Total %:	GE
Dp Pool : 15 L.O.D.:	15	Boulder: 5	In Veg.: 5
Crown Closure % :	20	Method Crown Closure:	GE
		Aspect : NE	Method Aspect: C
		Over Veg: 40	Cutbank: 20

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s)
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data					

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Bed Material

% Fines (<2mm):	40	% Fines (<2mm):	40
% Gravels:	40	Small (2-16mm):	30
		Large (16-64mm):	10
% Larges:	20	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	11	Compaction:	High

Banks

Height (m):	0.3	% Unstable:	5
Textures Fines:	Yes	Gravel: No	Larges: No
Confinement:	3	Bedrock:	No
Valley: Chan. Ratio:			
Stage:	H		
Flood Signs Ht(m):	0.1	Method Flood Signs:	MS
Braided:		Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	6.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-761-582-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 57: 9 w/s, 10 d/s.

Fish sampling (electroshocking) was conducted for 330 seconds and no fish were captured or observed.

This section of stream was given a S-3 classification under the Forest Practices Code.



Photo 162. Upstream view of Stream 182-6976-928-761-582 at Reach 2.



Photo 163. Downstream view of Stream 182-6976-928-761-582 at Reach 2.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-761-582
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	277
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	26-May-96
Reach Number	3
Site Number	Not Applicable
Water Temperature (°C)	5
Stream Width (m)	0.36
Length Surveyed (m)	200
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This unnamed stream flows in a northeasterly direction near the northeastern corner of the cutblock. It is a small, low gradient reach, consisting of mainly run and fine substrates. Total cover (65%) was primarily due to large organic debris (40%), overhanging vegetation (30%) and deep pools (20%). Eight beaver dams upstream of this reach have made fish movement into this area improbable. Fish sampling (electroshocking) was conducted for 61 sec. No fish were captured or observed. This stream was classified as S-6 under the Forest Practices Code as the beaver dams located downstream would inhibit fish movement and due to the low quality fish habitat.	

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-761-582-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-761-582-000-000-000-000-000-000	Reach No.:	3	Reach Length (km):	0.20000 Method: MW
Location:	Car 279	Site No.:	0	Length surveyed (m):	200.0 Method: MW
		Map #:	93J/12	Field:	Yes Historical: No
		U.T.M. :	10.446210.6060640	Fish Card:	N
Date: 5/26/96	Time: 12:00	Agency: EDI	Survey Crew: RD \RMNC \ \ \ \ \	Photos:	#57: 16,17
				Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	0.4	Method Av. Chan. Width (m):	MS						
Av. Wet. Width (m):	1.3	Method Av. Wet. Width (m):	MS						
Av. Max. Rif. Depth (cm):	0	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	30	Av. Max. Pool Depth (cm):	0						
Gradient (%):	1.0	Method Gradient:	CL						
% Pool: 25	% Riffle: 0	% Run: 75	% Other: 0	Method: GE					
% Side Channel:	0-10	Method Side Channel:	GE						
% Debris Area:	>40	Method Debris Area:	GE						

Specific Data					
0.3	0.2	0.2	1.0	0.2	0.2

Bed Material

% Fines (<2mm):	90	% Fines (<2mm):	90
% Gravels:	10	Small (2-16mm):	10
		Large (16-64mm):	0
% Larges:	0	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	0	Compaction:	High

Cover

Cover Total % :	65	Method Cover Total %:	GE				
Dp Pool: 20 L.O.D.:	40	Boulder: 0	In Veg.: 5	Over Veg: 30	Cutbank:	5	
Crown Closure % :	10	Method Crown Closure:	GE	Aspect: SW	Method Aspect:	C	

Discharge

Wetted Width (m) :	Method Wetted Width (m) :	
Mean Depth (m) :	Method Mean Depth (m) :	
Mean Velocity (m/s) :	Method Mean Velocity (m/s)	
Discharge (m3/s) :	Method Discharge (m3/s) :	

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Banks

Height (m):	0.3	% Unstable:	15	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	4			
Valley: Chan. Ratio:				
Stage:	H			
Flood Signs Ht(m):	0.3	Method Flood Signs:	MS	
Braided:		Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
02 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	5.0	Method Temperature:	HT	
Turb. (cm):		Method Turbidity:		
Cond. (µmhos):		Method Conductivity:		

DFO/MoELP Stream Survey Form

17-Dec-97 Stream: Unnamed

Watershed Code: 182-6976-928-761-582-000-000-000-000-000-000

Stream Survey Report

Fish Summary

Obstructions

Obstruction H(m)	Type	Location
3	BD	1.0

Comments

- C1

Film 57: 16 u/s, 17 d/s

Fish sampling (electroshocking) was conducted for 61 seconds and no fish were captured or observed.

This section of stream was given a S-6 classification under the Forest Practices Code.
- C2

There is a series of beaver dams (8 total) at the lower limit of this reach, approximately 1.8 km u/s of the confluence with EDI-577, that significantly impede fish passage potential. The beaver dams ranged in height from 70 cm to 2.5 m, creating a large wetland complex.

Note: The computer rounded the height up from 2.5 m to 3 m.



Photo 164. Upstream view of Stream 182-6976-928-761-582 at Reach 3.



Photo 165. Downstream view of Stream 182-6976-928-761-582 at Reach 3.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-761-582
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	277
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	26-May-96
Reach Number	4
Site Number	Not Applicable
Water Temperature (°C)	3.5
Stream Width (m)	0.53
Length Surveyed (m)	400
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This small unnamed stream flows northeasterly through the centre of the cutblock. It has a low gradient (6%). There was stable heavy debris within the stream. The total cover (70%) was primarily due to large organic debris (50%) and overhanging vegetation (35%). Fish sampling (electroshocking) was not conducted. No fish were captured or observed. The stream was classified as S-6 under the Forest Practices Code due to its low quality fish habitat, the minimal accessibility from the lower reaches.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-761-582-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-761-582-000-000-000-000-000-000	Reach No.:	4	Reach Length (km):	0.40000 Method: MW
Location:	Car 279	Site No.:	0	Length surveyed (m):	400.0 Method: MW
		U.T.M.:	10.446080.6060180	Fish Card:	N
				Field:	Yes
				Historical:	No
Date:	26/05/96	Time:	13:45	Photos:	#57: 18,19
Agency:	EDI	Survey Crew:	RD \RV \NC \ \ \ \ \	Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	0.5	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	0.5	Method Av. Wet. Width (m):	MS
Av. Max. Rif. Depth (cm):	5	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	10	Av. Max. Pool Depth (cm):	5
Gradient (%):	6.0	Method Gradient:	CL
% Pool:	0	% Riffle:	0
% Side Channel:	0	% Run:	0
% Debris Area:	>40	% Other:	0
		Method:	
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data					
0.5	0.7	0.6	0.5	0.5	0.5

Bed Material

% Fines (<2mm):	45	% Fines (<2mm):	45
% Gravels:	40	Small (2-16mm):	30
		Large (16-64mm):	10
% Larges:	15	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	5
% Bedrock:	0	% Bedrock:	0
D90 (cm):	12	Compaction:	High

Cover

Cover Total % :	70	Method Cover Total %:	GE
Dp Pool :	5	L.O.D.:	50
Crown Closure % :	15	Method Crown Closure:	GE
		Boulder:	5
		In Veg.:	0
		Over Veg:	35
		Cutbank:	5
		Aspect :	NE
		Method Aspect:	C

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s) :
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data	

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Banks

Height (m):	0.1	% Unstable:	
Textures Fines:	Yes	Gravel:	No
Confinement:	3	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	3.5	Method Temperature:	
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-761-582-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

- C1

Film 57-18 u/s, 19d/s

Fish sampling (electroshocking) was not conducted.

This section of stream was given a S-6 classification under the Forest Practices Code.
- C2

Channel characteristics were not recorded.



Photo 166. Upstream view of Stream 182-6976-928-761-582 at Reach 4.



Photo 167. Downstream view of Stream 182-6976-928-761-582 at Reach 4.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-761-582
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	194
Operating Area	Carrier
Development Type	Not Applicable
Survey Date	28-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	8
Length Surveyed (m)	600
Habitat Type	Stream/Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not applicable
Fish Species Identified	SP - Species Present, not identified
Description: This section of stream was located along the eastern boundary of the cutblock and it flowed in a southerly direction. The stream flowed through a large wetland that should be given a wetland classification. Many small fish were seen rising in the channel and waterfowl were observed in the area. The stream flows out of a lake and into another large wetland. Rearing and overwintering habitat were excellent. Fish sampling was not conducted. Several unidentified fish were observed. Since several fish were noted rising in the channel, the stream should be considered a Fisheries Stream under the Forest Practices Code. The wetland surrounding the stream, however, was easily accessible to fish and should be considered a Fisheries Sensitive Zone. It is thus recommended that this entire area be classified as a wetland in order to afford the highest degree of protection possible. Note: The information noted above was derived from field notes collected by Environmental Dynamics' crews and is only intended as additional relevant information for this inventory project. A full inventory was not conducted at this location.	



Photo 168. Downstream view of Stream 182-6976-928-761-582.

4.1.15.1 Stream EDI-809

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	809
Nearest Downstream Watershed Code	182-6976-928-761-582
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	194
Operating Area	Carrier
Development Type	Cutblock
Survey Date	28-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This was not a stream, it was a seepage. It was located in the southwestern corner of the cutblock and it flowed in a northeasterly direction into a large wetland. A defined channel was unable to be found and flow was minimal. Where flow was present, it flowed over organic substrates through shrubs. Fish sampling was not conducted and no fish were observed. Since this was a seepage and not a stream, a stream classification is not necessary under the Forest Practices Code.	

4.1.15.2 Stream 182-6976-928-761-582-098

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-761-582-098
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	194
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	28-May-96
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	0.88
Length Surveyed (m)	250
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-4*
Fish Species Identified	RSC-Redside Shiner
Description: This reach flowed in an easterly direction along the northern boundary of the cutblock between two lakes. The stream was small in size and the gradient was low (5%). The cover was moderate (30%) and was dominated by overhanging vegetation (50%) and large organic debris (30%). Stream structure consisted mainly of sections of run (50%) and the bed materials was dominated by larges (50%) and fines (35%). These characteristics combine to form a stream that provides good rearing habitat and poor spawning potential. The upper limit of this reach consists of a series of beaver dams that created a 100 m wide wetland. This wetland was composed mainly of large beaver ponds and lacked a defined channel. It contained potential to overwinter fish and should, therefore, be considered a Fisheries Sensitive Zone. Fish sampling was conducted for 191 sec and several redbreasted shiners were captured. A 10 cm fish was observed near the lower limit of this reach but it was not identified. Since this reach flowed between two lakes and fish were observed (not regionally significant) in the stream, it was given a defaulted S-4* classification under the Forest Practices Code. Note: Should the presence of regionally significant fish be confirmed, further survey may be required.	

Header Information

Stream Name: Unnamed

Stream "Local": N/A

Access: FT

Watershed Code: 182-6976-928-761-582-098-000-000-000-000-000

Reach No.: 1

Reach Length (km): 0.25

Method: MW

Location: Car 194

Map #: 93J/12

Length surveyed (m): 250.0

Method: MW

U.T.M.: 10.445940.6057070

Fish Card: N

Field: Yes

Historical: No

Date: 5/28/96

Time: 00:00

Agency: EDI

Survey Crew: BC VLL\PT \ \ \ \ \

Photos: #1: 3, 4 #14: 22, 23, 24

Air Photos:

Channel Characteristics

Av. Chan. Width (m): 0.9

Method Av. Chan. Width (m): TF

Av. Wet. Width (m): 0.8

Method Av. Wet. Width (m): TF

Av. Max. Rif. Depth (cm): 12

Av. Max. Riffle Depth (cm): MS

Av. Max. Pool Depth (cm): 22

Av. Max. Pool Depth (cm): 12

Gradient (%): 5.0

Method Gradient: CL

% Pool: 15

% Riffle: 35

% Run: 50

% Other: 0

Method: GE

% Side Channel: 0

Method Side Channel: GE

% Debris Area: 0-10

Method Debris Area: GE

Specific Data

1.0	1.2	0.8	0.7	0.9	0.7
-----	-----	-----	-----	-----	-----

Cover

Cover Total % : 30

Method Cover Total %: GE

Dp Pool : 10

L.O.D.: 30

Boulder: 5

In Veg.: 0

Over Veg: 50

Cutbank: 5

Crown Closure % : 5

Method Crown Closure: GE

Aspect : E

Method Aspect: C

Discharge

Wetted Width (m) : 0.8

Method Wetted Width (m) : TF

Mean Depth (m) : 0.1

Method Mean Depth (m) : MS

Mean Velocity (m/s) : 0.42

Method Mean Velocity (m/s) : F

Discharge (m3/s) : 0.04

Method Discharge (m3/s) : F

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Bed Material

% Fines (<2mm): 35

% Fines (<2mm): 35

% Gravels: 15

Small (2-16mm): 10

Large (16-64mm): 5

% Larges: 50

Small cobble (64-128mm): 30

Large cobble (128-256mm): 10

Boulder cobble (>256mm): 10

% Bedrock: 0

% Bedrock: 0

D90 (cm): 11

Compaction: Medium

Banks

Height (m): 0.4

% Unstable: 5

Textures Fines: Yes

Gravel: No

Larges: No

Bedrock: No

Confinement: 3

Valley: Chan. Ratio:

Stage: M

Flood Signs Ht(m): 0.26

Method Flood Signs: MS

Braided: N

Method Braided:

Bars (%):

Method Bars:

pH:

Method pH:

O2 (ppm):

Method Dissolved Oxygen:

Water Temp. (°C):

Method Temperature:

Turb. (cm):

Method Turbidity:

Cond. (µmhos):

Method Conductivity:

DFO/MoELP Stream Survey Form

17-Dec-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-761-582-098-000-000-000-000-000

Fish Summary

Obstructions

Comments

- C1

Film 1: 3 u/s, 4 d/s. Film 14: 22 & 23--looking u/s towards the lake, 24--beaver dam which is a possible obstruction.

Fish sampling (electroshocking) was conducted for 191 seconds and no fish were captured or observed.

This stream was defaulted to an S-4 stream under the Forest Practices Code because it contains good spawning and rearing habitat. Also, several red-sided shiners were caught in the downstream wetland and a 10cm unidentified fish was observed at the bottom of reach 1. Upstream, there are a series of beaver dams creating a 10m wide wetland area with several large ponds. There are lakes on both ends of this stream so it should be considered a fisheries sensitive zone.
- C2

No temperature was taken.
- C3

Beaver dam was located 20m u/s of the upper limit of reach 1. It may or may not be an obstruction.



Photo 169. Upstream view of Stream 182-6976-928-761-582-098 at Reach 1



Photo 170. Downstream view of Stream 182-6976-928-761-582-098 at Reach 1.

4.1.15.3 Stream EDI-810

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	810
Nearest Downstream Watershed Code	182-6976-928-761-582-098
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	194
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	28-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	500
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This seepage was located in the upper portion of the cutblock and it drained in a northeasterly direction into 182-6976-928-761-582-098. There was no defined channel, and minimal water flowed over organic substrate. Fish sampling was not conducted and no fish were observed. Since this was a seepage and not a stream, classification is not required under the Forest Practices Code.	

4.1.15.4 Stream EDI-590

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	590
Nearest Downstream Watershed Code	182-6976-928-761-582-340
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	26-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	200
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream, it is a seepage area. It is located southwest of the cutblock, and it flows southwest. There is no definable channel. Fish sampling (electroshocking) was unable to be conducted due to limited water present. This area is a seepage area, stream classification under the Forest Practices Code.	

4.1.15.5 Stream EDI-584

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	584
Nearest Downstream Watershed Code	182-6976-928-761-582-340
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	277
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	25-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream but a seepage area. It is located on the southern corner of the cutblock and flows in a southeastern direction into another stream. The substrate consists of organic fine substrate and no definable channel was found. Fish sampling (electroshocking) was not conducted. No fish were observed. Due to the fact that this is a seepage, stream classification is not required under the Forest Practices Code.	

4.1.15.6 Stream EDI-591

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	591
Nearest Downstream Watershed Code	182-6976-928-761-582-340
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	26-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	200
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream, it is a seepage. It is located southwest of cutblock Car 279, and it flows southwest according to TRIM. Fish sampling was not conducted. No fish were observed. This seepage does not require stream classification under the Forest Practices Code.	

4.1.15.7 Stream EDI-586

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	586
Nearest Downstream Watershed Code	182-6976-928-761-582-369
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	26-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	1000
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream but a seepage area. It is located on the southern corner of the cutblock and flows in a southerly direction. The substrate is comprised mainly of leaf litter and organic material. No definable channel was noted. Fish sampling (electroshocking) was unable to be conducted due to insufficient water. No fish were observed. Due to the fact that this is a seepage area, stream classification is not required under the Forest Practices Code.	

4.1.15.8 Stream EDI-587

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	587
Nearest Downstream Watershed Code	182-6976-928-761-582-369
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	26-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	150
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream but a seepage area. It is located southeast of cutblock Car-279. Fish sampling was not conducted in this seepage area. No fish were observed. Due to the fact that this is a seepage area, stream classification is not required under the Forest Practices Code.	

4.1.15.9 Stream EDI-589

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	589
Nearest Downstream Watershed Code	182-6976-928-761-582-369
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	26-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	600
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream but a seepage area. It is located southwest of cutblock Car-279. and it flows into stream EDI-587. Fish sampling was not conducted in this seepage area. No fish were observed. Due to the fact that this is a seepage area and not a stream, no fish stream classification is required under the Forest Practices Code.	

4.1.15.10 Stream EDI-588

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	588
Nearest Downstream Watershed Code	182-6976-928-761-582-369
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	26-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	600
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream but a seepage area. It is located southwest of cutblock Car-279, and it flows into stream EDI-587. Fish sampling was not conducted in this seepage area. No fish were observed. Due to the fact that this is a seepage area, stream classification is not required under the Forest Practices Code.	

4.1.15.11 Stream EDI-748

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	748
Nearest Downstream Watershed Code	182-6979-928-761-582-03
NTS Map (1:50,000)	93J/12
TRIM Map	93J062
Cutting Permit	Car
Cutblock Number	206
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	21-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	100
Habitat Type	Not Applicable
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: Stream EDI-748 does not exist within the proximity of the block boundary. No stream could be found.	

4.1.15.12 Stream EDI-581

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	581
Nearest Downstream Watershed Code	182-6976-928-761-582
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	25-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	600
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream, it is a seepage area. It is located on the southeastern side of the cutblock and drains in a northeasterly direction into an S-3 class fish stream. No definable channel was found, and the substrate is comprised of leaf litter, organics and fines. Fish sampling (electroshocking) was unable to be conducted due to minimal water. No fish were observed. This area is a seepage and not a stream and hence requires no classification under the Forest Practices Code. However, care should be taken during logging and road construction as it drains into a significant salmonid spawning stream.	

4.1.15.13 Stream EDI-579

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	579
Nearest Downstream Watershed Code	182-6976-928-761-582
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	25-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	600
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream but a seepage area. It is located on the eastern side of the cutblock and drains in a northeasterly direction into a S-3 stream. There is no definable channel and the substrate is comprised mainly of leaf litter and organic materials. Fish sampling (electroshocking) was unable to be conducted. No fish were observed. Although no fish stream classification is required under the Forest Practices Code, care should be taken during logging to keep siltation to a minimum as the seepage area drains directly into a fish bearing stream and rainbow trout spawning habitat.	

4.1.15.14 Stream EDI-580

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	580
Nearest Downstream Watershed Code	182-6976-928-761-582
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	25-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	500
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream, it is a seepage area. It is located on the eastern side of the cutblock and drains easterly into another seepage. The substrate is comprised mainly of leaf litter and organic fines, and a definable channel was not found. Fish sampling (electroshocking) was unable to be conducted due to minimal flows. No fish were observed. Although this seepage does not require classification under the Forest Practices Code, caution should be taken during logging to avoid possible siltation downstream in an adjoining fish stream.	

4.1.15.15 Stream EDI-582

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	582
Nearest Downstream Watershed Code	182-6976-928-761-582
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	25-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	500
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream but a seepage area. No definable banks were noted and the substrate consisted of entirely leaf litter and organic soils. It is located north of the cutblock and drains into a fish bearing stream and rainbow trout spawning area. Fish sampling (electroshocking) was unable to be conducted. No fish were observed. Due to the fact that this is a seepage area and not a stream, no fish stream classification is required under the Forest Practices Code.	

4.1.15.16 Stream EDI-578

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	578
Nearest Downstream Watershed Code	182-6976-928-761-582
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	25-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	500
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream; it is a seepage area. The seepage begins on the eastern side of the cutblock and drains into a S-3 stream. Fish sampling (electroshocking) was unable to be conducted. No fish were observed. Although this area doesn't require classification under the Forest Practices code, the seepage does drain directly into a S-3 class stream containing rainbow spawning habitat just downstream of the seepage drainage point. Therefore, caution should be taken during logging to avoid siltation of the spawning sites.	

4.1.15.17 Stream EDI-577

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	577
Nearest Downstream Watershed Code	182-6976-928-761-582
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Right-of-Way and Cutblock
Survey Date	25-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	600
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream but a seepage. It begins in the northern corner of the cutblock and drains into a S-3 class stream. Fish sampling (electroshocking) was not conducted. No fish were observed. This area is not a stream and hence requires no classification under the Forest Practices Code. However, care should be taken during logging to avoid siltation of the S-3 stream which the seepage drains into.	

4.1.15.18 Stream EDI-583

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	583
Nearest Downstream Watershed Code	182-6976-928-761-582
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	277
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	26-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	600
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream but a seepage area. There is no definable channel and there was minimal flow over leaf litter and moss. It is located in the centre of the cutblock and drains directly into a S-6 stream. Fish sampling (electroshocking) was unable to be conducted due to limited water being present. No fish were observed. Due to the fact that this is a seepage area and not a stream, no fish stream classification is required under the Forest Practices Code.	

4.1.15.19. Stream EDI-585

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	585
Nearest Downstream Watershed Code	182-6976-928-761-582
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	Car
Cutblock Number	279
Operating Area	Zap Carrier
Development Type	Cutblock
Survey Date	26-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream but a seepage area. It is located on the western side of the cutblock and drains west into a wetland area. The substrate consists of organic material and no definable channel was apparent. Fish sampling (electroshocking) was not conducted. No fish were observed. Due to the fact that this is a seepage, stream classification is not required under the Forest Practices Code.	

4.1.16. Watershed 182-6976-928-781

Watershed 182-6976-928-781 is located within BC Environment Management Unit 7-25 (BC Recreational Atlas 1993), within the eastern section of the Stuart Lake Watershed Group, east of Stuart Lake (Fig. 17). The basin drains in a easterly direction into the Ocock Lake. The basin is surrounded by the Ocock River to the east, Tsilcoh River to the northwest, and Carrier Lake to the south. Occupying 2,600 ha of the Stuart Lake Provincial Forest, the geographical relief is low and ranges from approximately 800 m at the confluence with Ocock Lake to approximately 900 m at the headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977).

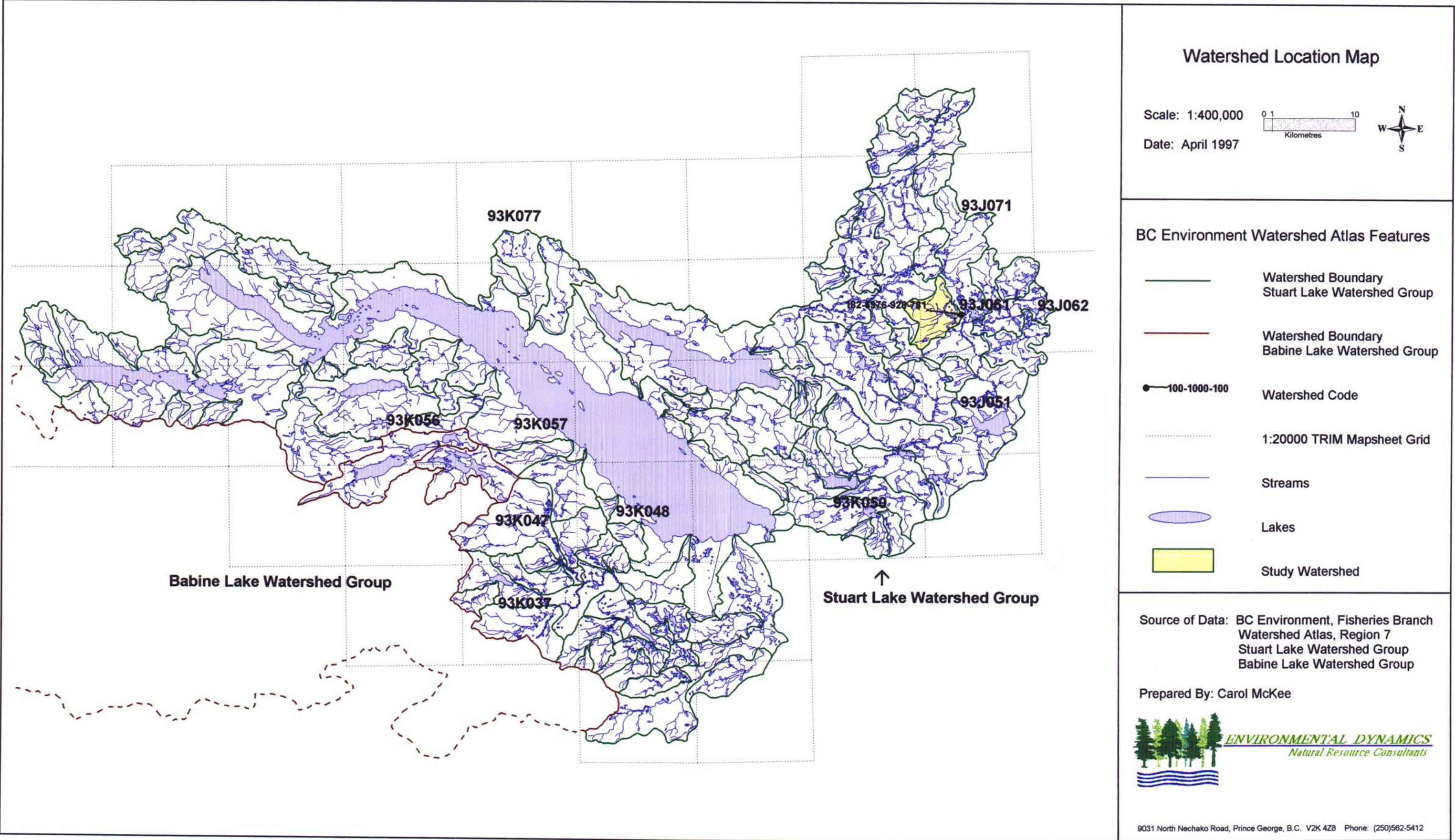
According to the biogeoclimatic units of the Prince George Forest Region, this watershed is dominated by sub-zone/variant the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3) (DeLong et al. 1993).

According to the updated FISS data (1995), no fish species have been documented in Watershed 182-6976-928-761 (BC Environment 1995). However, BC Environment lake inventories indicate Ocock Lake was found to contain rainbow trout, peamouth chub, burbot, redbside shiner, mountain whitefish, large scale suckers, longnose suckers, and northern squawfish. Therefore, this basin has potential to support these fish species (BC Environment 1997b).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. A small portion of the Ocock River WMC is located at the confluence of the main system 182-6976-928-781 and the Ocock River (Canfor 1996).

Since this watershed lies within a portion of Canfor's Ocock Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel road located in this watershed is the Ocock West FSR and its adjoining sideroads (Canfor 1996).

Figure 17. Location of Watershed 182-6976-928-781 within the Stuart Lake Watershed Group



4.1.16.1 Stream 182-6976-928-781-100

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-781-100
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	011
Cutblock Number	134
Operating Area	Ocock
Development Type	Cutblock
Survey Date	25-May-95
Reach Number	Not Applicable
Site Number	1
Water Temperature (°C)	11.0
Stream Width (m)	1.70
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (2.5%) section of stream flows in an easterly direction along the northeastern side of the cutblock. The substrate was composed of fines (80%) and gravels. Spawning potential for salmonids was limited by the high proportion of fine bed materials. Fish access was impeded in several locations where the flow went subsurface or spread out across the substrate. A minnow trap was baited with roe and left to fish overnight in a pool. No fish were captured or observed. This section of stream contains poor quality fish habitat and is likely inaccessible to fish. It was, therefore, classified as S-6 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-6976-928-781-100-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-781-100-000-000-000-000-000-000	Reach No.:	0	Reach Length (km):	Method:
Location:	011-134 Ocock	Site No.:	1	Length surveyed (m):	100.0 Method: MW
		Map #:	93J/12	Fish Card:	N Field: Yes Historical: No
		U.T.M.:	10.437975.6053266	Photos:	2: 4 Air Photos:
Date:	25/05/95	Time:	13:00	Agency:	EDI
		Survey Crew:	RV \ \ \ \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	1.7	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	1.5	Method Av. Wet. Width (m):	MS
Av. Max. Rlf. Depth (cm):	6	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	40	Av. Max. Pool Depth (cm):	6
Gradient (%):	2.5	Method Gradient:	CL
% Pool:	75	% Riffle:	15
% Side Channel:	0	% Run:	10
% Debris Area:	0-10	% Other:	0
		Method:	GE
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data						
1.5	1.6	0.7	2.2	3.0	1.2	
1.2	1.3	1.5	1.5	1.5	2.2	

Cover

Cover Total % :	25	Method Cover Total %:	GE
Dp Pool :	5	L.O.D.:	15
Crown Closure % :	5	Boulder:	0
		In Veg.:	30
		Over Veg:	50
		Cutbank:	0
		Aspect :	E
		Method Aspect:	C

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s) :
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data						

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Bed Material

% Fines (<2mm):	80	% Fines (<2mm):	80
% Gravels:	20	Small (2-16mm):	10
		Large (16-64mm):	10
% Larges:	0	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	0
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	High

Banks

Height (m):	0.3	% Unstable:	10
Textures Fines:	Yes	Gravel:	No
Confinement:	3	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	11.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-781-100-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 2: 4 d/s.

Fish sampling (minnow trapping) was conducted. No fish were captured or observed.

This section of stream was assigned a S-6 classification under the Forest Practices Code.



Photo 171. Downstream view of Stream 182-6976-928-781-100 at Site 1.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-781-100
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	011
Cutblock Number	134
Operating Area	Ocock
Development Type	Cutblock
Survey Date	25-May-95
Reach Number	Not Applicable
Site Number	2
Water Temperature (°C)	10.0
Stream Width (m)	1.70
Length Surveyed (m)	100
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (3%) section of stream flows in an easterly direction along the northeastern side of the cutblock. The substrate was composed of fines (70%), small cobbles and gravels. There was no spawning potential for salmonids. Water flowed sub-surface in several areas around the site, obstructing fish passage and limiting the amount and quality of fish habitat. A minnow trap was baited with roe and left to fish overnight in a pool. No fish were captured or observed. This section of stream contains poor quality fish habitat and is likely inaccessible to fish. It was, therefore, classified as S-6 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-781-100-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-6976-928-781-100-000-000-000-000-000-000	Reach No.:	0	Reach Length (km):	Method:
Location:	011-134 Ocock	Site No.:	2	Length surveyed (m):	100.0 Method: MW
		Fish Card:	N	Field: Yes	Historical: No
Date: 25/05/95	Time: 14:00	Agency: EDI	Survey Crew: RV \ \ \ \ \ \ \	Photos:	2: 5 Air Photos:

Channel Characteristics

Av. Chan. Width (m):	1.7	Method Av. Chan. Width (m):	TF
Av. Wet. Width (m):	1.2	Method Av. Wet. Width (m):	TF
Av. Max. Rlf. Depth (cm):	8	Av. Max. Riffle Depth (cm):	TF
Av. Max. Pool Depth (cm):	30	Av. Max. Pool Depth (cm):	8
Gradient (%):	3.0	Method Gradient:	CL
% Pool: 40	% Riffle: 30	% Run: 30	% Other: 0
% Side Channel:	0	Method Side Channel:	GE
% Debris Area:	0-10	Method Debris Area:	GE

Specific Data					
1.6	1.5	1.5	1.9	2.0	1.5
1.4	1.0	1.3	1.1	1.1	1.3

Method: GE

Cover

Cover Total % :	30	Method Cover Total %:	GE
Dp Pool : 5 L.O.D.:	40	Boulder: 10	In Veg.: 20
Crown Closure % :	5	Method Crown Closure:	GE
		Aspect : E	Method Aspect: C

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s) :
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data					

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Bed Material

% Fines (<2mm):	70	% Fines (<2mm):	70
% Gravels:	10	Small (2-16mm):	0
		Large (16-64mm):	10
% Larges:	20	Small cobble (64-128mm):	5
		Large cobble (128-256mm):	15
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	Low

Banks

Height (m):	0.3	% Unstable:	
Textures Fines:	Yes	Gravel: No	Larges: No
Confinement:	3	Bedrock:	No
Valley: Chan. Ratio:			
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	10.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-781-100-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 2: 5 d/s.
Fish sampling (minnow traps) was conducted. No fish were captured or observed.
This section of stream was given a S-6 classification under the Forest Practices Code.



Photo 172. Downstream view of Stream 182-6976-928-781-100 at Site 2.

4.1.16.2 Stream EDI-824

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	824
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	012
Cutblock Number	140
Operating Area	Ocock
Development Type	Cutblock
Survey Date	25-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	100
Habitat Type	Dry Depression
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This drainage was investigated at the southwestern corner of the cutblock. It occupied a shallow gully with no defined channel and no water. It was identified as a dry depression at this location. Fish sampling was not conducted and no fish were observed. This area does not require classification under the Forest Practices Code.	

4.1.16.3 Stream EDI-543

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	543
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	012
Cutblock Number	128
Operating Area	Ocock
Development Type	Cutblock
Survey Date	25-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	10.0
Stream Width (m)	1.00
Length Surveyed (m)	300
Habitat Type	Stream
Stream Order (1:20,000)	2, 1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This section of stream is located along the northwestern boundary of the proposed cutblock and flows in a northeasterly direction into a small lake. This section of stream consisted mainly of fine organic substrates. A stream card was not completed. Fish sampling was not conducted. No fish were observed. Since this area did not possess any fisheries habitat, it was classified as S-6 under the Forest Practices Code.	

4.1.16.4 Stream 182-6976-928-781-100-433

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-781-100-433
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	011
Cutblock Number	134
Operating Area	Ocock
Development Type	Cutblock
Survey Date	25-May-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	Not Recorded
Length Surveyed (m)	300
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This stream flows in a northeasterly direction along the northeastern side of the cutblock. The stream channel was braided and contained very little flowing water. The substrate was dominated by fine materials. Additionally, there was little cover for rearing. A stream card was not completed. A minnow trap baited with roe was left to fish overnight in a pool at the confluence of this stream. No fish were captured or observed. This stream contained very poor fish habitat. It was, therefore, classified as S-6 under the Forest Practices Code.	

4.1.16.5 Stream 182-6976-928-781-490

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-6976-928-781-490
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93J/12
TRIM Map	93J061
Cutting Permit	012
Cutblock Number	140
Operating Area	Ocock
Development Type	Cutblock
Survey Date	25-May-95
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	6.0
Stream Width (m)	0.55
Length Surveyed (m)	1800
Habitat Type	Stream
Stream Order (1:20,000)	1, 2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (1.5%) reach flows in an easterly direction along the northern boundary of the proposed cutblock. Total cover was 30% with the majority being large organic debris (80%). The bed material was dominated by fines (90%). This high component of fine substrate limited the spawning potential. Fish sampling was not conducted. No fish were observed. This reach contained poor fisheries habitat and was classified as S-6 under the Forest Practices Code.	

Header Information

Stream Name: Unnamed

Watershed Code: 182-6976-928-781-490-000-000-000-000-000-000

Location: 012-140 Ocock

Date: 25/10/95

Time: 11:20

Agency: EDI

Survey Crew: RV \ \ \ \ \ \ \ \

Stream "Local": N/A

Map #: 93J/12

U.T.M.: 10.436252.6054132

Reach No.: 999

Site No.: 0

Fish Card: N

Photos: 2: 3

Access: FT

Reach Length (km): 1.8

Length surveyed (m): 1800.0

Field: Yes

Air Photos:

Method: MW

Method: MW

Historical: No

Channel Characteristics

Av. Chan. Width (m): 0.6

Method Av. Chan. Width (m): TF

Av. Wet. Width (m): 0.3

Method Av. Wet. Width (m): TF

Av. Max. Rlf. Depth (cm): 5

Av. Max. Riffle Depth (cm): TF

Av. Max. Pool Depth (cm): 9

Av. Max. Pool Depth (cm): 5

Gradient (%): 1.5

Method Gradient: CL

% Pool: 65

% Riffle: 10

% Run: 25

% Other: 0

Method: GE

% Side Channel: 0

Method Side Channel: GE

% Debris Area: 0-10

Method Debris Area: GE

Specific Data

Cover

Cover Total %: 30

Method Cover Total %: GE

Dp Pool: 0

L.O.D.: 80

Boulder: 0

In Veg.: 0

Over Veg: 20

Cutbank: 0

Crown Closure %: 10

Method Crown Closure: GE

Aspect: E

Method Aspect: C

Discharge

Wetted Width (m):

Method Wetted Width (m):

Mean Depth (m):

Method Mean Depth (m):

Mean Velocity (m/s):

Method Mean Velocity (m/s)

Discharge (m3/s):

Method Discharge (m3/s):

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Bed Material

% Fines (<2mm): 90

% Fines (<2mm): 90

% Gravels: 5

Small (2-16mm): 0

Large (16-64mm): 5

% Larges: 5

Small cobble (64-128mm): 5

Large cobble (128-256mm): 0

Boulder cobble (>256mm): 0

% Bedrock: 0

% Bedrock: 0

D90 (cm):

Compaction: High

Banks

Height (m): 0.5

% Unstable:

Textures Fines: Yes

Gravel: No

Larges: No

Bedrock: No

Confinement: 2

Valley: Chan. Ratio:

Stage: M

Flood Signs Ht(m):

Method Flood Signs:

Braided: N

Method Braided:

Bars (%):

Method Bars:

pH:

Method pH:

O2 (ppm):

Method Dissolved Oxygen:

Water Temp. (°C): 6.0

Method Temperature: HT

Turb. (cm):

Method Turbidity:

Cond. (µmhos):

Method Conductivity:

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-6976-928-781-490-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 2: 3 w/s.
Note: Reach '999' should read Reach 'A'.
Fish sampling was not conducted. No fish were observed.
This reach was assigned a S-6 classification under the Forest Practices Code.



Photo 173. Upstream view of Stream 182-6976-928-781-490 at Reach A.

4.1.17 Watershed 182-7154

Watershed 182-7154 is located within BC Environment Management Unit 7-25 (BC Recreational Atlas 1993), within the southern portion of the Stuart Lake Watershed Group, south of Stuart Lake (Fig. 18). This system flows directly into Stuart Lake and is surrounded by Watershed 182-6350-570-145 to the south, Watershed 182-6350-570 to the west, Watershed 182-7246 to the north and Stuart Lake to the east. Occupying 3,321 ha of the Stuart Lake Provincial Forest, the geographical relief ranges from approximately 670 m at Stuart Lake to approximately 980 m in the headwaters of Pam Lake (BC Environment 1995; Department of Energy, Mines and Resources 1977). Only a small section in the southern portion of this watershed was surveyed by *Environmental Dynamic* in 1996.

This watershed is dominated by two sub-zones/variants according to the biogeoclimatic units of the Prince George Forest Region. These units include: the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3), and the Babine Moist Cold Sub-Boreal Spruce sub-zone (SBSmc2) (DeLong et al. 1993).

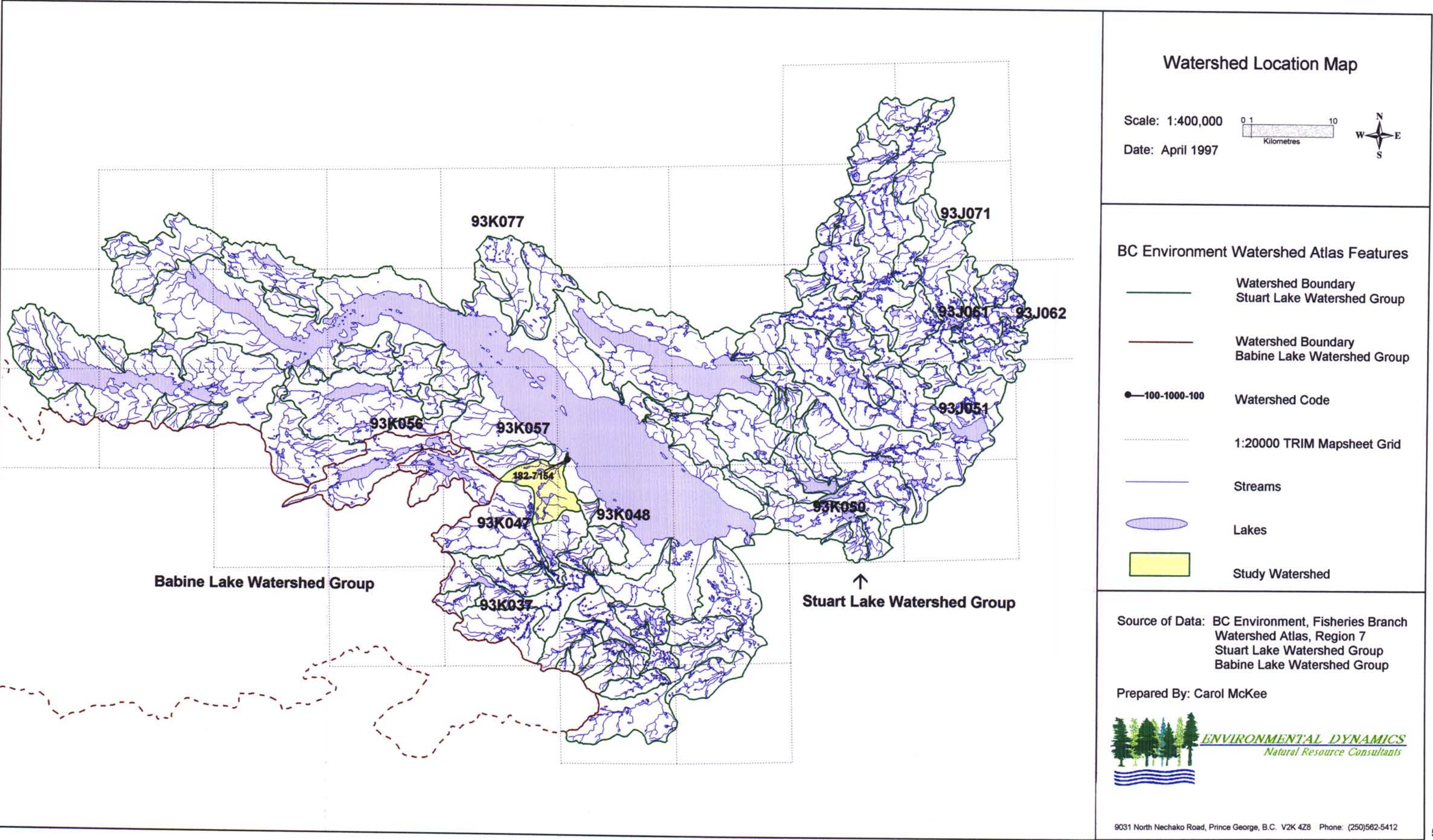
According to the updated FISS data (1995), no fish species have been documented in Watershed 182-7154 (BC Environment 1995). Nonetheless, this system flows directly into Stuart Lake and has potential to support several fish species (as noted in FISS) including: Dolly Varden¹, mountain whitefish, rainbow trout, chinook salmon, kokanee and sockeye salmon (BC Environment 1995).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. WMC's are not located within Watershed 182-7154 (Canfor 1996).

Since this watershed lies within a portion of Canfor's Karena Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel roads located in this watershed are the Cunningham FSR and its adjoining sideroads (Canfor 1996).

¹The species identified as Dolly Varden (*Salvelinus malma*), in the Fisheries Information Summary System is, in all probability, bull trout (*Salvelinus confluentus*), as indicated by population distribution studies conducted by Haas and McPhail (1991).

Figure 18. Location of Watershed 182-7154 within the Stuart Lake Watershed Group



4.1.17.1 Stream EDI-525

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	525
Nearest Downstream Watershed Code	182-8154-01
NTS Map (1:50,000)	93K/7
TRIM Map	93K048
Cutting Permit	061
Cutblock Number	038
Operating Area	Karena
Development Type	Cutblock
Survey Date	10-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	500
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This unnamed tributary is not a stream, it is a seepage area. The area contains discontinuous banks, some ponded water, and organic substrate. Some flow was present over mosses. Outside of the block the gradient increases and the seepage likely becomes a stream. Fish sampling was not conducted. No fish were observed. Due to the fact that this is a seepage area and not a stream, a stream classification is not required under the Forest Practices Code.	

4.1.18 Watershed 182-7246

Watershed 182-7246 is located within BC Environment Management Unit 7-25 (BC Recreational Atlas 1993) within the southern portion of the Stuart Lake Watershed Group, south of Stuart Lake (Fig. 19). This system flows directly into Stuart Lake and is surrounded by Watershed 182-7154 to the south, Babine Lake Watershed Group to the west and Stuart Lake to the north and east. Occupying 1,945 ha of the Stuart Lake Provincial Forest, the geographical relief ranges from approximately 670 m at Stuart Lake to approximately 980 m in the headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977). Only a small section in the western portion of this watershed was surveyed by *Environmental Dynamic* in 1995.

This watershed is dominated by two sub-zones/variants according to the biogeoclimatic units of the Prince George Forest Region. These units include: the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3), and the Babine Moist Cold Sub-Boreal Spruce sub-zone (SBSmc2) (DeLong et al. 1993).

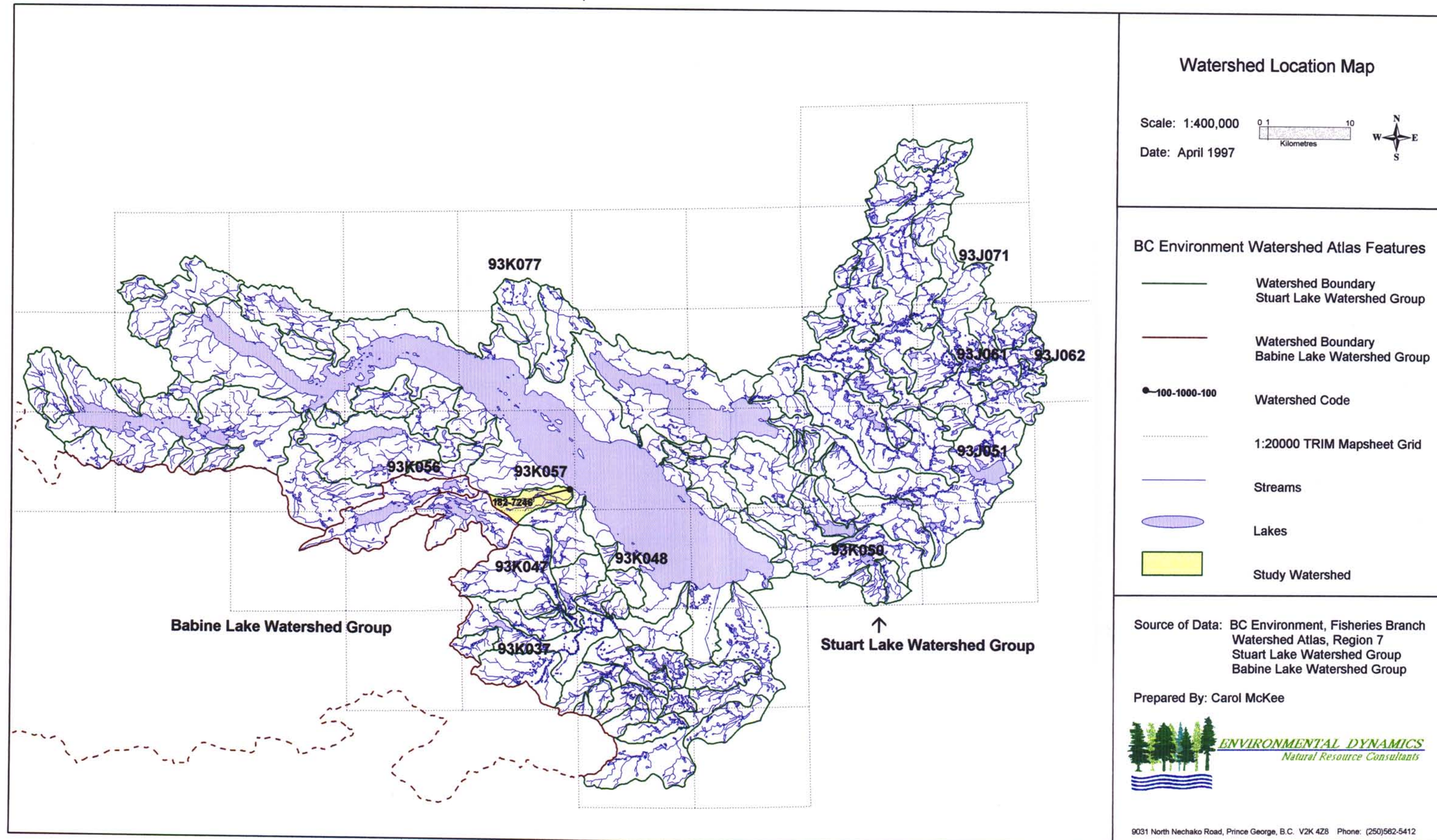
According to the updated FISS data (1995), no fish species have been documented in Watershed 182-7246 (BC Environment 1995). Nonetheless, this system flows directly into Stuart Lake and has potential to support several fish species (as noted in FISS) including: Dolly Varden¹, mountain whitefish, rainbow trout, chinook salmon, kokanee and sockeye salmon (BC Environment 1995).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. WMC's are not located within Watershed 182-7246 (Canfor 1996).

Since this watershed lies within a portion of Canfor's Whitefish Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel roads located in this watershed are the Cunningham FSR and its adjoining sideroads (Canfor 1996).

¹The species identified as Dolly Varden (*Salvelinus malma*), in the Fisheries Information Summary System is, in all probability, bull trout (*Salvelinus confluentus*), as indicated by population distribution studies conducted by Haas and McPhail (1991).

Figure 19. Location of Watershed 182-7246 within the Stuart Lake Watershed Group



4.1.18.1 Stream EDI-1906

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	1906
Nearest Downstream Watershed Code	182-7246-882
NTS Map (1:50,000)	93K/10
TRIM Map	93K057
Cutting Permit	092
Cutblock Number	001
Operating Area	Whitefish
Development Type	Right-of-Way and Cutblock
Survey Date	12-Jun-95
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	15
Stream Width (m)	0.88
Length Surveyed (m)	300
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This reach is located outside of the eastern boundary of the proposed cutblock and flows southeasterly with a low gradient of less than 1%. Total cover is less than 5%, which was provided by overhanging vegetation. Bed material is dominated by fines. The upper limit of this reach ended at the cutblock boundary where the channel becomes discontinuous, resembling a seepage. The channel at the road crossing does not have a culvert. Fish sampling was not conducted. No fish were observed. This reach lacks any fisheries habitat potential and was classified as S-6 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-7246-882-999-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	EDI-1906	Access:	FT
Watershed Code:	182-7246-882-999-000-000-000-000-000-000-000	Reach No.:	999	Reach Length (km):	0.30000 Method: GE
Location:	92-001 Whitefish	Map #:	93K/10	Site No.:	0 Length surveyed (m): 300.0 Method: GE
		U.T.M. :	10.387540.6041820	Fish Card:	N Field: Yes Historical: No
Date:	13/06/95	Time:	10:30	Photos:	10: 24 Air Photos:
Agency:	EDI	Survey Crew:	EL\ SA\ \ \ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	0.9	Method Av. Chan. Width (m):	
Av. Wet. Width (m):	0.7	Method Av. Wet. Width (m):	
Av. Max. Rif. Depth (cm):		Av. Max. Riffle Depth (cm):	
Av. Max. Pool Depth (cm):		Av. Max. Pool Depth (cm):	
Gradient (%):	1.0	Method Gradient:	CL
% Pool: 0	% Riffle: 0	% Run: 100	% Other: 0 Method: GE
% Side Channel:	0	Method Side Channel:	GE
% Debris Area:	0	Method Debris Area:	GE

Specific Data					
0.8	0.9	0.9	0.8	1.0	0.8

Cover

Cover Total % :	5	Method Cover Total %:	GE
Dp Pool : 0 L.O.D.:	0	Boulder: 0	In Veg.: 0 Over Veg: 100 Cutbank: 0
Crown Closure % :	0	Method Crown Closure:	GE Aspect : NE Method Aspect: C

Discharge

Wetted Width (m) :	0.6	Method Wetted Width (m) :	MS
Mean Depth (m) :	0.3	Method Mean Depth (m) :	MS
Mean Velocity (m/s) :	0.05	Method Mean Velocity (m/s)	F
Discharge (m3/s) :	0.00	Method Discharge (m3/s) :	f

Specific Data					

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Bed Material

% Fines (<2mm):	60	% Fines (<2mm):	60
% Gravels:	35	Small (2-16mm):	35
		Large (16-64mm):	0
% Larges:	5	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	9	Compaction:	High

Banks

Height (m):	0.3	% Unstable:	
Textures Fines:	Yes	Gravel: No	Larges: No Bedrock: No
Confinement:	2		
Valley: Chan. Ratio:			
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:		Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	15.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (umhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-7246-882-999-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 10: 24

Note: Reach '999' should read Reach 'A'.

Fish sampling was not conducted. No fish were observed.

This section of stream is classified as a S-6 stream under the Forest Practices Code.



Photo 174. Downstream view of Stream EDI-1906 at Reach A.

4.1.19 Camsell Creek (Watershed 182-7851)

Watershed 182-7851 is located within BC Environment Management Unit 7-25 (BC Recreational Atlas 1993) within the south-western portion of the Stuart Lake Watershed Group, on the south side of Stuart Lake (Fig. 20). The main system (Camsell Creek) flows directly into Stuart Lake and is surrounded by Stuart Lake to the north and east, Watershed 182-7851-337 to the west and Babine Lake Watershed Group to the south. Occupying 2,301 ha of the Stuart Lake Provincial Forest, the geographical relief ranges from approximately 670 m at Stuart Lake to approximately 1,220 m in the headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977).

This watershed is dominated by two sub-zones/variants according to the biogeoclimatic units of the Prince George Forest Region. These units include: the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3), and the Babine Moist Cold Sub-Boreal Spruce sub-zone (SBSmc2) (DeLong et al. 1993).

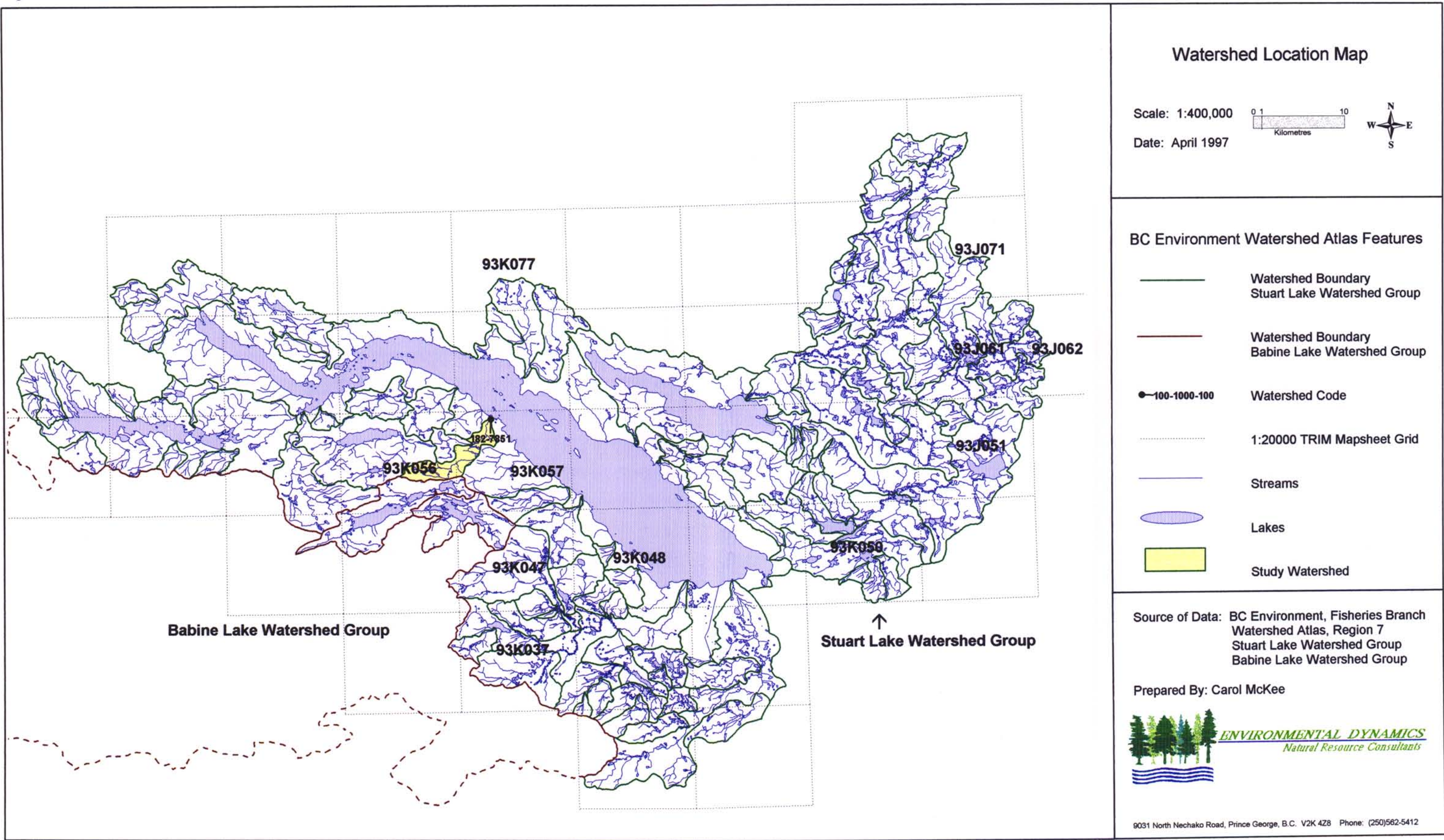
According to the updated FISS data (1995), no fish species have been documented in Camsell Creek (182-7851) (BC Environment 1995). Nonetheless, this system flows directly into Stuart Lake and has potential to support several fish species (as noted in FISS) including: Dolly Varden¹, mountain whitefish, rainbow trout, chinook salmon, kokanee and sockeye salmon (BC Environment 1995).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. A WMC is located along the northern boundary of Whitefish Lake within Watershed 182-9146 and runs east towards Stuart Lake before traveling south through Camsell Creek and into Babine Lake Watershed Group (Canfor 1996).

Since this watershed lies within a portion of Canfor's Whitefish Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel roads located in this watershed are the Cunningham FSR and its adjoining sideroads (Canfor 1996).

¹The species identified as Dolly Varden (*Salvelinus malma*), in the Fisheries Information Summary System is, in all probability, bull trout (*Salvelinus confluentus*), as indicated by population distribution studies conducted by Haas and McPhail (1991).

Figure 20. Location of Camsell Creek Watershed (182-7851) within the Stuart Lake Watershed Group



Gazetted Stream Name	Camsell Creek
Local Stream Name	Not Applicable
Watershed Code	182-7851
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93K/10
TRIM Map	93K056
Cutting Permit	092
Cutblock Number	003
Operating Area	Whitefish
Development Type	Cutblock
Survey Date	14-Jun-95
Reach Number	A
Site Number	Not Applicable
Water Temperature (°C)	7
Stream Width (m)	1.8
Length Surveyed (m)	200
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (4%) reach is located along the northwestern boundary of the cutblock and flows north. A total cover of 25% is comprised of 55% overhanging vegetation, 25% large organic debris and 20% under cutbanks. Bed materials of this confined reach are made up of fines (65%) and gravels (30%). There is a series of falls (2.9 m and 2.9 m) located downstream of Camsell Creek (approximately 1400 m upstream from the mouth) which is a barrier to fish upstream migration. Fish sampling (4 minnow traps set for 24 hours and electroshocking) was conducted in this reach, however, no fish were captured or observed. Although this reach provided suitable fish habitat, no fish were captured. This reach was classified as S-6 under the Forest Practices Code, due to the downstream barrier and absence of fish.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Camsell Creek

Stream Survey Report

Watershed Code:

182-7851-000-000-000-000-000-000-000-000

Header Information

Stream Name:	Camsell Creek	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-7851-000-000-000-000-000-000-000-000	Reach No.:	999	Reach Length (km):	0.20000 Method: MW
Location:	92-003 Whitefish	Site No.:	0	Length surveyed (m):	200.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
Date:	14/06/95	Photos:	no photos	Air Photos:	
Time:	12:00				
Agency:	EDI				
Survey Crew:	BR\ ELA SC\ \ \ \ \				

Channel Characteristics

Av. Chan. Width (m):	1.8	Method Av. Chan. Width (m):	MS
Av. Wet. Width (m):	1.5	Method Av. Wet. Width (m):	MS
Av. Max. Rlf. Depth (cm):	5	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	27	Av. Max. Pool Depth (cm):	5
Gradient (%):	4.0	Method Gradient:	CL
% Pool:	25	% Riffle:	50
% Side Channel:	0	% Run:	25
% Debris Area:	10-40	% Other:	0
		Method:	GE
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data

1.6	1.6	1.3	1.6	2.0	2.7
-----	-----	-----	-----	-----	-----

Bed Material

% Fines (<2mm):	65	% Fines (<2mm):	65
% Gravels:	30	Small (2-16mm):	10
		Large (16-64mm):	20
% Larges:	5	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):	7	Compaction:	High

Cover

Cover Total % :	25	Method Cover Total %:	GE
Dp Pool :	0	L.O.D.:	25
		Boulder:	0
		In Veg.:	0
		Over Veg:	55
		Cutbank:	20
Crown Closure % :	15	Method Crown Closure:	GE
		Aspect :	N
		Method Aspect:	C

Discharge

Wetted Width (m) :	0.8	Method Wetted Width (m) :	MS
Mean Depth (m) :	0.1	Method Mean Depth (m) :	MS
Mean Velocity (m/s) :	0.33	Method Mean Velocity (m/s)	F
Discharge (m3/s) :		Method Discharge (m3/s) :	

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)

(Bed Material)

Banks

Height (m):	0.5	% Unstable:	100
Textures Fines:	Yes	Gravel:	No
Confinement:	2	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	7.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (umhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

25-Feb-98

Stream: Camsell Creek

Watershed Code:

Stream Survey Report

182-7851-000-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1

Note: Reach '999' should read Reach 'A'.

Fish sampling (electroshocking) was conducted in this reach. No fish were captured or observed.

There is a series of falls (2.9 m and 2.9 m) located downstream on Camsell Creek (approximately 1.4 km upstream from the confluence) which is a barrier to fish migration upstream. This reach was given a S-6 classification under the Forest Practices Code.

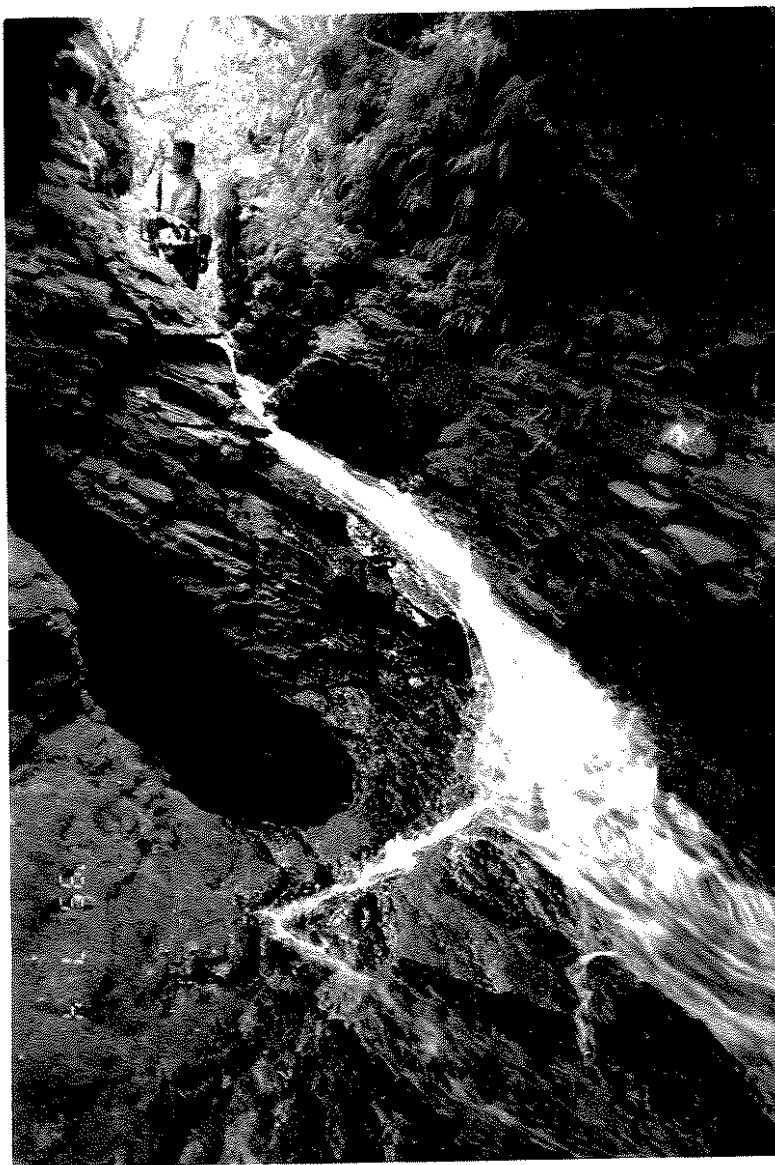


Photo 175. Upstream view of waterfall on Camsell Creek (182-7851).

Gazetted Stream Name	Camsell Creek
Local Stream Name	Not Applicable
Watershed Code	182-7851
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93K/10
TRIM Map	93K056
Cutting Permit	092
Cutblock Number	003
Operating Area	Whitefish
Development Type	Cutblock
Survey Date	14-Jun-95
Reach Number	B
Site Number	Not Applicable
Water Temperature (°C)	7
Stream Width (m)	3.0
Length Surveyed (m)	90
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-5
Fish Species Identified	None
Description: This mid-gradient reach is located along the northwestern boundary of the cutblock and flows northeasterly. A total cover of 15% is comprised of 40% boulders and overhanging vegetation, and 20% large organic debris. Bed materials of the confined reach are made up of larges (65%), gravels (20%) and fines (15). There is a series of falls (2.9 m and 2.9 m) located downstream of Camsell Creek (approximately 1400 m upstream from the mouth) which poses is a barrier to fish upstream migration. Fish sampling (electroshocking) was conducted for 700 sec in reaches A, B and C. No fish were captured or observed. Although this reach provided suitable fish habitat, no fish were captured. This reach was classified as S-5 under the Forest Practices Code, due to the downstream barrier and absence of fish.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Camsell Creek

Watershed Code:

Stream Survey Report

182-7851-000-000-000-000-000-000-000-000

Header Information

Stream Name:	Camsell Creek	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-7851-000-000-000-000-000-000-000-000	Reach No.:	998	Reach Length (km):	0.09000 Method: MW
Location:	92-003 Whitefish	Site No.:	0	Length surveyed (m):	90.0 Method: MW
		Map #:	93K/10	Field:	Yes Historical: No
		U.T.M.:	10.382930.6045140	Fish Card:	N
Date: 14/06/95	Time: 13:00	Agency: EDI	Survey Crew: BR\EL\SC\ \ \ \ \	Photos:	no photos
				Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	3.0	Method Av. Chan. Width (m):	MS	
Av. Wet. Width (m):	2.0	Method Av. Wet. Width (m):	MS	
Av. Max. Rlf. Depth (cm):	8	Av. Max. Riffle Depth (cm):	MS	
Av. Max. Pool Depth (cm):	24	Av. Max. Pool Depth (cm):	8	
Gradient (%):	14.0	Method Gradient:	CL	
% Pool: 10	% Riffle: 80	% Run: 10	% Other: 0	Method: GE
% Side Channel:	0	Method Side Channel:	GE	
% Debris Area:	0-10	Method Debris Area:	GE	

Specific Data						
3.9	4.3	3.0	1.6	2.4	1.9	

Bed Material

% Fines (<2mm):	15	% Fines (<2mm):	15
% Gravels:	20	Small (2-16mm):	10
		Large (16-64mm):	10
% Larges:	65	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	10
		Boulder cobble (>256mm):	45
% Bedrock:	0	% Bedrock:	0
D90 (cm):	55	Compaction:	High

Cover

Cover Total % :	15	Method Cover Total %:	GE		
Dp Pool: 0	L.O.D.: 20	Boulder: 40	In Veg.: 0	Over Veg: 40	Cutbank: 0
Crown Closure % :		Method Crown Closure:	Aspect: NE	Method Aspect:	C

Discharge

Wetted Width (m):	Method Wetted Width (m):
Mean Depth (m):	Method Mean Depth (m):
Mean Velocity (m/s):	Method Mean Velocity (m/s)
Discharge (m3/s):	Method Discharge (m3/s):

Specific Data

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Banks

Height (m):	0.3	% Unstable:	95	
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock: No
Confinement:	2			
Valley: Chan. Ratio:	5			
Stage:	M			
Flood Signs Ht(m):	0.35	Method Flood Signs:	MS	
Braided:	N	Method Braided:		
Bars (%):		Method Bars:		
pH:		Method pH:		
O2 (ppm):		Method Dissolved Oxygen:		
Water Temp. (°C):	7.0	Method Temperature:	HT	
Turb. (cm):		Method Turbidity:		
Cond. (µmhos):		Method Conductivity:		

DFO/MoELP Stream Survey Form

25-Feb-98

Stream: Camsell Creek

Watershed Code:

Stream Survey Report

182-7851-000-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1

Note: Reach '998' should read Reach 'B'

Fish sampling (electroshocking) was conducted for 700 seconds. No fish were captured or observed.

There is a series of waterfalls (2.9 m and 2.9 m) downstream of this reach and approximately 1.4 km upstream of the confluence with Stuart Lake, which act as a barrier to fish passage. This section of stream was given a S-6 classification under the Forest Practices Code.

Gazetted Stream Name	Camsell Creek
Local Stream Name	Not Applicable
Watershed Code	182-7851
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93K/10
TRIM Map	93K056
Cutting Permit	092
Cutblock Number	003
Operating Area	Whitefish
Development Type	Cutblock
Survey Date	14-Jun-95
Reach Number	C
Site Number	Not Applicable
Water Temperature (°C)	7
Stream Width (m)	1.52
Length Surveyed (m)	1000
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This low gradient (3.5%) reach is located along the western boundary of the cutblock and flows north. A total cover of 35% is comprised of 75% overhanging vegetation, 15% large organic debris, and 10% under cutbank. Bed material of this confined reach is fines (85%) and gravels (10%). There is a series of falls (2.9 m and 2.9 m) located downstream of Camsell Creek (approximately 1400 m upstream from the mouth) which is a barrier to fish upstream migration. Fish sampling (electroshocking) was conducted for 700 sec in reaches A, B and C. No fish were captured or observed. Although this reach provided suitable fish habitat, no fish were captured. This reach was classified as a S-6 under the Forest Practices Code, due to the downstream barrier and the absence of fish.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Camsell Creek

Stream Survey Report

Watershed Code:

182-7851-000-000-000-000-000-000-000-000

Header Information

Stream Name:	Camsell Creek	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-7851-000-000-000-000-000-000-000-000	Reach No.:	997	Reach Length (km):	1 Method: MW
Location:	92-003 Whitefish	Site No.:	0	Length surveyed (m):	1000.0 Method: MW
		Map #:	93K/10	Fish Card:	N Field: Yes Historical: No
		U.T.M.:	10.382530.6044670	Photos:	no photos Air Photos:
Date:	14/06/95	Time:	14:00	Agency:	EDI
		Survey Crew:	BR\EL\SC\ \ \ \ \		

Channel Characteristics

Av. Chan. Width (m):	1.5	Method Av. Chan. Width (m):	MS	0.9	0.9	2.0	1.6	2.4	1.3
Av. Wet. Width (m):	1.3	Method Av. Wet. Width (m):	MS						
Av. Max. Rlf. Depth (cm):	10	Av. Max. Riffle Depth (cm):	MS						
Av. Max. Pool Depth (cm):	18	Av. Max. Pool Depth (cm):	10						
Gradient (%):	3.5	Method Gradient:	CL						
% Pool: 20	% Riffle: 10	% Run: 70	% Other: 0	Method: GE					
% Side Channel:	0	Method Side Channel:	GE						
% Debris Area:	0-10	Method Debris Area:	GE						

Cover

Cover Total % :	35	Method Cover Total %:	GE							
Dp Pool :	0 L.O.D.:	15	Boulder:	0	In Veg.:	0	Over Veg:	75	Cutbank:	10
Crown Closure % :	15	Method Crown Closure:	GE	Aspect :	N	Method Aspect:	C			

Discharge

Wetted Width (m) :	1.3	Method Wetted Width (m) :	MS						
Mean Depth (m) :	0.1	Method Mean Depth (m) :	MS						
Mean Velocity (m/s) :	0.50	Method Mean Velocity (m/s)	F						
Discharge (m3/s) :		Method Discharge (m3/s) :							

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Bed Material

% Fines (<2mm):	85	% Fines (<2mm):	85
% Gravels:	10	Small (2-16mm):	5
		Large (16-64mm):	5
% Larges:	5	Small cobble (64-128mm):	0
		Large cobble (128-256mm):	5
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	Medium

Banks

Height (m):	0.3	% Unstable:	0		
Textures Fines:	Yes	Gravel: No	Larges: No	Bedrock:	No
Confinement:	2				
Valley: Chan. Ratio:					
Stage:	M				
Flood Signs Ht(m):		Method Flood Signs:			
Braided:	N	Method Braided:			
Bars (%):		Method Bars:			
pH:		Method pH:			
O2 (ppm):		Method Dissolved Oxygen:			
Water Temp. (°C):	7.0	Method Temperature:		HT	
Turb. (cm):		Method Turbidity:			
Cond. (µmhos):		Method Conductivity:			

DFO/MoELP Stream Survey Form

25-Feb-98

Stream: Camsell Creek

Watershed Code:

Stream Survey Report

182-7851-000-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1

Note: Reach '997' should read Reach 'C'.

Fish sampling (electroshocking) was conducted for 700 seconds. No fish were captured or observed.

There is a series of falls (2.9m and 2.9m) located downstream of this reach, approximately 1.4 km upstream of the confluence with Stuart Lake, which act as a barrier to fish passage upstream. This reach was given a S-6 classification under the Forest Practices Code.

4.1.19.1 Stream 182-7851-772

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-7851-772
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93K/10
TRIM Map	93K056
Cutting Permit	314
Cutblock Number	005
Operating Area	Whitefish
Development Type	Cutblock
Survey Date	14-Jun-95
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	7.0
Stream Width (m)	1.70
Length Surveyed (m)	200
Habitat Type	Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None

Description:

The small stream is located through the centre of the cutblock and flows easterly into Camsell Creek. In this reach, the stream had a low gradient (4%) and was confined. This reach was dominated by riffle and run habitat (40% each) and had little total cover (5%). Bed material was dominated by fines and larges (45% each) and there was some gravels (10%). This stream had a series of log jams within this reach. There was a 60 cm high log jam at the upper limit of this reach that could impede fish migration. This stream flows directly into Camsell Creek which has an impass to fish migration approximately 1400 m upstream from its mouth. The impass consists of a set of falls measuring 2.9 m and 2.0 m within a steep rock walled canyon.

Fish sampling (electroshocking) was conducted for 79 sec and no fish were captured or observed. Rainbow trout were captured downstream from the lower set of falls on Camsell Creek but they cannot migrate upstream as the falls are a barrier.

Although this stream provided suitable fish habitat, it was classified as S-6 under the Forest Practices Code. It flows directly into Camsell Creek which has an impass to fish migration. This impass is a 2.9 m falls located 1400 upstream from the confluence with Stuart Lake. Therefore, it must be classified as a non fisheries stream.

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-7851-772-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/a	Access:	FT
Watershed Code:	182-7851-772-000-000-000-000-000-000-000	Reach No.:	1	Reach Length (km):	0.20000 Method: MW
Location:	314-005 Whitefish	Site No.:	0	Length surveyed (m):	200.0 Method: MW
		Fish Card:	N	Field:	Yes Historical: No
Date:	14/06/95	Photos:	2: 19	Air Photos:	
Time:	12:30				
Agency:	EDI				
Survey Crew:	RV \ \ \ \ \ \ \				
		Map #:	93K/10		
		U.T.M.:	10.382710.6045440		

Channel Characteristics

Av. Chan. Width (m):	1.7	Method Av. Chan. Width (m):	TF
Av. Wet. Width (m):	1.4	Method Av. Wet. Width (m):	TF
Av. Max. Rlf. Depth (cm):	10	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	10
Gradient (%):	4.0	Method Gradient:	CL
% Pool:	20	% Riffle:	40
% Side Channel:	0	% Run:	40
% Debris Area:	0-10	% Other:	0
		Method:	GE
		Method Side Channel:	GE
		Method Debris Area:	GE

Specific Data					
1.5	1.5	1.9	1.9	1.7	1.8
1.6	1.2	1.6	1.7	1.1	1.4

Bed Material

% Fines (<2mm):	45	% Fines (<2mm):	45
% Gravels:	10	Small (2-16mm):	5
		Large (16-64mm):	5
% Larges:	45	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	10
		Boulder cobble (>256mm):	25
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	Low

Cover

Cover Total %:	5	Method Cover Total %:	GE
Dp Pool:	10	L.O.D.:	20
Boulder:	40	In Veg.:	0
Over Veg:	20	Cutbank:	10
Crown Closure %:	10	Method Crown Closure:	GE
Aspect:	E	Method Aspect:	C

Discharge

Wetted Width (m):	1.3	Method Wetted Width (m):	MS
Mean Depth (m):	0.1	Method Mean Depth (m):	MS
Mean Velocity (m/s):	0.40	Method Mean Velocity (m/s):	F
Discharge (m3/s):		Method Discharge (m3/s):	

Specific Data					

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope) (Bed Material)

Banks

Height (m):	0.3	% Unstable:	5
Textures Fines:	Yes	Gravel:	No
Confinement:	2	Larges:	No
Valley: Chan. Ratio:		Bedrock:	No
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	7.0	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

25-Feb-98

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-7851-772-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 2: 19 w/s.

Fish sampling (electroshocking) was conducted for 79 seconds. No fish were captured or observed.

This section of stream was given a S-6 classification under the Forest Practices Code.



Photo 176. Upstream view of Stream 182-7851-772 at Reach 1.

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-7851-772
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93K/10
TRIM Map	93K056
Cutting Permit	314
Cutblock Number	005
Operating Area	Whitefish
Development Type	Cutblock
Survey Date	14-Jun-95
Reach Number	2
Site Number	Not Applicable
Water Temperature (°C)	7.5
Stream Width (m)	1.60
Length Surveyed (m)	1650
Habitat Type	Stream
Stream Order (1:20,000)	1, 2
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This small stream is located through the centre of the cutblock and flows easterly into Camsell Creek. In this reach, this stream had a low gradient (2.0%) and was confined. The reach was characterized by 80% run and 10% each for pool and riffle. It had little total cover (5%) of which 50% was provided by L.O.D. Bed material was dominated by fines (70%) and gravels and larges were 10% and 20%, respectively. The upper limit of this reach ends at a swamp at the western boundary of the cutblock. The section of stream upstream of Reach 2 was not surveyed. However, this stream's headwaters were surveyed in cutblock Whitefish 314-6. In Whitefish 314-6, this system begins as a seepage area for approximately 100 m. A channel then became defined and was 0.70 m wide in this upper section. Downstream of this the channel width was between 0.65 - 0.70 m and the gradient was 4.5%. Substrates were mainly organics and vegetation consisted of alder, devil's club and stinging nettle. The survey of the stream's headwaters extended for about 400 m and ended at the road. Fish sampling (electroshocking) was conducted and no fish were captured or observed. Both Reach 2 and the headwaters of this stream provide low quality fish habitat. This stream flows into Camsell Creek which has been classified as a S-6 due to a 2.9 m falls forming an upstream fish migration barrier. Therefore, this stream has also been classified as S-6 under the Forest Practices Code.	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Stream Survey Report

Watershed Code:

182-7851-772-000-000-000-000-000-000-000

Header Information

Stream Name:	Unnamed	Stream "Local":	N/A	Access:	FT
Watershed Code:	182-7851-772-000-000-000-000-000-000-000	Reach No.:	2	Reach Length (km):	1.65 Method: MW
Location:	314-005 Whitefish	Site No.:	0	Length surveyed (m):	1650.0 Method: MW
		Map #:	93K/10	Fish Card:	N
		U.T.M. :	10.382205.6045519	Field:	Yes
				Historical:	No
Date: 14/06/95	Time: 13:20	Agency: EDI	Survey Crew: RV \ \ \ \ \ \ \	Photos:	2: 20
				Air Photos:	

Channel Characteristics

Av. Chan. Width (m):	1.6	Method Av. Chan. Width (m):	TF
Av. Wet. Width (m):	1.1	Method Av. Wet. Width (m):	TF
Av. Max. Rlf. Depth (cm):	6	Av. Max. Riffle Depth (cm):	MS
Av. Max. Pool Depth (cm):	20	Av. Max. Pool Depth (cm):	6
Gradient (%):	2.0	Method Gradient:	CL
% Pool: 10	% Riffle: 10	% Run: 80	% Other: 0
Method: GE			
% Side Channel:	0-10	Method Side Channel:	GE
% Debris Area:	0-10	Method Debris Area:	GE

Specific Data					
1.7	1.5	1.6	1.7	1.4	1.6
1.1	1.1	1.1	1.1	1.4	1.2

Cover

Cover Total % :	5	Method Cover Total %:	GE
Dp Pool : 10 L.O.D.:	50	Boulder: 10	In Veg.: 0
Crown Closure % :	5	Method Crown Closure:	GE
		Aspect :	E
		Method Aspect:	C

Discharge

Wetted Width (m) :	Method Wetted Width (m) :
Mean Depth (m) :	Method Mean Depth (m) :
Mean Velocity (m/s) :	Method Mean Velocity (m/s) :
Discharge (m3/s) :	Method Discharge (m3/s) :

Specific Data					

Reach Symbol

(Fish)

(Width, Valley: Channel, Slope)	(Bed Material)
---------------------------------	----------------

Bed Material

% Fines (<2mm):	70	% Fines (<2mm):	70
% Gravels:	10	Small (2-16mm):	5
		Large (16-64mm):	5
% Larges:	20	Small cobble (64-128mm):	10
		Large cobble (128-256mm):	10
		Boulder cobble (>256mm):	0
% Bedrock:	0	% Bedrock:	0
D90 (cm):		Compaction:	Medium

Banks

Height (m):	0.3	% Unstable:	20
Textures Fines:	Yes	Gravel: No	Larges: No
Confinement:	2	Bedrock:	No
Valley: Chan. Ratio:			
Stage:	M		
Flood Signs Ht(m):		Method Flood Signs:	
Braided:	N	Method Braided:	
Bars (%):		Method Bars:	
pH:		Method pH:	
O2 (ppm):		Method Dissolved Oxygen:	
Water Temp. (°C):	7.5	Method Temperature:	HT
Turb. (cm):		Method Turbidity:	
Cond. (µmhos):		Method Conductivity:	

DFO/MoELP Stream Survey Form

20-Aug-97

Stream: Unnamed

Watershed Code:

Stream Survey Report

182-7851-772-000-000-000-000-000-000-000

Fish Summary

Obstructions

Comments

C1 Film 2: 20 d/s.

Fish sampling (electroshocking) was conducted in this reach. No fish were captured or observed.

This reach has been given a S-6 classification under the Forest Practices Code.



Photo 177. Downstream view of Stream 182-7851-772 at Reach 2.

4.1.19.2 Stream 182-7851-772-519

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-7851-772-519
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93K/10
TRIM Map	93K056
Cutting Permit	314
Cutblock Number	005
Operating Area	Whitefish
Development Type	Cutblock
Survey Date	14-Jun-95
Reach Number	1
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	0.50
Length Surveyed (m)	400
Habitat Type	Stream
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	S-6
Fish Species Identified	None
Description: This small stream is located in the northern region of the cutblock and flows southeasterly into a larger S-6 stream. This stream had minimal flow and the average channel width was 0.50 m. Within the block, the gradient was low and the stream spread out into a marshy plain. Flow in this lower section could no be detected and the stream continues to be spread out down to its mouth. Above the block boundary, the stream extends for about 100 m above this and there is a 300 m section of seepage. Fish sampling (electroshocking) was conducted and no fish were captured or observed. This stream has low quality fish habitat. It was classified as S-6 under the Forest Practices Code due to the falls located downstream and the lack of fish presence	

4.1.19.3 Stream EDI-526

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	526
Nearest Downstream Watershed Code	182-7851
NTS Map (1:50,000)	93K/10
TRIM Map	93K056
Cutting Permit	314
Cutblock Number	005
Operating Area	Whitefish
Development Type	Cutblock
Survey Date	18-Oct-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	1100
Habitat Type	Wetland
Stream Order (1:20,000)	1
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This wetland is located along the southwestern boundary of the cutblock and drains south. At the time of the survey, snow depth was approximately 0.60 m and, therefore, accurate ground survey was difficult. The wetland area was approximately 100 m wide and was heavily vegetated with alder. No defined channel was found in the 600 m surveyed. An upper section of this system south of cutblock 314-6 was also surveyed. The wetland at this location was vegetated with alder and willow and contained sections of pooled water. No defined channel was found in the 800 m surveyed. Fish sampling (electroshocking) was not possible due to the snow conditions and no fish were observed. Since both areas are wetlands, no stream classification is required under the Forest Practices Code. These areas should, however, receive wetland classifications. Recommendation: These areas should be resurveyed earlier in the year in order to determine if a channel is present. The section of this system between cutblocks 314-6 and 314-5 should also be surveyed to determine if it is connected.	

4.1.20 Watershed 182-7856

Watershed 182-7856 is located within BC Environment Management Unit 7-25 (BC Recreational Atlas 1993) within the northern portion of the Stuart Lake Watershed Group, on the north side of Stuart Lake (Fig. 21). The main system flows directly into Stuart Lake and is surrounded by the Upper Trembleur Watershed Group to the north, Watershed 182-7856-402 to the west, Watershed 182-7856-142 to the east and Stuart Lake to the south. Occupying 3,274 ha of the Stuart Lake Provincial Forest, the geographical relief ranges from approximately 670 m at Stuart Lake to approximately 770 m in the headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977).

This watershed is dominated by two sub-zones/variants according to the biogeoclimatic units of the Prince George Forest Region. These units include: the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3), and the Dry Cool Sub-Boreal Spruce sub-zone (SBSdk) (DeLong et al. 1993).

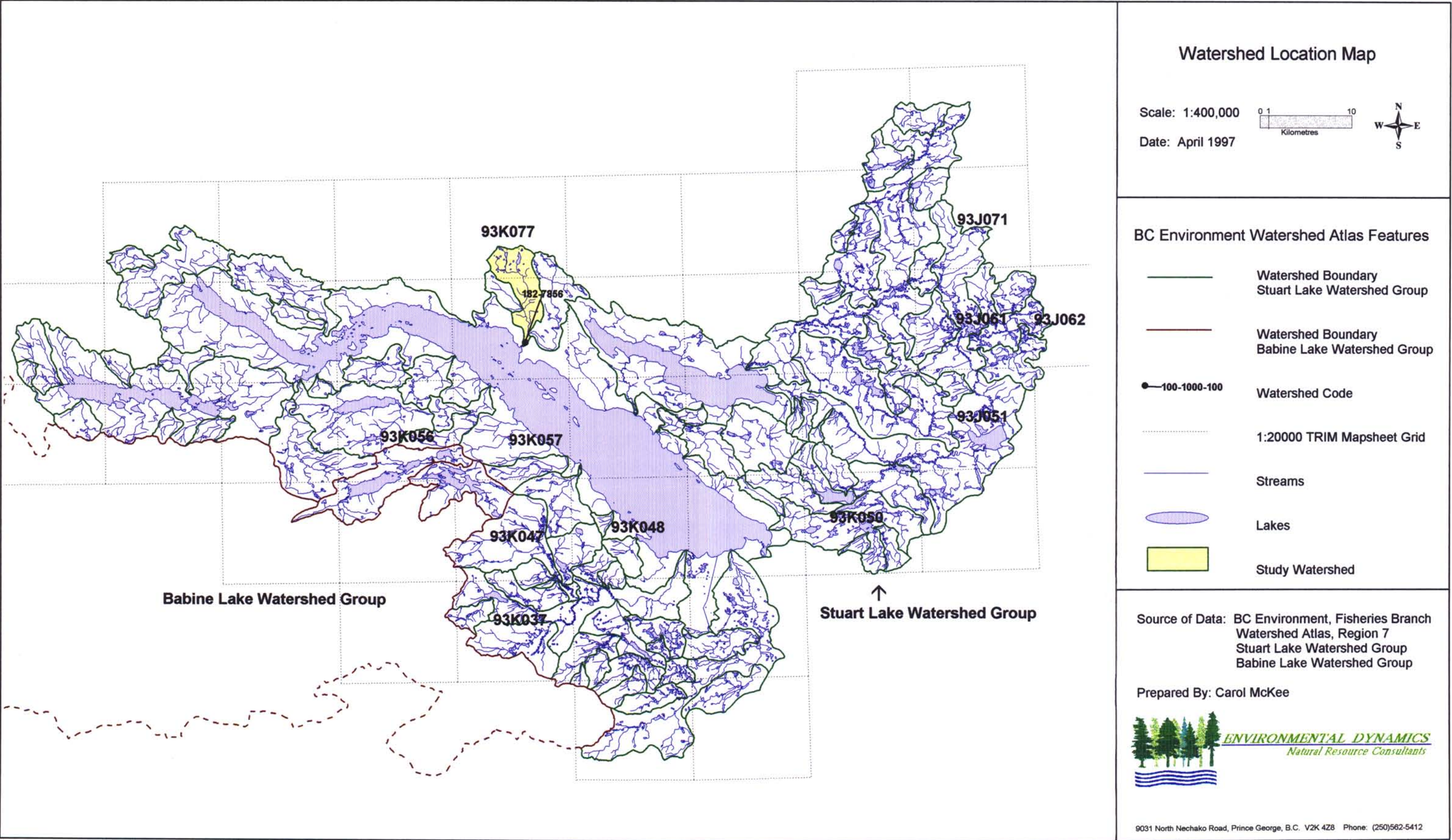
According to the updated FISS data (1995), no fish species have been documented in Watershed 182-7856 (BC Environment 1995). Nonetheless, this system flows directly into Stuart Lake and has potential to support several fish species (as noted in FISS) including: Dolly Varden¹, mountain whitefish, rainbow trout, chinook salmon, kokanee and sockeye salmon (BC Environment 1995).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. WMC's are not located within Watershed 182-7856 (Canfor 1996).

Since this watershed lies within a portion of Canfor's Kuzkwa Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel roads located in this watershed are the Leo Creek FSR and its adjoining sideroads (Canfor 1996).

¹The species identified as Dolly Varden (*Salvelinus malma*), in the Fisheries Information Summary System is, in all probability, bull trout (*Salvelinus confluentus*), as by population distribution studies conducted by Haas and McPhail (1991).

Figure 21. Location of Watershed 182-7856 within the Stuart Lake Watershed Group



Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-7856
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93K/10
TRIM Map	93K077
Cutting Permit	Kuz
Cutblock Number	017
Operating Area	Kuzkwa
Development Type	Cutblock
Survey Date	04-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Seasonally Flooded Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This seasonally flooded wetland is located along the eastern side of the cutblock and drains easterly directly into a lake. This wetland is basically an extension of the lakeshore and fringes the lake along its western boundary. There was no flowing water or a defined channel found in the area. Fish sampling was not conducted and fish were not observed. This area is classified as a Fisheries Sensitive Zone under the Forest Practices Code since fish can access this wetland from the lake during the high water. Recommendation: The lake east of cutblock Kuz-17 should be surveyed in order to determine fish presence or absence.	

4.1.20.1 Stream 182-7856-815

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-7856-815
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93K/10
TRIM Map	93K077
Cutting Permit	Kuz
Cutblock Number	125
Operating Area	Kuzkwa
Development Type	Cutblock
Survey Date	04-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	Not Recorded
Length Surveyed (m)	800
Habitat Type	Wetland/Stream
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This wetland is located south of the cutblock and flows southeasterly. Two sections of this wetland were surveyed. The upper (400 m) section is located along the southwestern side of the cutblock. This area contained a series of ponds and a few beaver dams were observed. Vegetation in this upper wetland included alder, grasses, and black spruce. The lower (400 m) section is located south of the cutblock and flows directly out of a large pond separating the upper and lower sections of the wetland. This large pond contained active beaver lodges and beavers were observed. The lower section contained areas of ponded water and dominant vegetation included alder, grasses and black spruce. A main channel was observed flowing through the upper and lower wetland section. The main channel is surrounded by a wide grassland which has a high water level, and organic substrates. Therefore, a site card could not be completed in this area, since access was impossible. Fish sampling was not conducted and fish were not observed. This area does not require a stream classification under the Forest Practices Code, but should receive a wetland classification.	

4.1.20.2 Stream 182-7856-815-396

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-7856-815-396
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93K/10
TRIM Map	93K077
Cutting Permit	Kuz
Cutblock Number	124
Operating Area	Kuzkwa
Development Type	Cutblock
Survey Date	05-Jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Recorded
Stream Width (m)	Not Recorded
Length Surveyed (m)	1350
Habitat Type	Wetland
Stream Order (1:20,000)	2
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	Not Applicable
Description: This wetland is located along the western and southern boundaries of the cutblock. The wetland had a main channel running through it for the first 200 m, but could not be surveyed due to the grassland surrounding it. Above this, no defined channel was found. Vegetation in the area consisted of grasses, Labrador tea, black spruce and alder. Fish sampling was not conducted, and no fish were observed. This wetland does not require a stream classification under the Forest Practices Code, but should receive a wetland classification. Recommendation: The system this wetland flows into should be surveyed from its mouth at Stuart Lake to determine the upper limit of fish distribution.	

4.1.20.3 Stream EDI-542

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	542
Nearest Downstream Watershed Code	182-7856
NTS Map (1:50,000)	93K/10
TRIM Map	93K077
Cutting Permit	Kuz
Cutblock Number	125
Operating Area	Kuzkwa
Development Type	Cutblock
Survey Date	04-jun-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Wetland
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This wetland is located along the northeastern boundary of the cutblock and flows in a southeasterly direction. The area contained a series of ponds, and vegetation was dominated by alder, aspen and grasses. This wetland area does not flow into the stream east of the cutblock as indicated on the 1:10,000 scale cutblock map. The wetland extends only to the east boundary of the cutblock. The main stream located east of the cutblock was briefly surveyed and does contain a defined channel. This stream may be connected to the wetlands south of this block. Fish sampling was not conducted and fish were not observed. This wetland does not require a stream classification under the Forest Practices Code, but should receive a wetland classification. Recommendation: The stream east of this cutblock should be surveyed as there is a large lake upstream on the system which could be used as overwintering fish habitat, the system also eventually drains into Stuart Lake and unless there are downstream barriers, fish could access this system. This system should be surveyed at its mouth from Stuart Lake upstream in order to determine the upper limit of fish distribution.	

4.1.21 Watershed 182-7856-142

Watershed 182-7856-142 is located within BC Environment Management Unit 7-25 (BC Recreational Atlas 1993) within the northern portion of the Stuart Lake Watershed Group, on the north side of Stuart Lake (Fig. 22). The main system flows directly into Stuart and is surrounded by the Upper Trembleur Watershed Group to the north, Watershed 182-7856 to the west, Watershed 182 and 182-6976 to the east and Stuart Lake to the south. Occupying 3,452 ha of the Stuart Lake Provincial Forest, the geographical relief is low and ranges from approximately 700 m at Stuart Lake to approximately 730 m in the headwaters (BC Environment 1995; Department of Energy, Mines and Resources 1977). Only a small section within this watershed was surveyed by *Environmental Dynamics* in 1996.

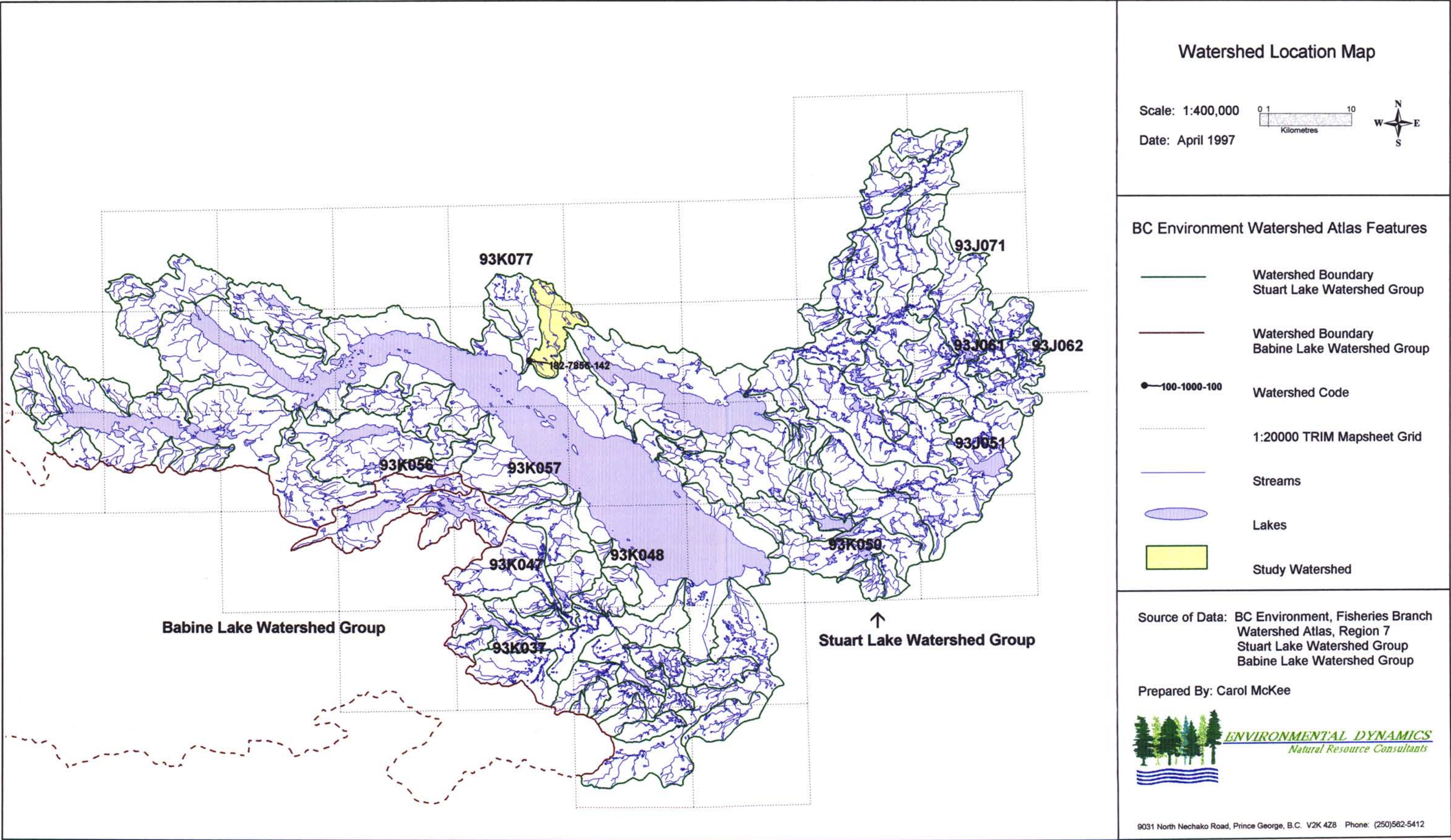
This watershed is dominated by two sub-zones/variants according to the biogeoclimatic units of the Prince George Forest Region. These units include, the Stuart Dry Warm Sub-Boreal Spruce sub-zone (SBSdw3), and the Dry Cool Sub-Boreal Spruce sub-zone (SBSdk) (DeLong et al. 1993).

According to the updated FISS data (1995), no fish species have been documented in Watershed 182-7856-142 (BC Environment 1995). Nonetheless, this system eventually flows directly into Stuart Lake and has potential to support several fish species (as noted in FISS) including: Dolly Varden¹, mountain whitefish, rainbow trout, chinook salmon, kokanee and sockeye salmon (BC Environment 1995).

Canfor together with BC Environment have created Wildlife Movement Corridors (WMC) to be included in Canfor's five year development plans. These WMC's provide cover and allow animals to travel through non-logged areas. WMC's are not located within Watershed 182-7856-142 (Canfor 1996).

Since this watershed lies within a portion of Canfor's Kuzkwa Operating Area, linear development is common throughout the area (Ministry of Forests 1995; Canfor 1996). The major gravel roads located in this watershed are the Leo Creek FSR and its adjoining sideroads (Canfor 1996).

Figure 22. Location of Watershed 182-7856-142 within the Stuart Lake Watershed Group



Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	182-7856-142
EDI-Code	Not Applicable
Nearest Downstream Watershed Code	Not Applicable
NTS Map (1:50,000)	93K/15
TRIM Map	93K077
Cutting Permit	Kuz
Cutblock Number	030
Operating Area	Kuzkwa
Development Type	Cutblock
Survey Date	29-May-96
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Seepage
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: This seepage was located in the southwestern corner of the proposed cutblock in a low lying area dominated by deciduous trees. The area was dry at the time of survey. Fish sampling was not conducted. No fish were observed. Due to the fact that this is a seepage area and not a stream, stream classification is not required under the Forest Practices Code.	

4.1.21.1 Stream EDI-120

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	120
Nearest Downstream Watershed Code	182-7856-142
NTS Map (1:50,000)	93K/10
TRIM Map	93K077&K078
Cutting Permit	054
Cutblock Number	034
Operating Area	Kuzkwa
Development Type	Right-of-Way
Survey Date	15-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	400
Habitat Type	Dry Depression
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: Only a dry depression was located along the eastern boundary of the cutblock. There was no water or channel present during the time of survey but evidence of pooled water was noted. Fish sampling was not conducted. No fish were observed. Since this was a dry depression and not a stream, a stream classification is not required under the Forest Practices Code.	

4.1.21.2 Stream EDI-119

Gazetted Stream Name	Unnamed
Local Stream Name	Not Applicable
Watershed Code	Not Available
EDI-Code	119
Nearest Downstream Watershed Code	182-7856-142
NTS Map (1:50,000)	93K/10
TRIM Map	93K077&K078
Cutting Permit	054
Cutblock Number	034
Operating Area	Kuzkwa
Development Type	Cutblock
Survey Date	15-Jun-95
Reach Number	Not Applicable
Site Number	Not Applicable
Water Temperature (°C)	Not Applicable
Stream Width (m)	Not Applicable
Length Surveyed (m)	1200
Habitat Type	Dry Depression
Stream Order (1:20,000)	Not Applicable
Forest Practices Code Stream Classification	Not Applicable
Fish Species Identified	None
Description: Only a dry depression was located during the survey, that traverses from the northwestern side of the block boundary to the southeastern side. The stream is dry with no definable channel, however, this defined gully leads into a lake known to support fish (lake chub). Fish sampling was not conducted. Since this was just a dry depression and not a stream, no stream classification was required under the Forest Practices Code.	