

**Reconnaissance Lake Inventory
of
Unnamed Lake
alias M26***

Waterbody Identifier 00436BABL
Map # 93M.018
UTM 09.662225.6116755

Prepared for:
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March 31, 1998

Disclaimer

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

Data Summary

Project Reference Information

MoELP Project Number	CSK3029
FDIS Project Number	06-LBIR-0010-0003-1998
Forest Region	Prince Rupert
Forest District	Morice
MoELP Region	Skeena
Wildlife Management Unit	6-8
FRBC Region	Skeena-Bulkley

Watershed Information

Higher Level Watershed Code	480-598800-10000
Waterbody Identifier	00436BABL
UTM at Lake Outlet	09.662225.6116755
Number of Tributaries on TRIM or FCM	8
Number of Tributaries observed in field	5
Magnitude	8
Elevation	953 m
NTS Map	93M/01
TRIM Map	93M.018 and 93M.019
Biogeoclimatic Zone	SBS
Air Photos	30BCC96106 No. 045

Lake Sampling Summary

Fish Species Present	Rainbow Trout
Lake Survey Type	Secondary (1997 RIC Standards)
Water Surface Area	78 ha
Max. Depth	15 m
Secchi Depth	2 m
Shoreline Perimeter	1.2 km
Lake Length	0.3 km
Number of Islands	None

Contractor Information

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Acknowledgments

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We would like to thank Paul Giroux, Steve Gray, Sig Hatlevik, Steve Woodliffe and Doug Webb for their help with this inventory.

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- Photographs and Negatives
- Photocopies of Original Field Data

1.0 Introduction

1.1 Project scope/Objectives

The primary purpose of the reconnaissance inventory of M26* was to gather information on the presence or absence of fish in the lake, and to gather preliminary data on biophysical attributes of the lake. M26* was a secondary lake included in a secondary level reconnaissance inventory of 34 lakes located in the northern portions of the Kalum, Kispiox, Bulkley and Morice Forest Districts.

1.2 Location

M26* is located approximately 65 kilometers northeast of Smithers Airport and about 14 kilometers northeast of Smithers Landing, B. C. The latitude of M26* is 55° 10' 14.8" and the longitude is 126° 27' 10.3". The location of the lake is given in Figure 1.

1.2.1 Access

The field crew reached this lake by helicopter. The flight to the lake from Smithers, B. C. takes approximately 25 minutes. The lake did not have any direct road access, however the Morrison West Forest Service Road (FSR) runs east-west approximately one kilometre south of the southernmost portion of the lake. A branch of the Morrison West FSR passes the east side of the lake. The distance from this road to the outlet is about 150 metres west through mature forest.

2.0 Resource Information

A thorough data search of Ministry of Environment lake files yielded no pre-existing information about M26*. There were two logging cutblocks in the surrounding area to the northeast and southeast, however none that were in close proximity to the lake. No preexisting campsites were observed.

2.1 Points of Interest

This lake has high potential for recreational activities including hiking and camping. Potential campsites were located in the mixed coniferous and deciduous stand surrounding the lake.

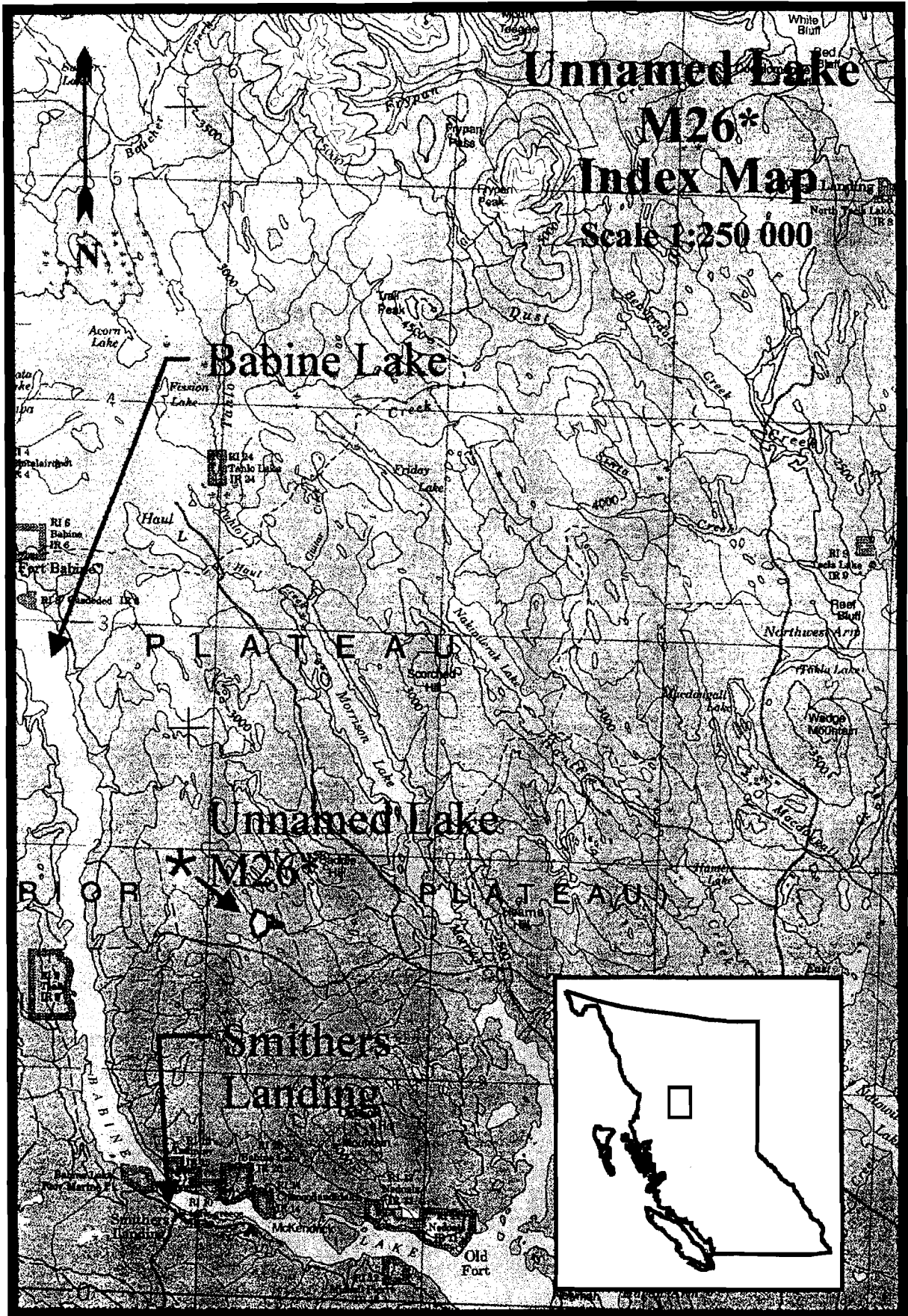


Figure 1. Map showing the location of Unnamed Lake (M26*), Waterbody Identifier 00436BABL.

3.0 Methods

Methods used in the inventory of this lake were those described primarily in the Resource Inventory Committee of British Columbia (RIC) document entitled Reconnaissance 1:20 000 Fish and Fish Habitat Inventory Standards and Procedures, May 1997 for secondary lakes. In addition, the standards prescribed in the following documents were used:

- Fisheries Information Summary System: Data Compilation and Mapping Procedures. Federal/Provincial Fish Habitat Inventory and Information Program. February 1995.
- Lake and Stream Inventory: Standards and Procedures, RIC Draft, May 1995; to be replaced in March 1997 by: Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures.
- Users Guide to the British Columbia Watershed/Waterbody Identifier System, Version 2.1, RIC Draft January 1997;
- Fish Collection Methods and Standards, RIC Draft January 1997;
- Field Key to Fresh Water Fishes of British Columbia, RIC Draft 1993;
- Bathymetric Standards for Lake Inventories, A: Fish and Fish Habitat, RIC Draft, January 1997;
- Aerial Photography and Videography Standards for Fish Habitat Channel Assessment, RIC 2nd Draft, March 1996;
- A Guide to Photodocumentation for Aquatic Inventory, RIC Draft, March 1996;
- Standards for Aquatic Mapping, RIC Draft, January 1997;
- Ambient Fresh Water and Effluent Sampling Manual, RIC Draft, July 1994;
- Identification Keys to the Aquatic Plants of British Columbia, RIC Draft 1994;
- BC Standards, Specifications and Guidelines for Resource Surveys Using Global Positioning Systems (GPS) Technology, RIC Draft, 1995.

Prior to landing on the edge of the lake, aerial photographs of the lake and its associated streams were taken from the helicopter. Upon landing on the edge of the lake, angling was attempted. If no fish were caught by angling, a multimesh, 92 m long floating gill net was set. The deepest part of the lake was then found using a Lowrance echosounder by measuring the depth along one e-line and then measuring the depth along one transect at right angles to the e-line and at the deepest point on the e-line. At the deepest point we measured the dissolved oxygen concentration and temperature at 1 metre intervals to either the bottom of the lake or 30 metres, whichever came first. The pH and conductivity of the surface water and a sample from 1 metre above the bottom were measured. The secchi depth was then determined at this location and photographs of the surrounding shoreline were taken. At this point, the floating gill net was checked for fish. If it was empty, a similar sinking gill net and five minnow traps were set. The shoreline was surveyed, locations of inlet and outlet streams were recorded and assessed visually for significant habitat from the boat, substrate was assessed, aquatic vegetation was mapped and the high water mark was estimated. The nets and minnow traps were then frequently checked and if nothing was caught, they were left to fish overnight. In the morning, nets and traps were hauled regardless of fish capture.

Equipment used in the M21* inventory included the following:

- Lowrance X-16 echosounder was used to find the depth of the deepest spot in the lake to determine the limnological sampling site
- Eight foot Zodiac inflatable boat powered by a 2 hp Honda 4 cycle outboard motor was used for studying inlet and outlet streams, shoreline vegetation and substrate composition, and for setting minnow traps
- YSI Model 57 portable Oxygen Meter was used for dissolved oxygen and temperature measurements
- Oakton pH/mV/C meter was used for pH measurements
- LaMotte Conductivity Meter was used for conductivity measurements
- Eagle Explorer 12 Channel GPS Receiver or Garmin 12XL GPS handheld units were used for UTM measurements on the lake
- Pentax 35 mm single lens reflex (SLR) camera with a standard 35 mm focal length lens was used for all photography
- Microsoft Word 6.0 was used for production of the report, and Microsoft Excel 5.0 was used for data storage, calculations, and graphing
- CorelDRAW Graphics 6.0 was used for composition of lake outline, fishing, and index maps
- Ministry of Environment digital entry tools entitled Field Data Information System (FDIS) and Fish Collection Form (Fishcoll) were used for recording data

4.0 Results and Discussion

4.1 General Description

M26* is located on a plateau of generally low relief. The elevation at the lake was 953 metres and the surface area was 78 ha. The surrounding country had recreational potential for hiking and camping.

4.2 Immediate Shoreline

M26* had a low rocky shore for approximately 70% of the shoreline. The other 30% of the shore consisted of wetlands. Emergent vegetation was sparse over the surface area of the entire lake however was abundant near the creek mouths. Some of the plants observed included yellow pondlily (*Nuphar spp.*), marsh cinquefoil (*Potentilla palustris*), horsetails (*Equisetum spp.*) and sedges (*Carex spp.*). Submergent vegetation was sparse however some *Potamogeton richardsonii* was observed.

Terrestrial plants observed on the lake shore included; Buckbrush (*Betula spp.*), Great northern aster (*Aster modestus*), Fir (*Abies spp.*), Spruce (*Picea spp.*), Lodgepole pine (*Pinus contorta* var. *latifolia*), Bunchberry (*Cornus canadensis*), Alder (*Alnus spp.*), Willow (*Salix spp.*),

Cottonwood (*Populus balsamifera*), Rose (*Rosa spp.*) and Common Reed (*Phragmites australis*).

4.3 Surrounding Country

M26* is surrounded by rolling hills of the Nechako Plateau in the SBS Biogeoclimatic zone. The majority of these hills are covered by a natural mixed coniferous and deciduous forest. Forest development had occurred on the eastern side of the lake, however there were no cutblocks beside the lake. Photos of the surrounding area are found on CD#5 photos 70-71. The closest visible peak was Saddle Hill, located approximately 4 kilometres to the northeast.

4.4 Summary of Data Collection

The data collected was recorded in digital files written by the Ministry of Environment in Microsoft Access 2.0 under the name Field Data Information System (FDIS). The specific file name is fdisdat.mdb and contains all of the habitat information. In a similar digital entry tool called Fish Collection Form (Fishcoll), all information relating to fish and fish sampling effort was recorded in a file named fishcoll.mdb. The information in these files is contained in an appendix in hardcopy form and is also provided on a 3 1/2 inch diskette at the back of this document.

4.4.1 Annotated Air Photo

An annotated air photo of M21* showing limnological station, fish sampling sites and inlet and outlet streams is given in Figure 2.

4.4.2 Lake Outline Map

An outline map of M21* showing limnological station, fish sampling sites, inlet and outlet streams and photograph locations and directions is given in Figure 3.

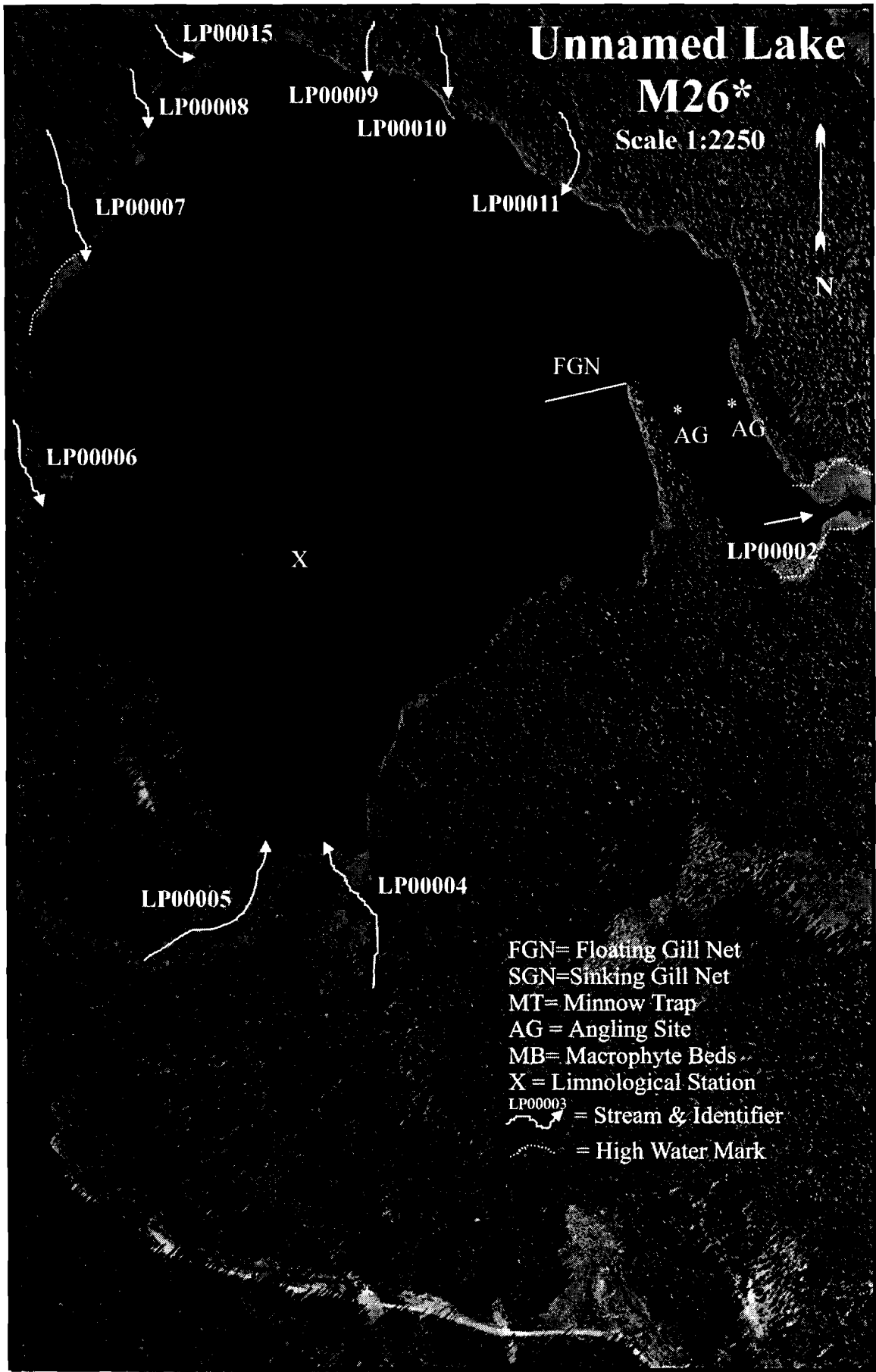


Figure 2. Enlargement of Unnamed Lake (Waterbody Identifier 00436BABL) from aerial photograph 30BCC96106 No. 046.

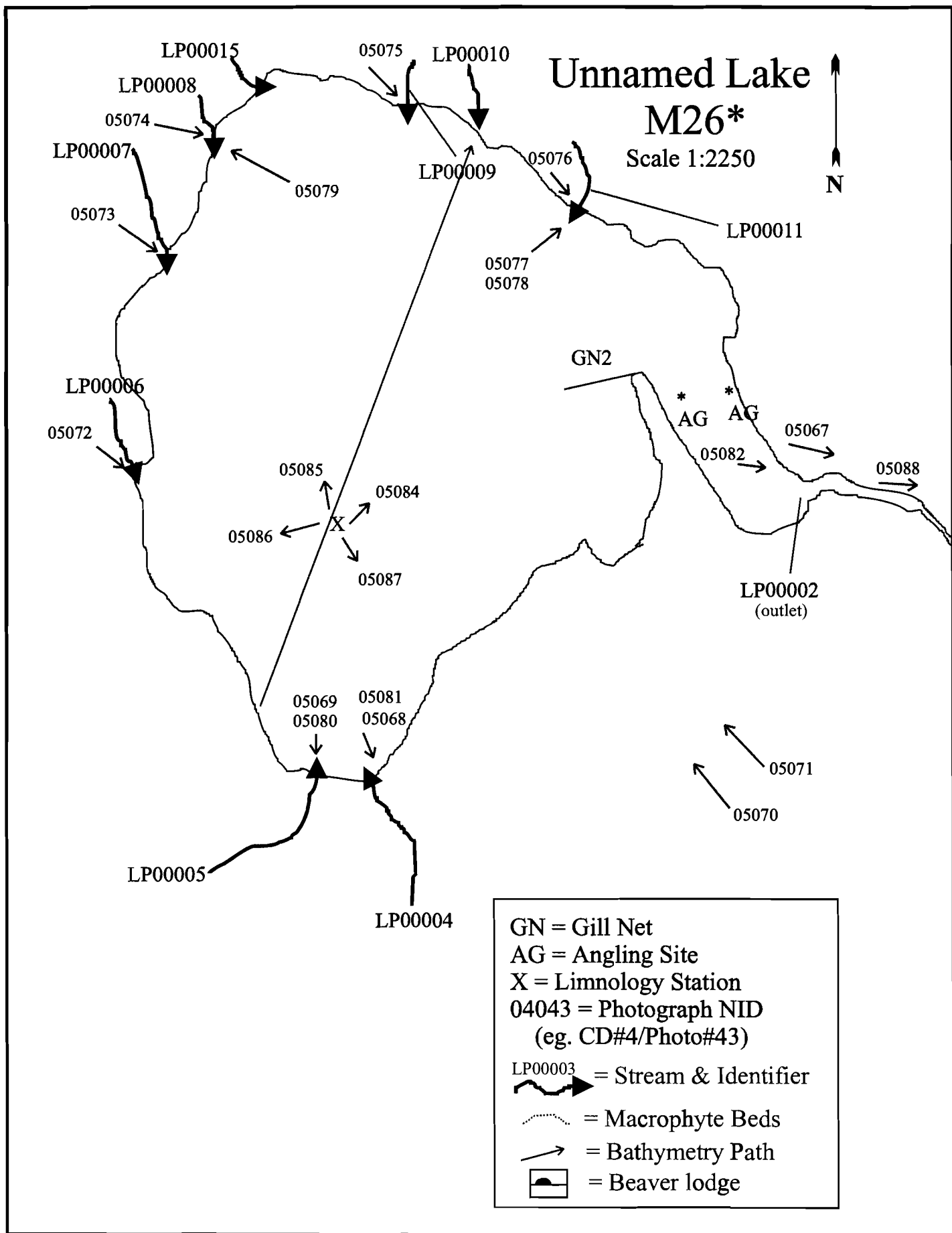


Figure 3. Outline map of Unnamed Lake (WaterbodyIdentifier 00436BABL) showing limnological station, fish sampling sites, inlet and outlet streams, and photograph locations and directions.

4.4.3 Streams

Table 1. A list of streams associated with M26*.

Table 1 lists all of the streams that were shown on the 1:20 000 TRIM and Forest Cover Maps as flowing into or out of M26*. Some of these streams were not found in the field. The table also lists one inlet stream, (LP00015), which was located by the field crew but was not found on the 1:20000 maps. LP numbers are interim location point numbers assigned to each stream pending replacement with unique watershed codes.

Map Number	Project ID	Interim Location Point Number	Found in Field	UTM Zone	Easting	Northing	High Level Watershed Code	Comments
93M.019	06-LBIR-0010-0003-1998	LP00002	Yes	9U	672200	6115440	480598800-10000	Unnamed Lake M26* Outlet;
93M.018	06-LBIR-0010-0003-1998	LP00004	Yes	9U	662200	6116150	480598800-10000	Unnamed Lake M26* Inlet;
93M.018	06-LBIR-0010-0003-1998	LP00005	Yes	9U	662100	6116200	480598800-10000	Unnamed Lake M26* Inlet;
93M.018	06-LBIR-0010-0003-1998	LP00006	No	9U	661760	6116780	480598800-10000	Unnamed Lake M26* Inlet;
93M.018	06-LBIR-0010-0003-1998	LP00007	No	9U	661840	6117140	480598800-10000	Unnamed Lake M26* Inlet;
93M.018	06-LBIR-0010-0003-1998	LP00008	Yes	9U	661900	6117360	480598800-10000	Unnamed Lake M26* Inlet;
93M.018	06-LBIR-0010-0003-1998	LP00009	No	9U	662260	6117320	480598800-10000	Unnamed Lake M26* Inlet;
93M.018	06-LBIR-0010-0003-1998	LP00010	No	9U	662500	6117140	480598800-10000	Unnamed Lake M26* Inlet;
93M.018	06-LBIR-0010-0003-1998	LP00011	Yes	9U	662600	6117120	480598800-10000	Unnamed Lake M26* Inlet;
93M.018	06-LBIR-0010-0003-1998	LP00015	Yes	9U	661900	6117500	480598800-10000	Unnamed Lake M26* Inlet;

4.3.4.1 Streams Surveyed

Detailed comments on the individual streams observed can be found on the Lake Survey Form.

Four of the eight inlets recorded on TRIM and Forest Cover Maps were found in the field.

4.4.4 Limnological Sampling

Limnological sampling was conducted at 0955 hours on August 24, 1997. This site is marked LS on the accompanying annotated air photo map and lake outline map. Field data was recorded on the Lake Survey Form, a copy of which can be found in the appendix.

4.4.4.1 Stratification

M26* was distinctly thermally stratified. The thermocline began at approximately 3 metres. Dissolved oxygen appeared stratified with an oxycline beginning at about 4 metres. M26* appeared to be eutrophic.

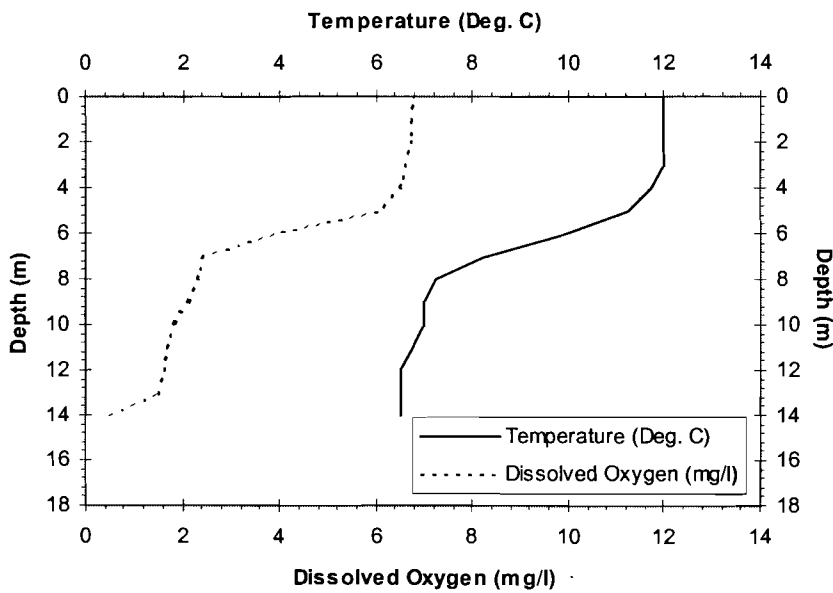


Figure 4. Temperature and dissolved oxygen profiles for M26* on August 24, 1997.

4.4.5 Photographs

Photographs taken at this lake are recorded on Compact Disk #2124(CD #5), one of a duplicate set of six CD's produced during the overall project assessing 34 lakes.

Table 2. Index to photographs.

Roll #	Frame	CD/Photo Number	Direction	NID-Map	NID	UTM Zone	Easting	Northing	Comment
95	1	5/067	E	93M.018	5067	9	663050	6616700	LP00001 from the air
95	10	5/076	S	93M.018	5076	9	662600	6117120	LP00010 air
95	11	5/077	N	93M.018	5077	9	662600	6117120	LP00010 mouth
95	12	5/078	N	93M.018	5078	9	662600	6117120	LP00010 mouth
95	13	5/079	N	93M.018	5079	9	661900	6117360	LP00007 mouth
95	14	5/080	S	93M.018	5080	9	662100	6116200	LP00004 mouth
95	15	5/081	S	93M.018	5081	9	662200	6116150	LP00003 mouth
95	16	5/082	S	93M.018	5082	9	662800	6116850	Northeast typical riparian
95	17	5/083	X	93M.018	5083	9	662950	6116800	fish
95	18	5/084	N	93M.018	5084	9	662237	6116695	looking NE from the limnology station
95	19	5/085	N	93M.018	5085	9	662237	6116695	looking N from limnology station
95	2	5/068	S	93M.018	5068	9	662200	6116150	LP00003 from the air
95	20	5/086	S	93M.018	5086	9	662237	6116695	looking SW from limnology station
95	21	5/087	S	93M.018	5087	9	662237	6116695	looking SE from limnology station
95	22	5/088	E	93M.018	5088	9	663050	6616700	LP00001 mouth
95	3	5/069	S	93M.018	5069	9	662100	6116200	LP00004 from the air
95	4	5/070	N	93M.018	5070	9	661250	6116300	overview from the air
95	5	5/071	N	93M.018	5071	9	661250	6116300	overview from the air
95	6	5/072	S	93M.018	5072	9	661760	6116780	LP00005 from the air
95	7	5/073	S	93M.018	5073	9	661840	6117140	LP00006 from the air
95	8	5/074	N	93M.018	5074	9	661900	6117360	LP00007 from the air
95	9	5/075	S	93M.018	5075	9	662260	6117320	LP00008 from the air

N.B. The NID is the Numerical Identifier of a feature, in this case, a photograph. The first digit of the NID represents the CD number and the last three digits represent the photo number.

X = Direction not relevant N, E, S, W = Compass Directions

All photographs taken with a standard 35 mm focal length lens.

4.4.6 Sampling Summary

Table 3. Fish sampling effort summary for M26* and its associated streams on September 24, 1997.

Fishing Effort Summary							
Site No.	Method	Depth at sampling	Set		Pull		Species
			Date	Time	Date	Time	
1	Angling	Surface	Sept. 24	1608	Sept. 24	1620	
2	Floating Gill Net	2 m	Sept. 24	1830	Sept. 24	1835	RB
3	Angling	Surface	Sept. 24	1620	Sept. 24	1630	

RB=Rainbow Trout

4.5 Summary of Fish Captured

Table 4. Summary of data from fish sampled in M26*, September 24, 1997.

Lake Name	Spp.	Number of fish	Mean length (mm)	Range of Lengths (mm)
M26*	RB	2	258	235-280

RB = Rainbow Trout

4.6 Fisheries Observations

4.6.1 Fish

Two rainbow trout (*Oncorhynchus mykiss*) were captured at M26* in the floating gill net after five minutes of effort. Angling efforts were unsuccessful.

4.6.2 Habitat

The creek mouths contained significant amounts of emergent aquatic vegetation which could provide good cover. No spawning habitat was observed in any of the streams associated with the lake. A beaver dam maintained the lake level at the head of the outlet and may be a barrier to spawning migration of resident fish.

4.6.2.1 Fisheries Sensitive Zones

The area surrounding one inlet stream (LP00004) and the outlet stream (LP00002) consisted of wetlands that could be considered Fisheries Sensitive Zones.

4.6.2.2 Restoration and Rehabilitation Opportunities

A branch of the Morrison West FSR crosses the outlet approximately 500 metres downstream of the lake. Any restoration opportunities should ensure that this crossing does not prohibit the potential migration of spawning fish.

4.7 Logistics

There were no significant problems in the field work component of this inventory.

Data entry in this report was done using a program called Field Data Information System (FDIS) produced by Ministry of Environment, Lands and Parks of British Columbia. There were multiple releases of this data entry tool throughout production of this report and this caused a loss of significant time. In addition, the Lake Survey Form component of this program was not released until the project was nearly finished causing undue delays.

References

Section A. Standards Documents

The following documents were used as guidelines in conducting this project.

Anon. (1997) Bathymetric Standards for Lake Inventories. British Columbia Ministry of Environment, Lands and Parks, 42 pp.

Anon. (1995) Fisheries Information Summary System: Data Compilation and Mapping Procedures. British Columbia Ministry of Environment, Lands and Parks, and Department of Fisheries and Oceans, 105 pp.

Anon. (1996) A Guide to Photodocumentation, Resources Inventory Committee Manual, Province of British Columbia.

Anon. (1996) Field Key to the Freshwater Fishes of British Columbia, Resources Inventory Committee Manual, Province of British Columbia.

Anon. (1997) User's Guide to British Columbia's Watershed/Waterbody Identifier System, version 2.1, Resources Inventory Committee, Province of British Columbia.

Anon. (1997) Field Data Information System Users Manual. British Columbia Environment, Lands and Parks.

Anon. (1997) Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures.

Anon. (1997) Fish Collection Methods and Standards. Ministry of Environment, Lands and Parks' Fish Inventory Unit in consultation with Gordon Haas of UBC Fish Museum.

Anon. (1997) Standards for Fish and Fish Habitat Mapping. Fisheries Section, Resources Inventory Branch, Resources Inventory Committee

Section B. List of Contacts

The following individuals were contacted during the course of this study.

Deleeuw, D. (1997) Senior Habitat Biologist. Ministry of Environment, Terrace, British Columbia. Personal Communication.

Facchin, Angelo. (1997-1998) Ministry of Environment, Lands and Parks, Victoria, British Columbia. Field Data Information System. Personal Communication.

Giroux, Paul. Fisheries Inventory Specialist. Ministry of Environment. Smithers, British Columbia. Personal Communication.

Hatlevik, Sig. Senior Fisheries Technician. Ministry of Environment. Smithers, British Columbia. Personal Communication.

Hazelwood, G. (1997) Biologist. Terrace, British Columbia. Personal Communication.

Miers, Lynn. (1997-1998) Ministry of Environment, Lands and Parks, Victoria, British Columbia. Field Data Information System. Personal Communication.

Neis, P. (1997). Ministry of Environment, Lands and Parks, Smithers, British Columbia. Personal Communication.

Senka, J. (1997) Environmental Protection. Waste Management Branch, Ministry of Environment, Lands and Parks, Smithers, British Columbia. Personal Communication.

Stewart, R. (1997) Forest Ecosystem Specialist. Ministry of Environment, Kispiox Forest District, Hazelton, British Columbia. Personal communication.

Section C. Field Guides

The following field guides were used for this project.

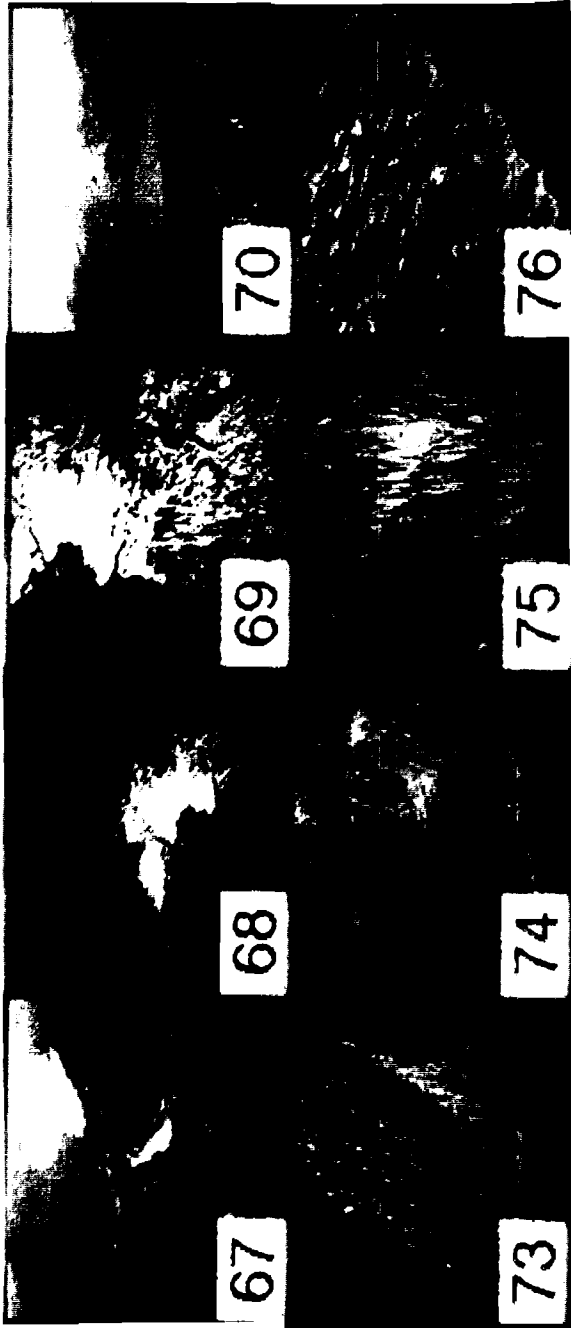
Scott, W. B. and Crossman, E. J. (1973) Freshwater Fishes of Canada. Fisheries Research Board of Canada, Ottawa. Published by Crown.

MacKinnon, Pojar and Coupe. (1992). Plants of Northern British Columbia. B. C. Ministry of Forests and Lone Pine Publishing, Vancouver, British Columbia.

Appendix 1. Photo CD Index Enlargement

The following page is a contact sheet to be used as an index to photographs stored on CD #5. This CD is one of a set of duplicate copies of six CDs that were supplied with the 34 separate lake reports which formed this project.

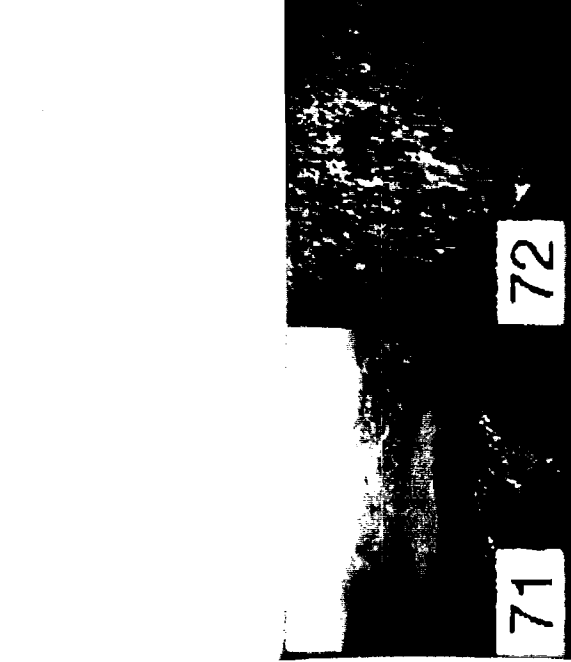
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5/077	N	93M.018	5077	9	662600	6117120	LP00010 mouth
5/078	N	93M.018	5078	9	662600	6117120	LP00010 mouth
5/079	N	93M.018	5079	9	661900	6117360	LP00007 mouth
5/080	S	93M.018	5080	9	662100	6116200	LP00004 mouth
5/081	S	93M.018	5081	9	662200	6116150	LP00003 mouth
5/082	S	93M.018	5082	9	662800	6116850	Northeast typical riparian
5/083	X	93M.018	5083	9	662950	6116800	fish
5/084	N	93M.018	5084	9	662237	6116695	looking NE from the limnology station
5/085	N	93M.018	5085	9	662237	6116695	looking N from limnology station
5/068	S	93M.018	5068	9	662200	6116150	LP00003 from the air
5/086	S	93M.018	5086	9	662237	6116695	looking SW from limnology station
5/087	S	93M.018	5087	9	662237	6116695	looking SE from limnology station
5/088	E	93M.018	5088	9	663050	6616700	LP00001 mouth
5/069	S	93M.018	5069	9	662100	6116200	LP00004 from the air
5/070	N	93M.018	5070	9	661250	6116300	overview from the air
5/071	N	93M.018	5071	9	661250	6116300	overview from the air
5/072	S	93M.018	5072	9	661760	6116780	LP00005 from the air
5/073	S	93M.018	5073	9	661840	6117140	LP00006 from the air
5/074	N	93M.018	5074	9	661900	6117360	LP00007 from the air
5/075	S	93M.018	5075	9	662260	6117320	LP00008 from the air



67

68

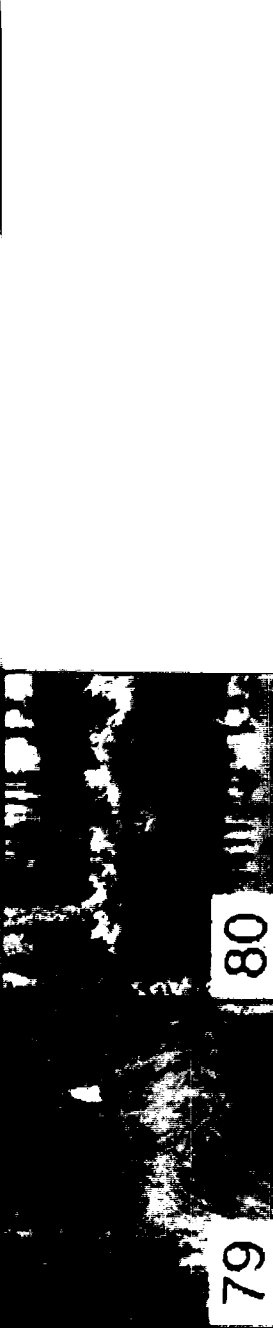
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71

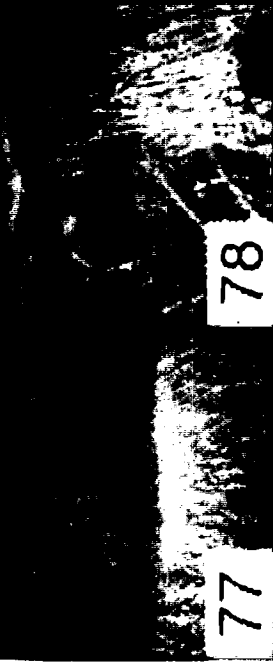
72



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74

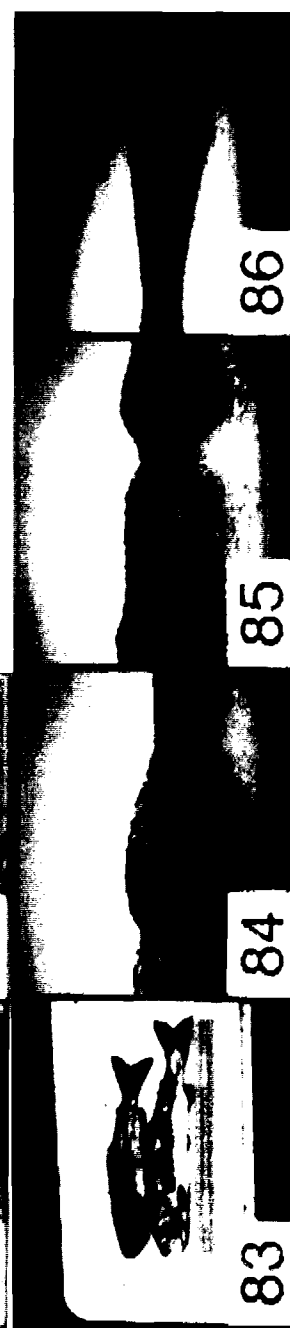
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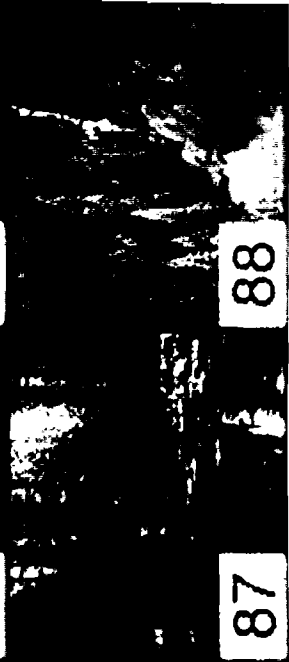
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Appendix 2. Field Data Information System (FDIS)

FDIS Lake Form

16-Jul-98

Reach # 1 ILP Map # ILP #

Watershed Code: 480-598800-10000-00000-0000-0000-000-000-000-000-000

WATERBODY

Waterbody Type Secondary Sample Type Secondary Project ID 06-LBIR-0010-0979-1998

Lake Name Local Name M 26 (Swamp Lake) Fish Form?

Watershed Code 480-598800-10000-00000-0000-0000-000-000-000-000-000

Reach # 1 Air Photo Ref. 30BCC96106 045 Ref. Comment

Waterbody ID 00436BABL ILP Map # ILP # Magnitude 8

NID Map # NID # UTM 9 662225 6116755

TRIM Map #	Year
93M.018	1994
93M.019	1993

Source Method
 Surface Area 78 O O
 Elevation 953 MAP MAP
 Biogeoclimatic Zone SBS

TERRAIN CHARACTERISTICS

Setting VF Aspect SE
 Hillslope Coupling DC Basin Genesis GL
LAND USE NO AG FB FR MI PR UD OT
 Percentage 100

SHORELINE CHARACTERISTICS

Shoreline Type i ii iii iv v
 Percentage 70 30
 Cover ABUN Resorts Camps Boatlaunch
 Rec. Features 0 0 0

INLETS / OUTLETS

Inlets (Perm.) 2 Inlets (Other) 7 Outlets: 1 Spawning hab. present?

I/O	Watershed Code	ILP Map #	ILP #	Comments
O		93M.019	2	
I		93M.018	4	
I		93M.018	5	
I		93M.018	6	
I		93M.018	7	
I		93M.018	8	
I		93M.018	9	
I		93M.018	10	
I		93M.018	11	
I		93M.018	15	

SURVEY INFORMATION

ACCESS

FDIS Lake Form

Reach # ILP Map # ILP #

1

16-Jul-98

Watershed Code: 480-598800-10000-00000-0000-0000-000-000-000-000-000

Date 1997-09-24 to 1997-09-25
 Agency C074 Crew MB/DW

AIR FW H ROAD V2 V4 Auto within
 OFF ROAD FT ATV V4 Distance
 TRAIL? Distance
 Closest Community Babine Lake
 Comments
 at outlet, road comes very close to the lake.

AQUATIC FLORA

EMERGENT VEG. SUBMERGENT VEG.
 Sparse OR % Sparse OR %
 Floating Algae?
 Voucher Specimen

Type	Dom. Species
EMERGENT	yellow pondlily
EMERGENT	cinquefoil
EMERGENT	equisetum
EMERGENT	sedge
SUBMERGENT	P. richardsonii

LAKE BATHYMETRY

Type of Survey EL Littoral Area 30 % Method O Max. Depth 15
 Benchmark Height Max Water Level 0.3
 Benchmark Type/Location
 Comments

PHOTO DOCUMENTATION

Photo (R/F)	Foc Lg	Dir	NID Map #	NID #	UTM (zone/easting/northing)	Method	Comments
95 / 1	ST	E	93M.018	5067	9 663050 6616700	MAP	LP00001 from the air
95 / 10	ST	S	93M.018	5076	9 662600 6117120	MAP	LP00010 air
95 / 11	ST	N	93M.018	5077	9 662600 6117120	MAP	LP00010 mouth
95 / 12	ST	N	93M.018	5078	9 662600 6117120	MAP	LP00010 mouth
95 / 13	ST	N	93M.018	5079	9 661900 6117360	MAP	LP00007 mouth
95 / 14	ST	S	93M.018	5080	9 662100 6116200	MAP	LP00004 mouth
95 / 15	ST	S	93M.018	5081	9 662200 6116150	MAP	LP00003 mouth
95 / 16	ST	S	93M.018	5082	9 662800 6116850	MAP	Northeast typical riparian
95 / 17	ST	X	93M.018	5083	9 662950 6116800	MAP	fish
95 / 18	ST	N	93M.018	5084	9 662237 6116695	GP3	looking NE from the limnolc
95 / 19	ST	N	93M.018	5085	9 662237 6116695	GP3	looking N from limnology st
95 / 2	ST	S	93M.018	5068	9 662200 6116150	MAP	LP00003 from the air
95 / 20	ST	S	93M.018	5086	9 662237 6116695	GP3	looking SW from limnology

FDIS Lake Form

Reach # 1
ILP Map #
ILP #

16-Jul-98

Watershed Code: 480-598800-10000-00000-0000-0000-000-000-000-000-000

95 / 21	ST	S	93M.018	5087	9	662237	6116695	GP3	looking SE from limnology :
95 / 22	ST	E	93M.018	5088	9	663050	6616700	MAP	LP00001 mouth
95 / 3	ST	S	93M.018	5069	9	662100	6116200	MAP	LP00004 from the air
95 / 4	ST	N	93M.018	5070	9	661250	6116300	MAP	overview from the air
95 / 5	ST	N	93M.018	5071	9	661250	6116300	MAP	overview from the air
95 / 6	ST	S	93M.018	5072	9	661760	6116780	MAP	LP00005 from the air
95 / 7	ST	S	93M.018	5073	9	661840	6117140	MAP	LP00006 from the air
95 / 8	ST	N	93M.018	5074	9	661900	6117360	MAP	LP00007 from the air
95 / 9	ST	S	93M.018	5075	9	662260	6117320	MAP	LP00008 from the air

AQUATIC WILDLIFE OBSERVATIONS

Group	Observations
BIR	loon
BIR	raven
INV	dragonfly
MAM	moose trail and 3 beds (lots of tracks)
BIR	ruffed grouse
AMP	frog
BIR	goldeneyes
BIR	osprey

LIMNOLOGICAL STATION WATER QUALITY

Station No. 1 Date 1997-09-24 Time: 09:55
Location UTM 9 662237 6116695 EMS #

METHOD USED

WATER SAMPLE

Secchi Depth 2
Water Color BROW VE
pH (surf/bottom) 8 7.4
Ice Depth

DISSOLVED OXYGEN, TEMPERATURE PROFILE AND CONDUCTIVITY

Depth	DO (d)	T(C)	DO (a)	T (C)	Cond.
0.1	7	12	6.5	12	24
1	6.9	12	6.5	12	
2	6.9	12	6.5	12	
3	6.9	12	6.3	12	
4	6.8	12	6.2	11.5	

FDIS Lake Form

Reach # ILP Map # ILP #
 1

16-Jul-98

Watershed Code: 480-598800-10000-00000-0000-0000-000-000-000-000-000

5	6.5	11.5	5.6	11	
6	4.3	10	3.5	10	
7	2.7	8.5	2.1	8	
8	2.5	7.5	2.1	7	
9	2.4	7	1.8	7	
10	2	7	1.6	7	
11	1.8	6.5	1.5	7	
12	1.8	6.5	1.4	6.5	
13	1.7	6.5	1.3	6.5	
14	0.5	6.5	0.5	6.5	28

H2S:

EQUIPMENT USED							
pH	P2	Water Temp	T2	Conductivity	S4	Dis. Oxygen	D2

COMMENTS

Section	Comments
WEATHER	sunny with a completely clear sky (air temp 20C)
INLETS/OUTLETS	LP00011-the channel is 25cm wide and 3cm deep. At this water level the channel is intermittent with an alder canopy over the creek and cover available under cutbanks. The small gravel substrate may be conducive to spawning at higher water levels.
INLETS/OUTLETS	LP00010-this channel was not found during the ground survey.
INLETS/OUTLETS	LP00009-this channel was not found during the ground survey.
INLETS/OUTLETS	LP00015-there is a trickle of water out of the ground but the channel is not classifiable as a creek.
INLETS/OUTLETS	LP00008-this inlet is a swampy area that is .5m wide and .3m deep. There is no discernable flow and the substrate is all fines.
INLETS/OUTLETS	LP00007-this channel was not found during the ground survey.
INLETS/OUTLETS	LP00006-this channel was not found during the ground survey.
INLETS/OUTLETS	LP00005-there is an old beaver dam upstream of the mouth of this inlet. The channel is 1m deep and 1.5m wide, with no discernable flow, and substrate of fines. Good rearing habitat.
INLETS/OUTLETS	LP00004-the channel is 1m wide and 1m deep with no discernable flow. There is abundant cover present from sedge and cutbanks.
INLETS/OUTLETS	LP00002-the outlet channel is 7m wide, 1.5m deep and is affected by a beaver dam at the end of the lake. There are high quantities of lily pads and sedge providing cover and good rearing habitat.

Appendix 3. Fish Data Collection Form

