Reconnaissance Lake Inventory
of
Unnamed Lake
alias M27*

Waterbody Identifier 00412BABL
Map # 93M.018
UTM 09.664623.6448115

Prepared for:
Ministry of Environment, Lands and Parks
3726 Alfred Avenue
Box 5000
Smithers, British Columbia
V0J 2N0

Prepared by:
BioLith Scientific Consultants Inc.
Box 601
Terrace, British Columbia
V8G 4B5

Approved by:

_____

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	480-598800-10000-61400
Waterbody Identifier	00412BABL
UTM at Lake Outlet	09.664623.6118115
Number of Tributaries on TRIM or FCM	3
Number of Tributaries observed in field	3
Magnitude	7
Elevation	877 m
NTS Map	93M/01
TRIM Map	93M.018 and 93M.019
Biogeoclimatic Zone	SBS
Air Photos	30BCC96106 No. 090

Lake Sampling Summary

Fish Species Present	Rainbow Trout
Lake Survey Type	Secondary (1997 RIC Standards)
Water Surface Area	40 ha
Max. Depth	5.5 m
Secchi Depth	2.5 m
Shoreline Perimeter	3.4 km
Lake Length	1.3 km
Number of Islands	None

Contractor Information

Project Manager:	Name:	Glenn Grieve, RP Bio, BioLith Scientific Consultants Inc.
	Address:	Box 601, Terrace, British Columbia, V8G 4B5
	Phone:	(250) 635-5378
Field Crew:	Names:	Melinda Bahr, Doug Webb
Data Entry by:	Names:	Michelle Prins
Report Prepared by:	Names:	Melinda Bahr
Report Edited by:	Names:	Glenn Grieve
Genetic sample analysis by:	Name:	Susan Pollard
	Address:	Fisheries Branch, 780 Blanshard St., Victoria, British Columbia, V8V 1X4
	Phone:	(250) 387-4573

Acknowledgments

Funding for this inventory was provided by Forest Renewal BC.

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

Table of Contents

List of Tables

List of Figures

List of Appendices

List of Attachments Available at MoELP, Smithers, B.C.

Photo CD's
Photographs and Negatives
Photocopies of Original Field Data

1.0 Introduction

1.1 Project scope/Objectives

The primary purpose of the reconnaissance inventory of M27* 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. M27* 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

Unnamed Lake M27* is located approximately 70 kilometres northeast of Smithers Airport and about 15 kilometres northeast of Smithers Landing, B.C. The latitude of M27* is 55° 10' 55.8" and the longitude is 126° 24' 52.1". The location of the lake is given in Figure 1.

1.2.1 Access

The field crew reached this lake by helicopter however it was accessible through cutblocks off the Morrison Main Forest Service Road (FSR) and the Morrison West FSR. The helicopter was able to land on the road at the edge of the cutblock on the east side of the lake. The flight to the lake from Smithers, B.C. takes approximately 30 minutes.

2.0 Resource Information

A thorough data search of Ministry of Environment lake files yielded no preexisting information about M27*. The west and east sides of the lake had both been logged to the shore. Small riparian areas were located around the two inlet streams at the north end and around the outlet at the southern end of the lake.

2.1 Points of Interest

This lake has potential for recreational activities including hiking and camping. M27* may have significant fishing pressure as three boats were found moored at the northeastern side of the lake where the helicopter landed. Potential camp sites were located in the remaining forested area around the lake.

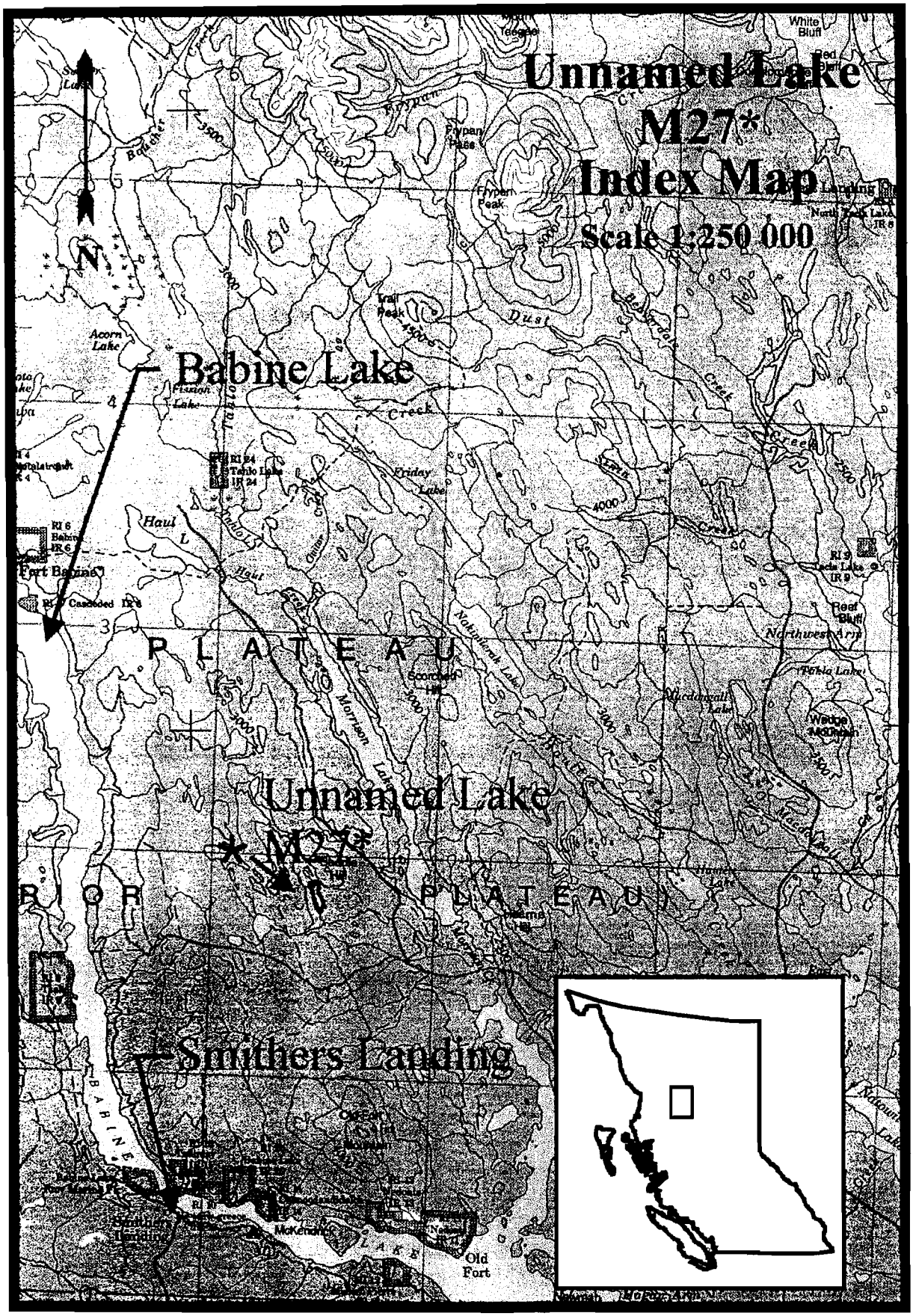


Figure 1. Map showing the location of Unnamed Lake (M27*), Waterbody Identifier 00412BABL.

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 M27* 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

M27* is located on an interior plateau of generally low relief. The elevation at the lake was 877 metres and it had a surface area of 40 ha. The surrounding country had recreational potential for hiking and camping. Seven rainbow trout were captured at M27*.

4.2 Immediate Shoreline

The majority of the shoreline of M27* consisted of wetlands. The shoreline was lined with sedges (*Carex spp.*), and yellow pondlily (*Nuphar spp.*) At the creek mouths the percentage of emergent aquatic vegetation was significantly higher and included Potamogeton spp., cinquefoil (*Potentilla palustris*) and buckbean (*Menyanthes trifoliata*). Submergent aquatic vegetation around the lake was sparse but some mare's tail (*Hippuris vulgaris*) was observed. Substrate around the lake consisted of organic fines.

Terrestrial plants observed on the lake shore included; Pine *(Pinus spp.)*, Spruce *(Picea spp.)*, Fir *(Abies spp.)*, Fireweed *(Epilobium angustifolium)* and Alder *(Alnus spp.)*.

4.3 Surrounding Country

M27* is surrounded by rolling hills of the Nechako Plateau in the SBS Biogeoclimatic zone. The majority of these hills are covered by a natural coniferous forest. Extensive forest development has occurred in the area and cutblocks are located throughout the region as well as on both sides of the lake. Photos of the surrounding area are found on CD#5 photos 91-92. The closest mountains are Old Fort Mountain approximately 12 kilometres to the south and Wedge Mountain approximately 25 kilometres to the northeast. Saddle Hill is located approximately two kilometres to the northeast of M27*.

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 M27* 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 M27* showing limnological station, fish sampling sites, inlet and outlet streams and photograph locations and directions is given in Figure 3.

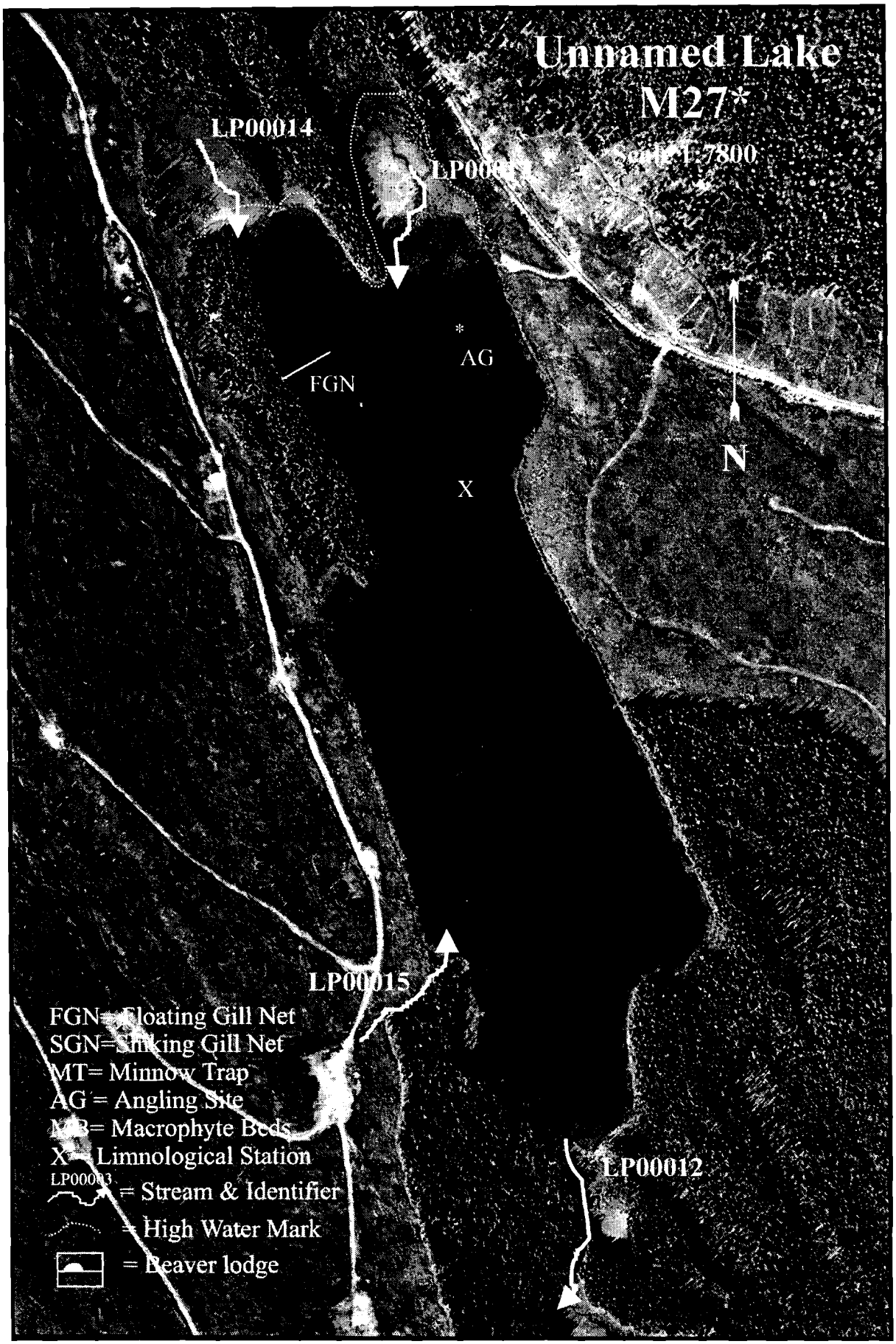


Figure 2. Enlargement of Unnamed Lake (Waterbody Identifier 00412BABL) from aerial photograph 30BCC96106 No. 090.

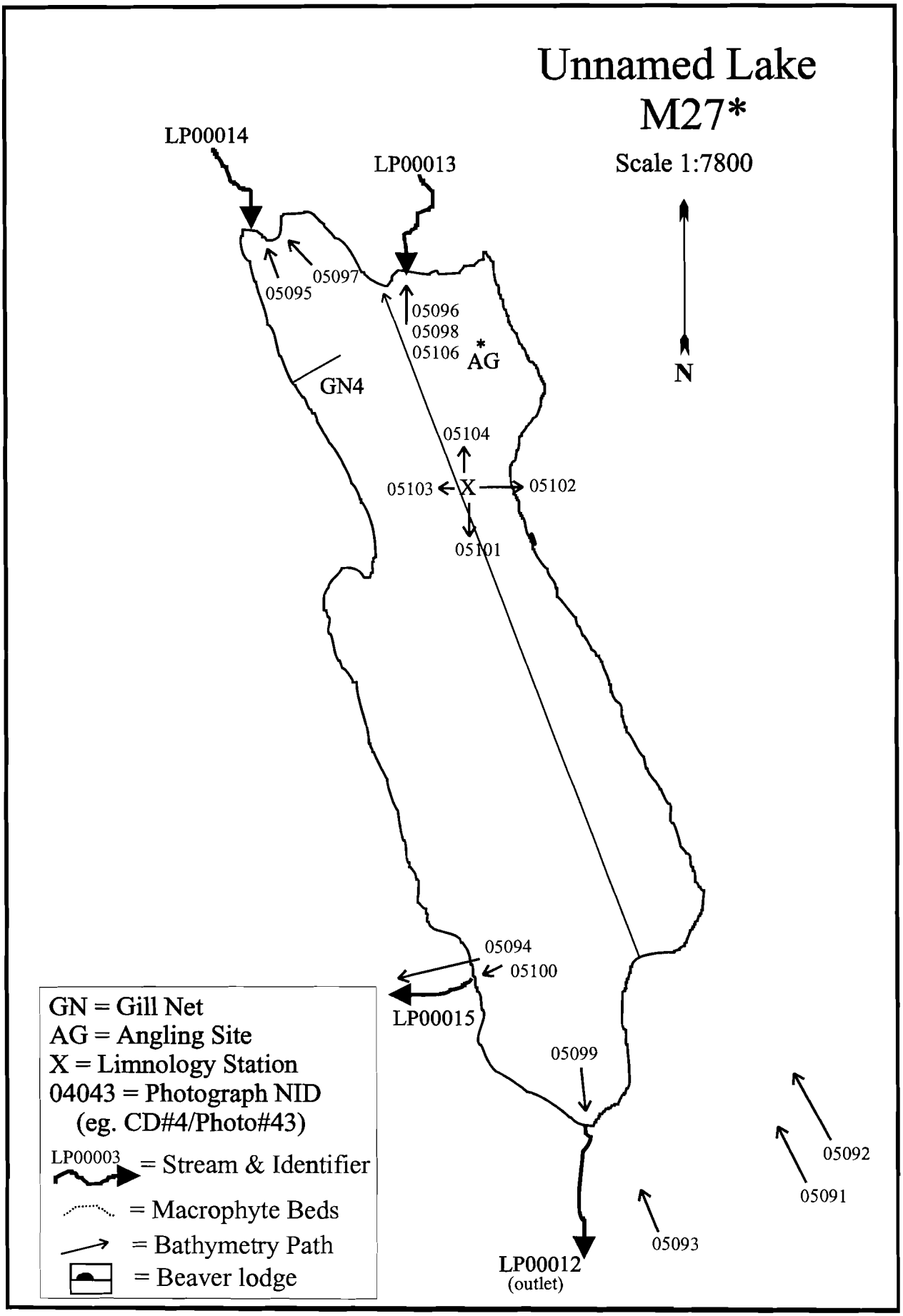


Figure 3. Outline map of Unnamed Lake (Waterbody Identifier 00412BABL) showing limnological station, fish sampling sites, inlet and outlet streams, and photograph locations and directions.

4.4.3 Streams

Table 1. A list of streams associated with M27*.

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 M27*. These streams were all found in the field. 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	LP00011	Yes	9U	672200	6115440	480-598800-10000-61400	Unnamed Lake M27* Outlet;
93M.018	06-LBIR-0010-0003-1998	LP00012	Yes	9U	664580	6118750	480-598800-10000-61400	Unnamed Lake M27* Inlet;
93M.018	06-LBIR-0010-0003-1998	LP00013	Yes	9U	664300	6117750	480-598800-10000-61400	Unnamed Lake M27* Inlet;
93M.018	06-LBIR-0010-0003-1998	LP00014	Yes	9U	664620	6117680	480-598800-10000-61400	Unnamed Lake M27* Inlet;

4.3.4.1 Streams Surveyed

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

LP00011. The outlet stream had a beaver dam across it that established the lake level. This stream may have had habitat significant to fish resident in the lake, however the beaver dam formed a likely barrier to migration.

All three of the inlets and the outlet recorded on TRIM and Forest Cover Maps were found in the field.

4.4.4 Limnological Sampling

Limnological sampling was conducted at 1437 hours on September 9, 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

M27* was not distinctly thermally stratified. Temperature decreased gradually with depth. Dissolved oxygen was also not stratified with the concentration levels remaining constant with depth. M27* appeared to be oligotrophic.

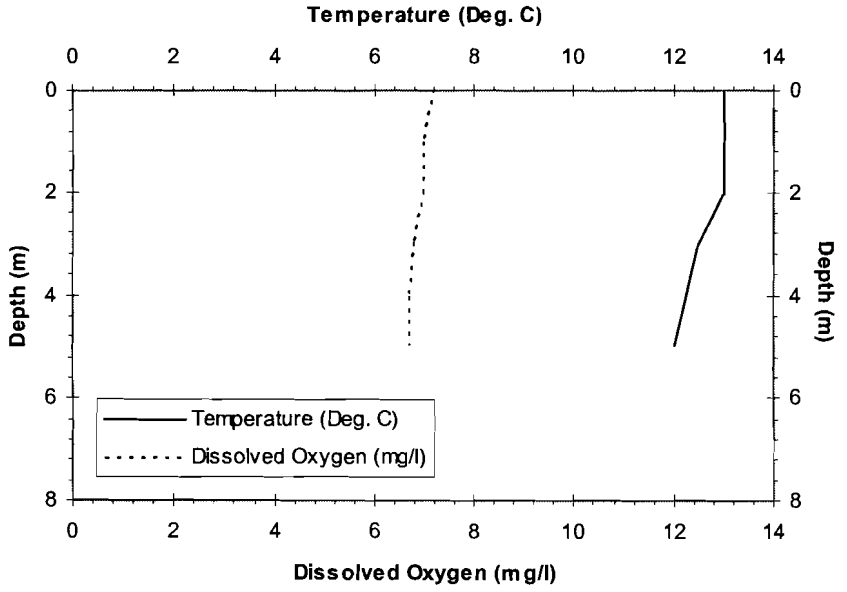


Figure 4. Temperature and dissolved oxygen profiles for M27* on September 25, 1997.

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
85	1	5/091	N	93M.018	5091	9	665300	6117100	overview from the air
85	10	5/100	W	93M.018	5100	9	664620	6117680	LP00014 mouth
85	11	5/101	S	93M.018	5101	9	664687	6118265	looking south from the limnology station
85	12	5/102	E	93M.018	5102	9	664687	6118265	looking east from the limnology station
85	13	5/103	W	93M.018	5103	9	664687	6118265	looking west from limnology station
85	14	5/104	N	93M.018	5104	9	664687	6118265	looking north from limnology station
85	15	5/105	X	93M.018	5105	9	664650	6118700	fish
85	16	5/106	N	93M.018	5106	9	664550	6118750	typical riparian
85	2	5/092	N	93M.018	5092	9	665300	6117100	overview from the air
85	3	5/093	N	93M.018	5093	9	664840	6117400	LP00011 from the air
85	4	5/094	W	93M.018	5094	9	664620	6117680	LP00014 from the air
85	5	5/095	N	93M.018	5095	9	664300	6117750	LP00013 from the air
85	6	5/096	N	93M.018	5096	9	664580	6117750	LP00012 from the air
85	7	5/097	N	93M.018	5097	9	664300	6117750	LP00013 mouth
85	8	5/098	N	93M.018	5098	9	664580	6117750	LP00012 mouth
85	9	5/099	S	93M.018	5099	9	664840	6117400	LP00011 mouth

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 M27* and its associated streams on September 25, 1997.

Fishing Effort Summary							
Site No.	Method	Depth at sampling	Set		Pull		Species
			Date	Time	Date	Time	
1	Angling	Surface	Sept. 25	1230	Sept. 25	1250	
2	Floating Gill Net	2 m	Sept. 25	1305	Sept. 25	1325	RB

RB=Rainbow Trout

4.5 Summary of Fish Captured

Table 4. Summary of data from fish sampled in M27*, September 25, 1997.

Lake Name	Spp.	Number of fish	Mean length (mm)	Range of Lengths (mm)
M27*	RB	7	235	185-285

RB=Rainbow Trout

4.6 Fisheries Observations

4.6.1 Fish

Seven adult rainbow trout (*Oncorhynchus mykiss*) were captured in the floating gill net which was set for 20 minutes. Angling efforts were unsuccessful.

4.6.2 Habitat

The habitat for fish in this lake appeared to be good. Emergent vegetation found at the creek mouths and edges of the lake could provide cover for fish.

4.6.2.1 Fisheries Sensitive Zones

Two of the inlet streams (LP00014 and LP00013) and the outlet stream (LP00012) were surrounded by wetlands that could be considered Fisheries Sensitive Zones.

4.6.2.2 Restoration and Rehabilitation Opportunities

The west and east sides of the lake had been logged to the shore. The cutblocks were reforested with pine that appeared to be regenerating well. Wind on the lake was strong because of the lack of forested edges. Consideration should be given to accelerating the regeneration of conifers along the lake edge.

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.

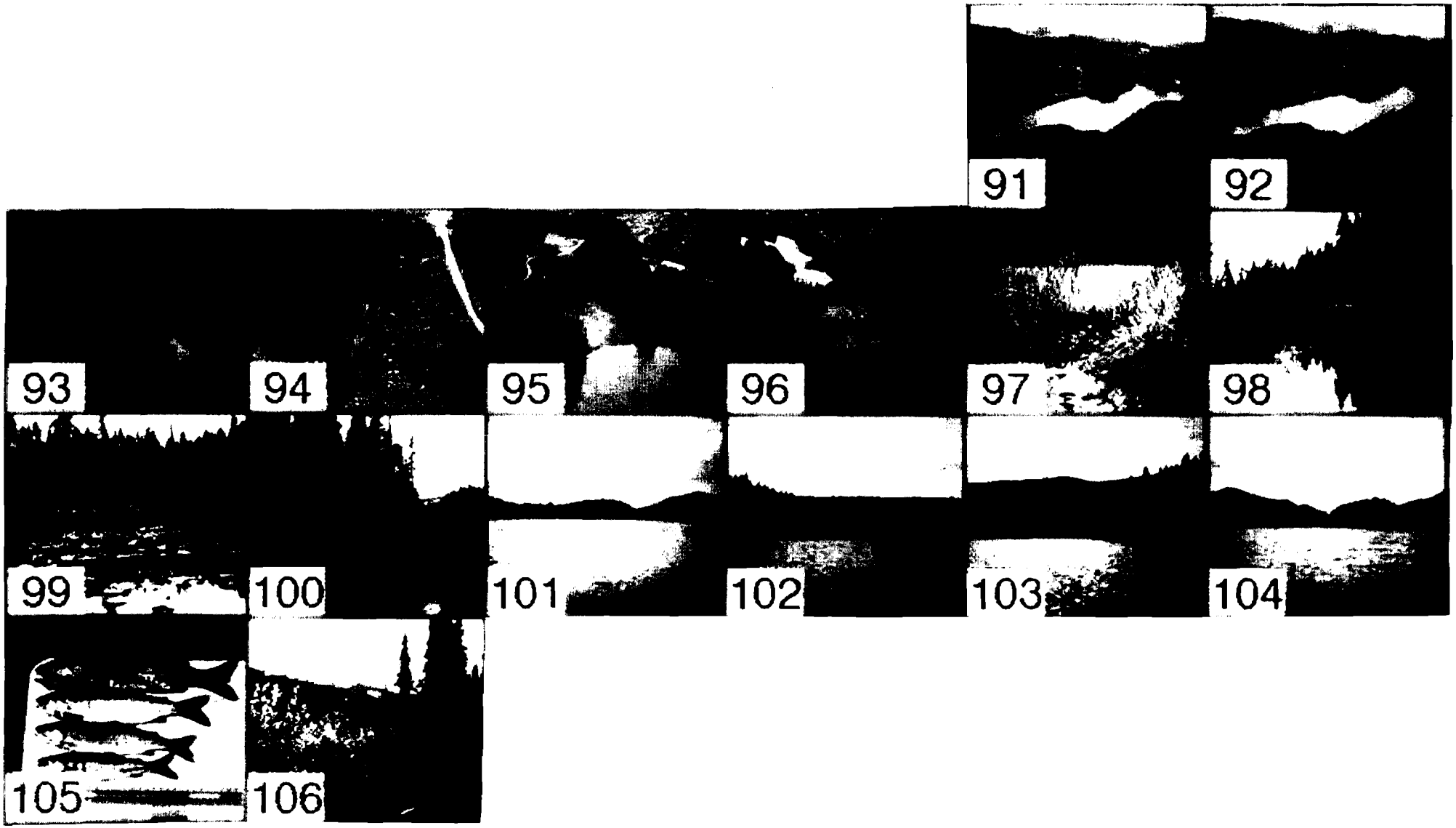
Scott, W. B. and Crossman, E. J. (1973) Freshwater Fishes of Canada. Fisheries Research Board of Canada, Ottawa. Published by Crown.

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.

CD/Photo Number	Direction	NID Map	NID	UTM Zone	Easting	Northing	Comment
5/091	N	93M.018	5091	9	665300	6117100	overview from the air
5/100	W	93M.018	5100	9	664620	6117680	LP00014 mouth
5/101	S	93M.018	5101	9	664687	6118265	looking south from the limnology station
5/102	E	93M.018	5102	9	664687	6118265	looking east from the limnology station
5/103	W	93M.018	5103	9	664687	6118265	looking west from limnology station
5/104	N	93M.018	5104	9	664687	6118265	looking north from limnology station
5/105	X	93M.018	5105	9	664650	6118700	fish
5/106	N	93M.018	5106	9	664550	6118750	typical riparian
5/092	N	93M.018	5092	9	665300	6117100	overview from the air
5/093	N	93M.018	5093	9	664840	6117400	LP00011 from the air
5/094	W	93M.018	5094	9	664620	6117680	LP00014 from the air
5/095	N	93M.018	5095	9	664300	6117750	LP00013 from the air
5/096	N	93M.018	5096	9	664580	6117750	LP00012 from the air
5/097	N	93M.018	5097	9	664300	6117750	LP00013 mouth
5/098	N	93M.018	5098	9	664580	6117750	LP00012 mouth
5/099	S	93M.018	5099	9	664840	6117400	LP00011 mouth


91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106

Appendix 2. Field Data Information System (FDIS)

FDIS Lake Form

16-Jul-98

Reach # 1 | ILP Map # | ILP #

Watershed Code: 480-598800-10000-61400-0000-0000-000-000-000-000-000-000

WATERBODY

Waterbody Type Secondary **Sample Type** Secondary **Project ID** 06-LBIR-0010-0989-1998

Lake Name **Local Name** M27 (Unnamed) Fish Form? ☒

Watershed Code 480-598800-10000-61400-0000-0000-000-000-000-000-000-000

Reach # 1 **Air Photo Ref.** 30BCC96106 090 **Ref. Comment**

Waterbody ID 00412BABL **ILP Map #** **ILP #** **Magnitude** 7

NID Map # **NID #** **UTM** 9 664623 6118115

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

		Source	Method
Surface Area	40	O	O
Elevation	877	MAP	MAP
Biogeoclimatic Zone		SBS	

TERRAIN CHARACTERISTICS

Setting VF **Aspect** S

Hillslope Coupling DC **Basin Genesis** GL

LAND USE	NO	AG	FB	FR	MI	PR	UD	OT
Percentage	40		60					

SHORELINE CHARACTERISTICS

Shoreline Type	i	ii	iii	iv	v
Percentage		20		80	

Cover ABUN

	Resorts	Camps	Boatlaunch
Rec. Features	0	0	0

INLETS / OUTLETS

 # Inlets (Perm.) 1 **Inlets (Other)** 2 **Outlets:** 1 **Spawning hab. present?** ☐

I/O	Watershed Code	ILP Map #	ILP #	Comments
O		93M.019	11	
I		93M.018	12	
I		93M.018	13	
I		93M.018	14	

SURVEY INFORMATION

Date 1997-09-25 **to** 1997-09-25

Agency C074 **Crew** MB/DW

AQUATIC FLORA

EMERGENT VEG. **SUBMERGENT VEG.**

Sparse ☒ **OR** **%** Sparse ☒ **OR** **%**

Floating Algae? ☐

Voucher Specimen

ACCESS

AIR ☐ FW ☒ H **ROAD** ☒ V2 ☐ V4 **Auto within** 50

OFF ROAD ☐ FT ☐ ATV ☐ V4 **Distance**

TRAIL? ☐ **Distance**

Closest Community Babine Lake

Comments

cutblock down to edge of lake

FDIS Lake Form

Reach # 1 | ILP Map # | ILP #

16-Jul-98

Watershed Code: 480-598800-10000-61400-0000-0000-000-000-000-000-000-000

Type	Dom. Species
EMERGENT	yellow pondlily
EMERGENT	sedge
SUBMERGENT	mare's tail
SUBMERGENT	P. richardsonii

LAKE BATHYMETRY

Type of Survey EL **Littoral Area** 100 % **Method** O **Max. Depth** 5.5

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
85 / 1	ST	N	93M.018	5091	9	665300	6117100	MAP	overview from the air
85 / 10	ST	W	93M.018	5100	9	664620	6117680	MAP	LP00014 mouth
85 / 11	ST	S	93M.018	5101	9	664687	6118265	GP3	looking south from the limn
85 / 12	ST	E	93M.018	5102	9	664687	6118265	GP3	looking east from the limno
85 / 13	ST	W	93M.018	5103	9	664687	6118265	GP3	looking west from limnology
85 / 14	ST	N	93M.018	5104	9	664687	6118265	GP3	looking north from limnolog
85 / 15	ST	X	93M.018	5105	9	664650	6118700	MAP	fish
85 / 16	ST	N	93M.018	5106	9	664550	6118750	MAP	typical riparian
85 / 2	ST	N	93M.018	5092	9	665300	6117100	MAP	overview from the air
85 / 3	ST	N	93M.018	5093	9	664840	6117400	MAP	LP00011 from the air
85 / 4	ST	W	93M.018	5094	9	664620	6117680	MAP	LP00014 from the air
85 / 5	ST	N	93M.018	5095	9	664300	6117750	MAP	LP00013 from the air
85 / 6	ST	N	93M.018	5096	9	664580	6117750	MAP	LP00012 from the air
85 / 7	ST	N	93M.018	5097	9	664300	6117750	MAP	LP00013 mouth
85 / 8	ST	N	93M.018	5098	9	664580	6117750	MAP	LP00012 mouth
85 / 9	ST	S	93M.018	5099	9	664840	6117400	MAP	LP00011 mouth

AQUATIC WILDLIFE OBSERVATIONS

Group	Observations
BIR	4 unidentified ducks

LIMNOLOGICAL STATION WATER QUALITY

Station No. 1 **Date** 1997-09-25 **Time:** 14:37

FDIS Lake Form

Reach # 1 | ILP Map # | ILP #

16-Jul-98

Watershed Code: **480-598800-10000-61400-0000-0000-000-000-000-000-000-000**

Location UTM 9 664687 6118265 **EMS #**

	METHOD USED	WATER SAMPLE
Secchi Depth	2.5	
Water Color	BROW	VE
pH (surf/bottom)	6	6.5
Ice Depth		

DISSOLVED OXYGEN, TEMPERATURE PROFILE AND CONDUCTIVITY

Depth	DO (d)	T(C)	DO (a)	T (C)	Cond.
0.1	7.4	13	6.9	13	41
1	7	13	6.9	13	
2	7.1	13	6.8	13	
3	6.9	12.5	6.6	12.5	
4	6.8	12	6.6	12.5	
5	6.7	12	6.7	12	42

H2S:

EQUIPMENT USED

pH	P2	**Water Temp**	T2	**Conductivity**	S4	**Dis. Oxygen**	D2

COMMENTS

Section	Comments
AQUATIC WILDLIFE OBSERVATION	visual observation of 10 fry near helicopter landing
TERRAIN CHARACTERISTICS	cutblocks ar replanted with pines/ logged to shores of lake
INLETS/OUTLETS	LP00013-the inlet has no discernable flow. The channel is .5m wide and .5m deep with cover available from cutbanks.
INLETS/OUTLETS	LP00012-the outlet stream is a swampy channel between 1-3m wide and less than .5m deep. There is no discernable flow and rearing cover is provided by cutbanks and lilypads.
INLETS/OUTLETS	LP00011-the inlet has no discernable flow but abundant cover.
INLETS/OUTLETS	LP00014-the channel is intermittent running through a cutblock. The substrate at the mouth is fines.

Appendix 3. Fish Data Collection Form

Fish Data Collection Form

A. Location Referencing

Gazetted Name UNNAMED LAKE **Alias** M27
Watrshed Cod 480-598800-10000-61400-0000-0000-000-000-000-000-0 **WBID #** 00412BABL
Reach # 1 **Interim Locational ID:** **Project ID** 06-LBIR-0010-0989-1998
(BCGS/NTS) Map # 93M.018 **Locational Point**

B. Survey Information

Survey Dat 1997/09/25 **to** 1997/09/25 **Agency** C074
Crew MB /DW/ **Fish Collection Permit** 34770-20
General Comments

C. Station Identification and Conditions

Site	Method	#	UTM Coordinates	Temp	Con	Vis	Turb
1	AG	1					
2	GN	7					

D. Fish Summary

Site	Meth	#	H/P	Species	Stage	Age	Tot #	Min Lgth	Max Lgth	Fish Act
1	AG	1	10							
2	GN	7	1	RB	J		7	185	300	R

E. Gear Specifications

Site	Meth	#	H/P	D In	T In	D Out	T Out	EF Sec	EF Lgth	EF Wdth	Encl	Nt Typ	Lgth	Dpth	Mesh	IN Sz	Set	Hab	Volt	Freq	Pul	Make	Model
1	AG	1	10	09/25	1230	09/25	1250																
2	GN	7	1	09/25	1305	09/25	1325					FL	100	2	ST		SU	L					

F. Individual Fish Data

Site	Meth	#	H/P	Species	Lgth	Wgt	Sex	Mat	Age Str	Age Smp #	Age	Vouch #	Gen Str	Gen Smp #	Comments	Roll	Fr
1	AG	1	10														
2	GN	7	1	RB	285	150	F	MT	SC	1			FR	1	GILL PARASITES	85	15
2	GN	7	1	RB	245	150	M	MT	SC	2			FR	2	EATING INSECTS/NO PARASITES	85	15
2	GN	7	1	RB	225	120	U	IM	SC	3			FR	3	EATING INSECTS/NO PARASITES	85	15
2	GN	7	1	RB	185	60	U	IM	SC	4			FR	4	EATING INSECTS/NO PARASITES	85	15