

## LAKE SURVEY DATA

WSD # 100-1018-000  
2293-02-02

NAME: Wahleach Lake MAP. REF. CODE NO. 92 H/4 92H/5  
 SURVEYED BY: D. Coombes DATE SURVEYED: Sept 28, 29, /81  
R. Knight MANAGEMENT UNIT: 2 - 3

WATERSHED CODE: 00-0735-000-000-000-000DATA ON FILE:

Physical Data	<u>x</u>	Netting Results	<u>x</u>
Contour Map	<u>x</u>	Fish Samples	<u>-</u>
Geography	<u>x</u>	Stomach Analysis	<u>x</u>
Chemical	<u>x</u>	Scale Reading	<u>-</u>
Flora	<u>x</u>	Resort & Campsite	<u>x</u>
Invertebrates	<u>x</u>	Habitation	<u>x</u>
Temperature Series	<u>x</u>	Access	<u>x</u>
Obstructions & Pollutions	<u>x</u>	Oxygen	<u>x</u>
Stocking	<u>x</u>	Photography	<u>-</u>
Miscellaneous	<u>x</u>	Rehabilitation <u>    </u> Year	<u>-</u>
		Bench Mark	<u>x</u>

LOCATION: 21 km. south-west by air  
from Hope Village.

Latitude, Longitude 49° 13' : 121° 37' U.T.M. 10.6010.54530

Drainage, System Wahleach Creek → Fraser River → Georgia Strait also, via  
the Penstock tunnel → Fraser River...

Elevation 638.6 m

PHYSICAL DATA:

Surface Area 4,602,700 sq. m. Volume 61,620,000 cu. m.

Area, 6 m contour 3,501,900 sq. m. Shoreline Perimeter 14,640 m.

Maximum Depth 29 m. Mean Depth 13.4 m.

Filterable Residue (T.D.S.) 29 mg/l. Secchi Reading 6+ m.

Maximum Storm Level- 644m Full Pool- 641m Low Pool- 624.8m  
Bench Mark 638.59 (Lake level) m.

GEOGRAPHY:

Immediate Shoreline: Wahleach Lake has a logged fringe, typical of reservoirs. There are a lot of stumps and a great deal of floating logs, snags, deadheads and much sunken material. Much of the north eastern shore and all the creek fans have sandy or gravelly beaches. The rest of the lake has a steep boulder rock or cobble shore.

Surrounding Country: The lake is surrounded by steep mountains which rise steeply from the lake on the west and the southeast. To the northeast, there is a gentler slope before the mountain rise steeply to the alpine ridges. Much logging has already taken place and will probably continue. The slopes are heavily forested in hemlock, cedar or amabilis fir.

LAKE Wahleach

GEOGRAPHY (continued)

LAKE DRAINAGE: There is a stream survey on file in Surrey, at the Fish and Wildlife Office there.

GENERAL INFORMATION

- ACCESS:
1. **Directions:** Travelling north on the 401 towards Hope, turn right approx. 9 km. north of the Wahleach Power Station onto a section of the old highway (There are a couple of signs saying "Jones Lake" at the turnoff). Travel approx. 0.6 km. and turn right up a steep, switch-backed logging road. Continue on approx. 9 km., staying on the main road. The lake will be seen on the right side of the road.
  2. **Road Type & Conditions:** The road up the mountainside is rough, potholed and narrow, with many logging trucks travelling along it. The other roads are paved and in excellent condition.
  3. **Restrictions, Prohibitions:** None.

RESORTS & CAMPSITES: Jones Lake fishing camp-cabins, campsites, picnic site and boat launch. B.C. Parks Branch parking lot and picnic site, with an almost unusable boat launch.

OTHER HABITATIONS: None. There is a building at the mouth of the tunnel.

OBSTRUCTIONS & POLLUTIONS: Lots of wood debris from the formation of the reservoir, avalanches, floods and logging operations finds its way into the lake.

MISCELLANEOUS COMMENTS :- The tributaries of this lake are closed to angling. The lake is generally known as Jones Lake.

- The lake is oligotrophic. Adding nutrients would increase production, if it could be kept fairly full. The highest transient height would be 644 meters; high pool is 641.6 meters, and minimum pool is 624.8 meters. Minimum pool would limit production drastically. The lake level in the air photo was close to the level at the time of the survey.

- Canada Geese flew by but did not land.

Minimum pool

Wahleach Lake was stocked with Rainbow trout in 1930 (15,000), and with Kokanee eggs in 1934, 35, and 36 (50,000 each time).

LAKE: Wahleach STATION: Limno #1

DATE: Sept. 28/81 EQUIS NO: 1130227/ 115220W

LIGHT PENETRATION:

Secchi Disc 6 + m 10 /10 O.C. Time 1200 hrs.  
Wind Velocity 10-20 km/hr. Direction N.W.  
Surface Condition Light to moderate chop

WATER CHEMISTRY:

pH: Surface 6.6 H<sub>2</sub>S: Surface not tested milligrams/liter  
26 m 6.0 m " "  
m m " "  
m m " "

Filterable Residue at 105°C (T.D.S.):

Surface 29 milligrams/liter  
26 m 38 " "  
m " "  
m " "

Specific Conductance:

Surface 28 umhos/cm  
26 m 33 " "  
m " "

Method and/or Agency Used Environmental Laboratory

Report date October 19, 1981

BENCH MARK: Located        m above the present water level in a        m tree

There is a water gauge in the lake near the Hydro outlet (638.59 at the time of survey).

SOUNDING DEVICE: JMF 707

MAP OUTLINE: Air Photo BC 80065: 105, 181

AQUATIC PLANTS: Ranunculus flammulus  
Callitriche sp

VERTICAL TEMPERATURE RECORD SHEET FOR LAKES

Lake Wahleach Station Limno #1

Date Sept. 28/81 Time 1200

Air Temperature °C 10.1 Instrument Used YSI Tele-thermometer

Remarks \_\_\_\_\_

Depth in m.	Temperature in °C	Depth in m.	Temperature in °C	Depth in m.	Temperature in °C
Surface	13.5	20.5		41.0	
0.5		21.0		41.5	
1.0	13.3	21.5		42.0	
1.5		22.0		42.5	
2.0	13.2	22.5		43.0	
2.5		23.0		43.5	
3.0		23.5		44.0	
3.5		24.0		44.5	
4.0	13.2	24.5		45.0	
4.5		25.0	9.0	45.5	
5.0		25.5		46.0	
5.5		26.0	Bottom	46.5	
6.0	13.2	26.5		47.0	
6.5		27.0		47.5	
7.0		27.5		48.0	
7.5		28.0		48.5	
8.0	13.1	28.5		49.0	
8.5		29.0		49.5	
9.0		29.5		50.0	
9.5		30.0		50.5	
10.0	12.5	30.5		60.0	
10.5		31.0		65.0	
11.0	12.1	31.5		70.0	
11.5		32.0		75.0	
12.0	11.5	32.5		80.0	
12.5		33.0		85.0	
13.0	11.1	33.5		90.0	
13.5		34.0		95.0	
14.0	10.3	34.5		100.0	
14.5		35.0		105.0	
15.0	10.0	35.5		110.0	
15.5		36.0		115.0	
16.0		36.5		120.0	
16.5		37.0		125.0	
17.0		37.5		130.0	
17.5		38.0		135.0	
18.0	9.5	38.5		140.0	
18.5		39.0		145.0	
19.0		39.5		150.0	
19.5		40.0			
20.0	9.5	40.5			

OXYGEN RECORD SHEET

Lake Wahleach Station Limno #1

Date Sept. 28, 1981 Time 1200

Instrument Used Hach kit

Remarks \_\_\_\_\_

Depth in m.	O <sub>2</sub> in mg/l	Depth in m.	O <sub>2</sub> in mg/l	Depth in m.	O <sub>2</sub> in mg/l
Surface	8	20.5		41.0	
0.5		21.0		41.5	
1.0		21.5		42.0	
1.5		22.0		42.5	
2.0		22.5		43.0	
2.5		23.0		43.5	
3.0		23.5		44.0	
3.5		24.0		44.5	
4.0		24.5		45.0	
4.5		25.0		45.5	
5.0		25.5		46.0	
5.5		26.0		46.5	
6.0		26.5	6	47.0	
6.5		27.0	Bottom	47.5	
7.0		27.5		48.0	
7.5		28.0		48.5	
8.0		28.5		49.0	
8.5		29.0		49.5	
9.0		29.5		50.0	
9.5		30.0		50.5	
10.0		30.5		60.0	
10.5		31.0		65.0	
11.0		31.5		70.0	
11.5		32.0		75.0	
12.0		32.5		80.0	
12.5		33.0		85.0	
13.0		33.5		90.0	
13.5		34.0		95.0	
14.0		34.5		100.0	
14.5		35.0		105.0	
15.0		35.5		110.0	
15.5		36.0		115.0	
16.0		36.5		120.0	
16.5		37.0		125.0	
17.0		37.5		130.0	
17.5		38.0		135.0	
18.0		38.5		140.0	
18.5		39.0		145.0	
19.0		39.5		150.0	
19.5		40.0			
20.0		40.5			

FISH SAMPLE RECORD

Lake Wahleach

Net #1. Type\* Sinking Date set Sept. 28/81 Time 12:10 hours  
Monofilament Gill Date lifted Sept. 28/81 Time 16:45 hours

Net Dimensions: length 91.4 m. depth 2.4 m.

Shallow end mesh size 25.4 mm. and depth 6 m. Substrate Cobble and Wood

Deep end mesh size 63.5 mm. and depth 15 m. Substrate silt and wood

Net #2. Type\* sinking Date set Sept. 28/81 Time 1232 hours  
Monofilament Gill Net Date lifted Sept. 28/81 Time 1715 hours

Net Dimensions: length 91.4 m. depth 2.4 m.

Shallow end mesh size 25.4 mm. and depth 4 m. Substrate Wood and Silt

Deep end mesh size 63.5 mm. and depth 8 m. Substrate Wood and Silt

Net #3. Type\* Sinking Date set Sept. 28/81 Time 1707 hours  
Monofilament Gill Net Date lifted Sept. 29/81 Time 1204 hours

Net Dimensions: length 91.4 m. depth 2.4 m.

Shallow end mesh size 63.5 mm. and depth 6 m. Substrate Wood and Silt

Deep end mesh size 25.4 mm. and depth 10 m. Substrate Wood and Silt

SPECIES	NET #			ANGLED	Sub TOTAL	SCALE SAMPLES TAKEN	# PRESERVED
	1	2	3				
Rainbow Trout	1	2	22	0	25	SC	0
Kokanee			7	0	7	SC	0
See following sheet for totals on this lake.							

MINNOW TRAPS:

	Hours	Depth	Substrate	Fish Caught
#1	22	1 m	Wood, cobbles	0
#2	22	1 m	Wood, silt	0
#3	26	1 m	Wood, silt, gravel	0

MINNOW TRAP BAIT: Cheese, bread, meat.

\* Sinking or floating, twisted or monofilament, or beach seine

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LAKE SURVEYS - FIS

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9, 1981

t & Twisted Gill Nets

SEX	MATURITY	SAMPLE TYPE	AGE	BOT ORGA
M	IMM	SC		
?	IMM	SC		
F	IMM	SC		
M	IMM	SC		
M	IMM	SC		
M	IMM	SC		
M	IMM	SC		
M	IMM	SC		
M	IMM	SC		
F	IMM	SC		
F	IMM	SC		
M	IMM	SC		
?	IMM	SC		
F	IMM	SC		
F	IMM	SC		
M	IMM	SC		
F	IMM	SC		



LAKE SURVEYS - FISH DATA SHEET

LEGEND:

1. MATURITY:

2. SAMPLE TYPE:

3. SEX:

IMM - Immature  
 MG - Maturing  
 MT - Mature  
 R - Ripe  
 SP - Spent  
 ? - Not Known

TG - Fish Tag  
 OT - Otolith  
 SC - Scale

M - Male  
 F - Female  
 ? - Not Known

LOCALITY Wahleach Lake

DATE September 29, 1981

METHOD OF CAPTURE Monofilament Gill Net

SPECIES	FORK LENGTH (cm)	WEIGHT (gm)	SEX	MATURITY	SAMPLE TYPE	AGE	STOMACH CONTENTS				TOTAL VOLUME	COMMENTS
							BOTTOM ORGANISMS	PLANKTON	TERRESTRIAL INSECTS	FISH		
Rainbow Trout	21.2	100	M	?	SC		Small Clams					
"	21.4	100	?	IMM	SC			Zooplankton				
"	21.8	95	?	IMM	SC			Zooplankton				
"	24.0	140	F	IMM	SC							Empty
"	24.0	140	?	IMM	SC			Zooplankton				
"	24.7	150	F	IMM?	SC			Zooplankton?				Brown Grunge
"	24.8	160	M	IMM	SC		Leeches					
"	25.4	165	M	MG	SC		Wood bits					
"	25.4	175	F	MG	SC		Amphipods	Brown Zoo- Plankton				
"	25.7	185	M	MT	SC		Leeches					
"	26.2	205	F	IMM	SC		Wood bits					
"	26.7	180	M	Imm?	SC		Wood bits					
"	26.8	170	F	MT	SC			Zooplankton				
"	27.0	195	F	IMM	SC		Leeches					
"	29.4	245	M	MT	SC		Leeches					
"	30.0	275	?	?	SC		Leech?					
"	30.1	250	F	MG	SC			Zooplankton				
"	32.5	200	M	MT	SC		Full of clams					



Fig. 2. View North to dam from Parks Branch boat launch site.



Fig. 3. View North from limnological station.



Fig. 4. View South-South-West from near limnological station.



Fig. 5. View South East up valley from limnological station.

## WATER QUALITY REPORT FOR SAMPLE 115219W

TO: AQUATIC STUDIES BRANCH  
765 BROUGHTON ST.  
VICTORIA, B.C. V8V 1X5  
ATTENTION OF: I BOYD

FOR SITE: WAHLEACH LK SURFACE

SAMPLING DATE(S): SEP 28/81 0000 HRS  
SAMPLE TYPE: FRESH WATER  
SAMPLING DEPTH: 0  
SAMPLED BY: AQUATIC STUDIES BR., MOE  
DATE RECEIVED BY LABORATORY: OCT 02/81

0071701	RES:FILT.105C	29. MG/L	0110101	SPECIFIC CONDUCT	28. UMHO/CM
1083704	NITROGN:AMMONIA	0.005 MG/L	1093703	NITROGN:NO2 NO3	0.02 MG/L
1120003	NITROGN:ORGANIC	0.03 MG/L	1133601	NITROGN:KJELDAH	0.03 MG/L
1140001	NITROGEN:TOTAL	0.05 MG/L	1183703	PHOSPHORUS:ORT	L 0.003 MG/L
1193703	PHOSPHORUS :TOT DISSOLVED	0.005 MG/L	1193603	PHOSPHORUS :TOT	0.007 MG/L

THE APPROXIMATE COST OF THE ABOVE TESTS IS \$ 82.00

THERE IS NO CHARGE FOR THE FOLLOWING TESTS

004 PH A

## REMARKS:

Site number 1130229 was deleted from the report as it has not been established on the permit/site file in Victoria.

  
FOR ENVIRONMENTAL LABORATORY

## WATER QUALITY REPORT FOR SAMPLE 115220W

TO: AQUATIC STUDIES BRANCH  
765 BROUGHTON ST.  
VICTORIA, B.C. V8V 1X5  
ATTENTION OF: I BOYD

FOR SITE: WAHLEACH LK DEPTH

SAMPLING DATE(S): SEP 28/81 0000 HRS  
SAMPLE TYPE: FRESH WATER  
SAMPLING DEPTH: 26  
SAMPLED BY: AQUATIC STUDIES BR., MOE  
DATE RECEIVED BY LABORATORY: OCT 02/81

0071701	RES:FILT.105C	38. MG/L	0110101	SPECIFIC CONDUCT	33. UMHO/CM
1083704	NITROGN:AMMONIA	0.031 MG/L	1093703	NITROGN:NO2 NO3	0.09 MG/L
1120003	NITROGN:ORGANIC	0.01* MG/L	1133601	NITROGN:KJELDAH	0.04* MG/L
1140001	NITROGEN:TOTAL	0.13* MG/L	1183703	PHOSPHORUS:ORT	L 0.003 MG/L
1193703	PHOSPHORUS :TOT DISSOLVED	0.004 MG/L	1193603	PHOSPHORUS :TOT	0.007 MG/L

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