

## Executive Summary

## Boot Lake 2004

A stocking assessment was conducted at Boot Lake on October 27, 2004. This was the first assessment completed since the inception of stocking in 1991. The management goal for Boot Lake is to maintain an average quality rainbow trout fishery. Boot is a 15.2 ha lake situated 54 km north of Prince George. Two floating standard mesh gillnets were set at Boot Lake in 2004. The total sampling effort was 47.41 hours resulting in a gillnet catch per unit effort (CPUE) of 0.65. The objective of this assessment was to document the status of the fishery for the first time since stocking was initiated. Based on this assessment, the Boot Lake rainbow trout population is providing an average angling experience as 93.5% of the fish sampled were between 250 - 350 mm in length. However, it appears that the age four cohort is missing from the lake which is cause for some concern. To help increase average fish size, and to reduce the impact of periodic year class failures on the fishery, Boot Lake will be stocked annually with 1700 yearlings (Pennask) beginning in 2005, as opposed to the 5000 yearlings (naturalized rainbow trout) that have been stocked in odd years in the past. The 2004 stock assessment crew indicated that the access road into Boot Lake was in poor condition and there was some trail and signage work that could be completed to improve access; this a potential project for a local Fish & Game club.

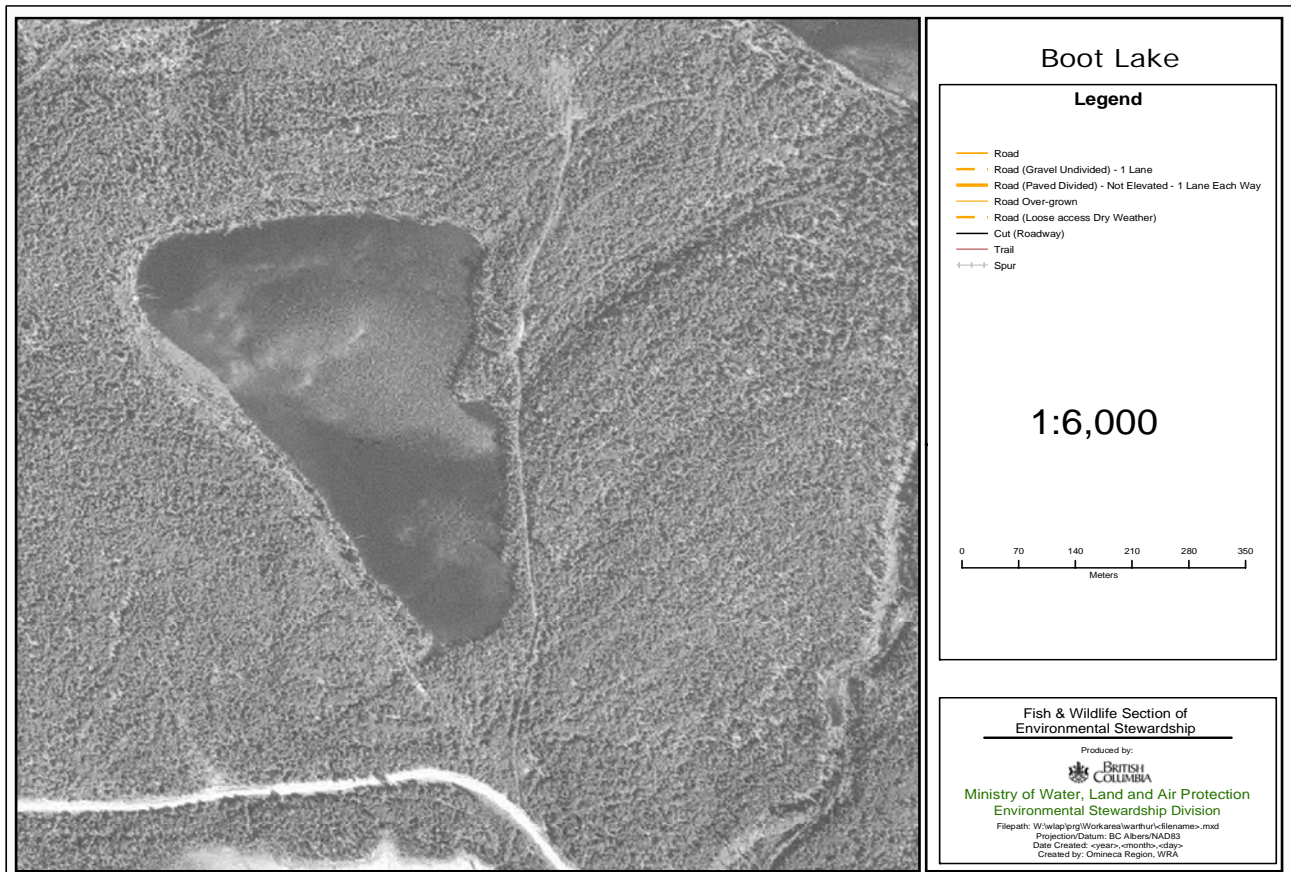


Figure 1. Orthophoto map of Boot Lake.

Omineca Region Stocked Lake Assessment Report

**OMINECA REGION  
LAKE STOCK ASSESSMENT REPORT**

**LAKE NAME:** Boot **BC WBID:** 01342CRKD

**LAKE LOCATION:** *Nearest center:* 54 Km N Prince George *Drainage:* FRASER  
*UTM:* 10.517090.6018525

**LAKE ATTRIBUTES:** *Surface Area:* 15.2 Ha *Elevation:* 754 m  
*Littoral Area:* 8.8 Ha *T.D.S.:* 26 ppm  
*Max Depth:* 14 m *Mean depth:* 5.3 m

**MANAGEMENT OBJECTIVE:**

- Objective 1 Family Fishery (High CPUE <30 cm)
- Objective 2 Average Quality (30-40 cm)
- Objective 3 Above Average (40-50 cm)
- Objective 4 Trophy ( 20% > 50 cm for RB, 20% > 40 cm for EB)

**MANAGEMENT/SURVEY HISTORY:**

Previous gill net assessment(s): no  yes  1988- Labach (Omineca Lakes Files)  
Year(s) Surveyed: 1988

**STOCKING DATA:**

*Current Stocking Rate* 329 Fish/Ha *Odd Years*  
*Stock Type* **BADGER TUNKWA**  
*Species* RB & mixed species  
*Previous Stocking Rate* 329

**SURVEY METHODS:**

Method	Date (yy.mm.dd)	Survey Agency	Crew
Fish	SGN 2004-10-27	BCCF	Chad Robertson, Kevin Mernickle
Chem.	DO, TDS 1988-08-28	MOE	
Physical	Bathymetric 1988-08-28	MOE	
Temp.	Profile 1988-08-28	MOE	

**Netting Specs:** *Net type:* Standard Experimental *Net length:* 90m (3x30m)  
*Setting:* Sinking and Floating *Panel Mesh:* Standard

**SURVEY RESULTS:**

**Catch**

	RB	EB	RSC	LKC	LSU	CSU	NSC	CAS	BT	LT
<b>2004</b>	31	0	0	0	0	0	0	0	0	0
<b>1988</b>	2	0	0	0	0	10	0	0	0	0

Survey Year	2004	1988
Effort Hours	47.41	27.33
RB CUE:	0.65	0.07
EB CUE:	0.00	0.00
# of Sets:	2	1

*Next Assessment 2009*

Omineca Region Stocked Lake Assessment Report

**SURVEY CONCLUSIONS:**

Objective	Objectives Achieved		Reason
	Yes	No	
1. Family	<input type="checkbox"/>	<input type="checkbox"/>	
2. Average	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Above Average	<input type="checkbox"/>	<input type="checkbox"/>	
4. Trophy	<input type="checkbox"/>	<input type="checkbox"/>	

**RECOMMENDATIONS:**

*Assessment:* Next assessment 2009, to allow for stocking changes to be in effect for four years before reassessment.

*Management:* Manage as an average quality fishery for rainbow trout.  
Stock annually at a reduced rate of 1700. Fish have shown moderate growth, however missing 4+ cohort is a cause for concern

*Comments:* Access road in poor condition- needs a sign or trail work- this is a potential project for one of local fish and game clubs  
No management objective for fish size was specified after stocking in 1989. Objective was for "low use fishery".

*Uncertainties:* Missing 4+ cohort of fish?- only one captured

*Recent Brood Request Comments:*

Odd year stocking. Stock was NRT- Change to Pennask stock for consistency.

*History of Angling Regulations*

No special regulations

**Reported by:** Cory Williamson MWLAP.

**Date:** Mar-05

Omineca Region Stocked Lake Assessment Report

**Table 1. Rainbow trout physical attributes for sample years:**

Sample Year	Age	Sample Size	Length (mm)				Weight (g)				Condition (k)				
			Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Var
2004	2	28	298.4	241	349	24.3	342	198	495	74.2	1.27	1.07	1.41	0.1	0.01
2004	3	2	312.5	295	330	24.7	392	363	420	40.3	1.29	1.17	1.41	0.2	0.03
2004	4	1	368				608				1.22				

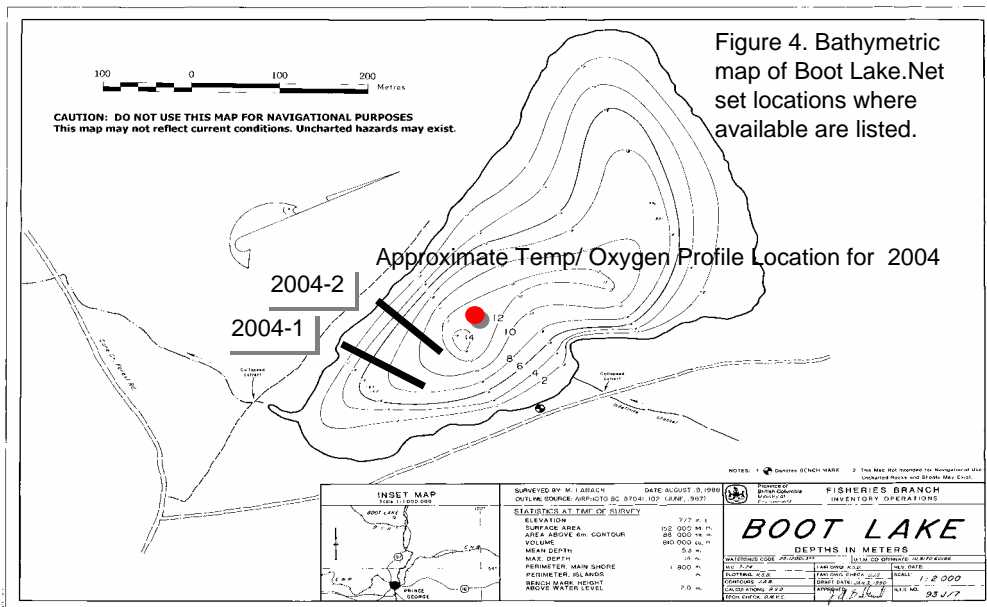
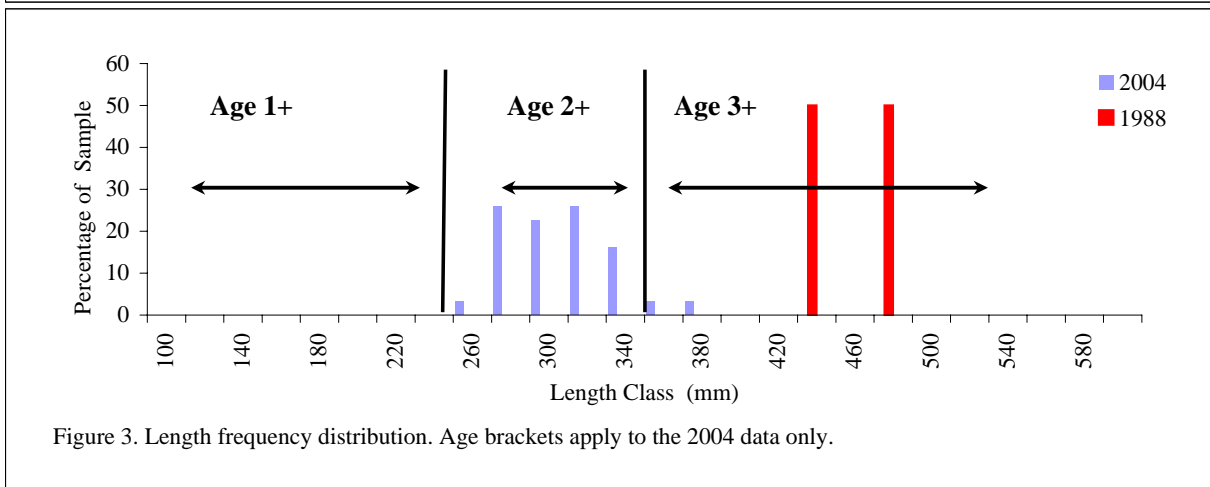
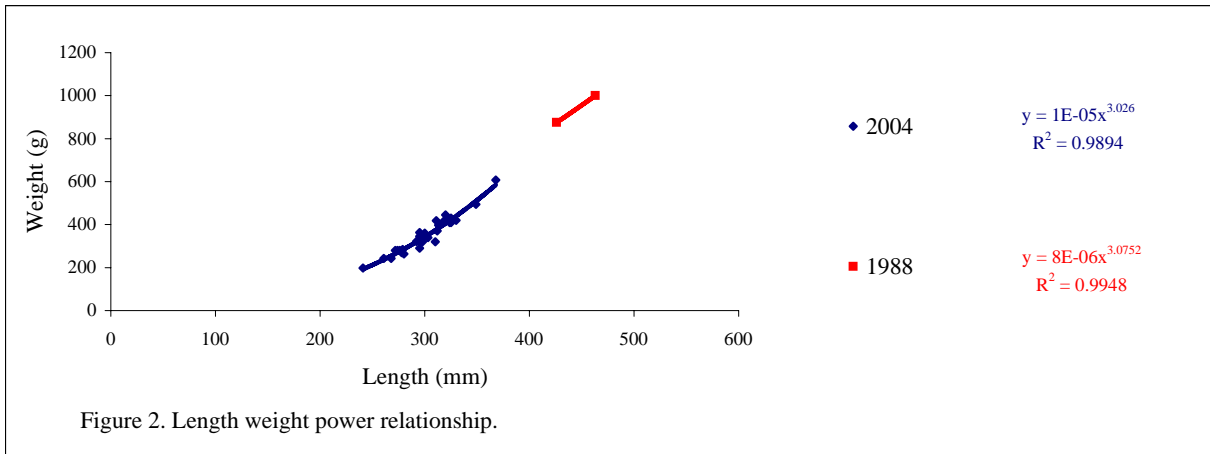
**Table 2. Catch summary for all sample years.**

Sample Year	Sample Size	Length (mm)				Weight (g)				Condition (k)				
		Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Var
2004	31	302	241	368	26.7	354	198	608	85.9	1.27	1.07	1.41	0.09	0.01
1988	2	445	426	463	26.7	938	875	1000	88.4	1.07	1.01	1.13	0.09	0.01

**Table 3. Proportion of Catch (by survey year)**

Survey Year	2004	1988
Less than 250 mm	3.2 %	0.0 %
Between 250-350 mm	93.5 %	0.0 %
Between 250-400 mm	96.8 %	0.0 %
Greater than 400 mm	0.0 %	100.0 %
Greater than 500 mm	0.0 %	0.0 %

Omineca Region Stocked Lake Assessment Report



Omineca Region Stocked Lake Assessment Report

**Table 4. Stocking History for Boot Lake to 2004.**

Release Date	Species Name	Fish Count	Stock	Mark	Average Size (gm)	Life Cycle Stage
9-Jun-03	RB	5000	BADGER TUNKWA		8.67	YEARLING
29-May-01	RB	5000	PREMIER		8.13	YEARLING
5-Jun-99	RB	5000	PENNASK		6.33	YEARLING
18-Jun-97	RB	5000	BADGER TUNKWA		8.33	YEARLING
31-May-93	RB	5000	TUNKWA		2.94	YEARLING
20-Jun-91	RB	5000	NRT PREMIER		6.79	YEARLING

**Table 5. Dissolved Oxygen/ Temperature Profile**

19-Aug-88			26-Oct-04 Station UTM Unknown					
Depth (m)	DO	Temp. °C	Depth (m)	DO mg/L	DO %sat	Temp. °C	pH	Cond (25°C)
0	8.1	15	0	7.95	62.4	5.17	7.6	25
1	7.9	15	1	7.9	62.3	5.17	7.3	24
2	4.1	15	2	7.96	62.6	5.08	7.3	25
3	3.3	15	3	7.82	61.5	5.19	7.2	25
4	3.2	14	4	7.63	60.6	5.23	7.0	25
5	2.2	9	5	7.53	59.5	5.36	7.0	27
6	1.7	6	6	7.46	59.4	5.53	6.9	28
7	1.4	4	7	7.36	58.6	5.67	7.0	29
8	1.1	3.2	8	6.84	55.1	5.92	6.9	32
9	1	3	9	7.11	57.3	6.11	6.8	45
10	0.9	3	10	7.04	56.8	6.14	6.8	78
11	0.7	2.8	11	7.07	57.0	6.17	6.8	83
12	0.7	2.8	12					
13	0.65	2.8	13					
14	0.8	2.8	14					

## Omineca Region Stocked Lake Assessment Report

**Table 6. Stock assessment data for 2004 (see lakes files for additional survey data).**

Lake	Sample#	Site	Species Caught	Age	Length (mm)	Weight (grams)	Condition (k)	Scale Age	Structure	Sex	Maturity	Ageing Comments	Comments
Boot	1	1	rb	3	330	420	1.2	3+	ot	f	st	translucent	
Boot	2	1	rb	2	320	445	1.4	2++	ot	f	mt	translucent	
Boot	3	1	rb	2	300	360	1.3	2++	ot	f	mt	translucent	
Boot	4	1	rb	4	368	608	1.2	4+	ot				NO GONADS
Boot	5	1	rb	2	349	495	1.2	2++	ot	f	im		MIXED EGGS
Boot	6	1	rb	2	319	420	1.3	2++	ot	f	mt		DARK
Boot	7	1	rb	2	292	322	1.3	2++	ot	f	im	translucent	
Boot	8	1	rb	2	326	422	1.2	2++	ot	f	im	translucent	
Boot	9	1	rb	2	279	285	1.3	2++	ot	f	mt	translucent	
Boot	10	1	rb	2	268	242	1.3	2++	ot	f	im	translucent	
Boot	11	1	rb	2	295	318	1.2	2++	ot	f	im	translucent	
Boot	12	1	rb	2	315	400	1.3	2++	ot	m	mt		BRIGHT COLOR
Boot	13	1	rb	2	261	242	1.4	2++	ot	f	im	translucent	
Boot	14	2	rb	2	325	410	1.2	2++	ot	f	im	translucent	MIXED SIZE EGGS
Boot	15	2	rb	3	295	363	1.4	3+	ot	f	st	translucent	LOOSE EGGS
Boot	16	2	rb	2	311	418	1.4	2++	ot	f	mt		
Boot	17	2	rb	2	313	398	1.3	2++	ot	f	mt		
Boot	18	2	rb	2	298	320	1.2	2++	ot	f	im		DAMAGED TAIL
Boot	19	2	rb	2	325	430	1.3	2++	ot	f	mt	translucent	DARK
Boot	20	2	rb	2	324	410	1.2	2++	ot	f	mt	translucent	DARK
Boot	21	2	rb	2	272	280	1.4	2++	ot	f	im	translucent; vague 1st annulus	MIXED SIZE EGGS
Boot	22	2	rb	2	276	280	1.3	2++	ot	f	im		
Boot	23	2	rb	2	278	270	1.3	2++	ot	f	im		
Boot	24	2	rb	2	303	340	1.2	2++	ot	f	mt	translucent	
Boot	25	2	rb	2	310	320	1.1	2++	ot	f	im		SLENDER/ MIXED SIZE EGGS
Boot	26	2	rb	2	280	263	1.2	2++	ot	f	mt	translucent	SLENDER
Boot	27	2	rb	2	241	198	1.4	2++	ot	m	mt		LARGE GONADS
Boot	28	2	rb	2	312	370	1.2	2++	ot	f	im	translucent	MIXED SIZE EGGS
Boot	29	2	rb	2	295	345	1.3	2++	ot	f	mt	translucent	
Boot	30	2	rb	2	274	280	1.4	2++	ot	f	mt	translucent	
Boot	31	2	rb	2	295	290	1.1	2++	ot	f	im		SLENDER