

## Executive Summary

## Davidson Lake 2000

A stocking assessment was conducted at Davidson Lake on July 27, 2000. Davidson Lake is 78.5 ha and is located approximately 70 km SSE of Burns Lake. A standard floating gillnet was set for 24 hours resulting in a gillnet catch per unit effort of 2.08 rainbow trout per net hour. The maximum size of the rainbow trout captured was 32 cm with a mean size of 26 cm. Most of the rainbow trout sampled were 25-30 cm in length.

Davidson Lake was previously assessed in 1976 and it was determined that there was a healthy population of wild rainbow trout occupying the lake. The original management objective set in 1985 was to stock Davidson Lake once to establish a rainbow trout population. The rationale for this objective is unknown as it was previously determined that there was a naturally viable population of rainbow trout; however, it is possible that the lake winter-killed and re-establishment of the rainbow trout population was necessary. Other species that naturally occur in Davidson Lake include: red-sided shiners, northern pikeminnow, and longnose suckers.

The last stocking event for Davidson Lake occurred on September 10, 1997. Davidson Lake will no longer be enhanced with rainbow trout as it appears that management as a wild fishery is more suitable. There is considerable evidence that suggests that the benefits associated with stocking rainbow trout in mixed species lakes do not outweigh the possible risks if genetic introgressions occur with native stocks. Stocked rainbow trout in the Omineca Region do not appear to perform well where there are naturally sustaining rainbow trout populations and other fish species present, particularly northern pikeminnow. In addition, Dennis Ableson, a consulting biologist with the Carrier Sekani Tribal Council, indicated in 2000 that Davidson Lake had no longer had road access and there was ample evidence of natural spawning, further supporting the decision to cancel stocking activities.



Figure 1. Photograph of Davidson Lake taken in 1990.

**OMINECA REGION  
LAKE STOCK ASSESSMENT REPORT**

**LAKE NAME:** Davidson **BC WBID:** 00939CHES

**LAKE LOCATION:** *Nearest center:* 70 km SSE Burns Lake *Drainage:* FRASER  
*UTM:* 10.337000.5945400

**LAKE ATTRIBUTES:** *Surface Area:* 78.5 Ha *Elevation:* 1041 m  
*Littoral Area:* 68.6 Ha *T.D.S.:* 70 ppm  
*Max Depth:* 7 m *Mean depth:* 4 m

**MANAGEMENT OBJECTIVE (mean length in gillnet (cm)):**

- 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   
 Year(s) Surveyed: 1976

**STOCKING DATA:**

*Current Stocking Rate* stocking ceased  
*Stock Type* **NRT DRAGON**  
*Species* RB mixed  
*Previous Stocking Rate* 22 fish/ha

**SURVEY METHODS:**

Method	Date (yy.mm.dd)	Survey Agency	Crew
Fish	SGN 2000-07-27	CSTC	M. French and L. Ward
Chem.	DO, pH, TD 1976-10-04	MOE	J. F.. Burns
Physical	bathymetric 1976-10-04	MOE	J. F.. Burns
Temp.	profile 1976-10-04	MOE	J. F.. Burns

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

**SURVEY RESULTS:**

**Catch**

	RB	EB	RSC	LKC	LSU	CSU	NSC	CAS	BT	LT
<b>2000</b>	50	0	0	0	0	0	0	0	0	0
<b>1976</b>	26	0	0	0	21	0	0	0	0	0
<b>1900</b>	0	0	0	0	0	0	0	0	0	0
<b>1900</b>	0	0	0	0	0	0	0	0	0	0

Survey Year	2000	1976
Effort Hours	24	17
RB CPUE:	2.08	1.53
EB CPUE:	0.00	0.00
# of Sets:	1	2

*Next Assessment :* none planned

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**SURVEY CONCLUSIONS:**

Objective	Objectives Achieved		Reason
	Yes	No	
1. Family	<input type="checkbox"/>	<input type="checkbox"/>	
2. Average	<input type="checkbox"/>	<input checked="" type="checkbox"/>	mean size of rainbow trout in 2000 was 26 cm.
3. Above Average	<input type="checkbox"/>	<input type="checkbox"/>	
4. Trophy	<input type="checkbox"/>	<input type="checkbox"/>	

**RECOMMENDATIONS:**

**Assessment:** There are no further assessments planned at this time.

**Management:** Davidson Lake was stocked for the last time in 1997 and is now being managed as a wild fishery with no further enhancement activities planned.

**Comments:** In 2000 Dennis Ableson indicated that there was strong evidence of natural recruitment and there was no longer road access into Davidson Lake.

**Uncertainties:**

**Recent Brood Request Comments:**

Assessed 2000. Difficult access to lake, likely little angling activity. Slow growth and strong evidence for natural recruitment. Forego stocking until data review finalized.

**History of Angling Regulations**

There are no special angling regulations for Davidson Lake.

**Reported by:** Adrian Clarke

**Date:** Jun-05

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

Sample Year	Sample		Length (mm)				Weight (g)				Condition (k)				
	Age	Size	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Var
2000	2	1	157				46				1.18				
2000	3	15	236	200	300	26.1	149	96	232	34.2	1.13	0.66	1.26	0.1	0.02
2000	4	27	273	225	320	22.3	217	121	350	57.3	1.05	0.60	1.26	0.1	0.02
2000	5	7	284	232	317	26.8	242	118	380	93.5	1.01	0.59	1.19	0.2	0.04

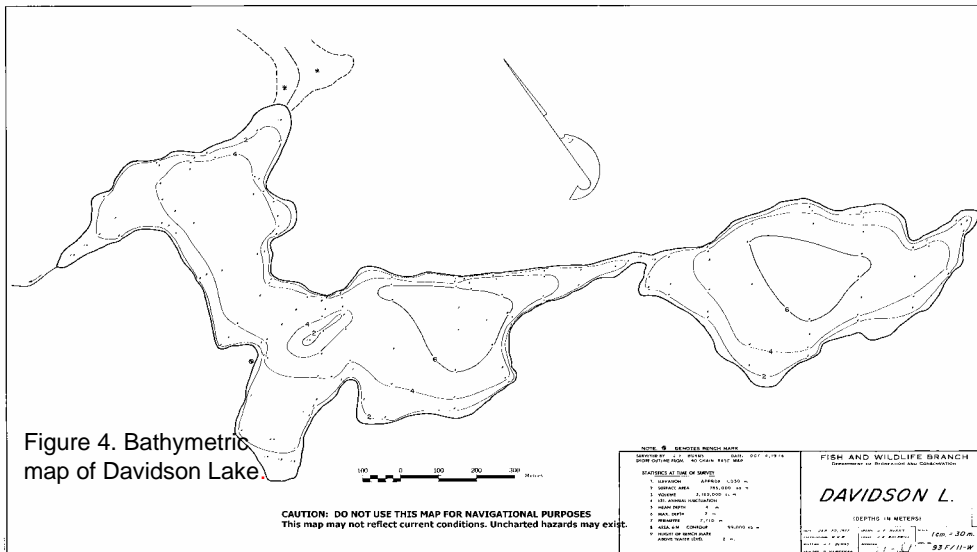
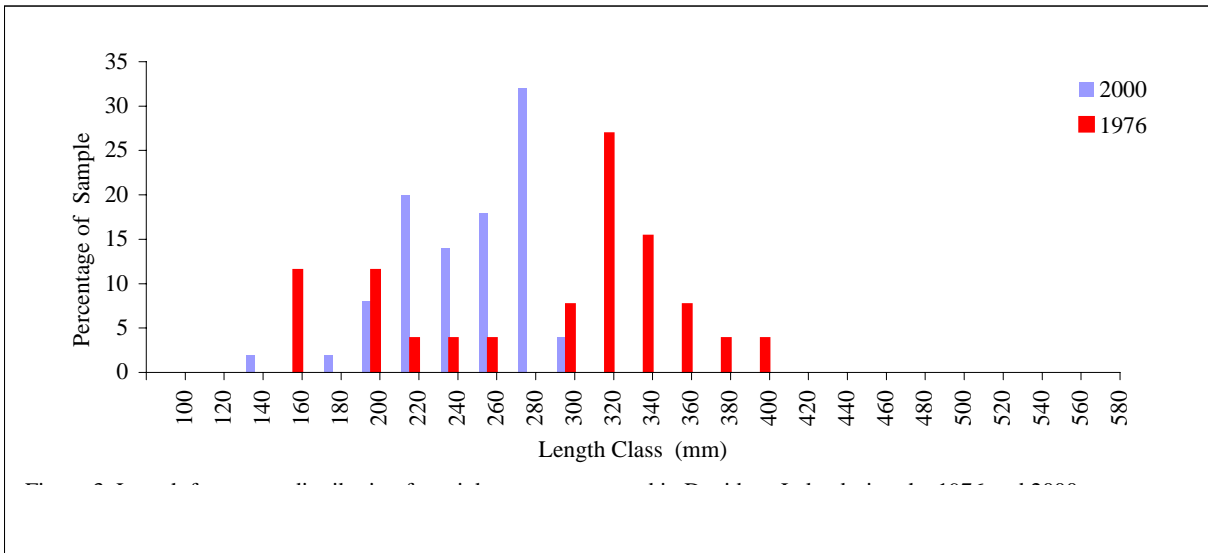
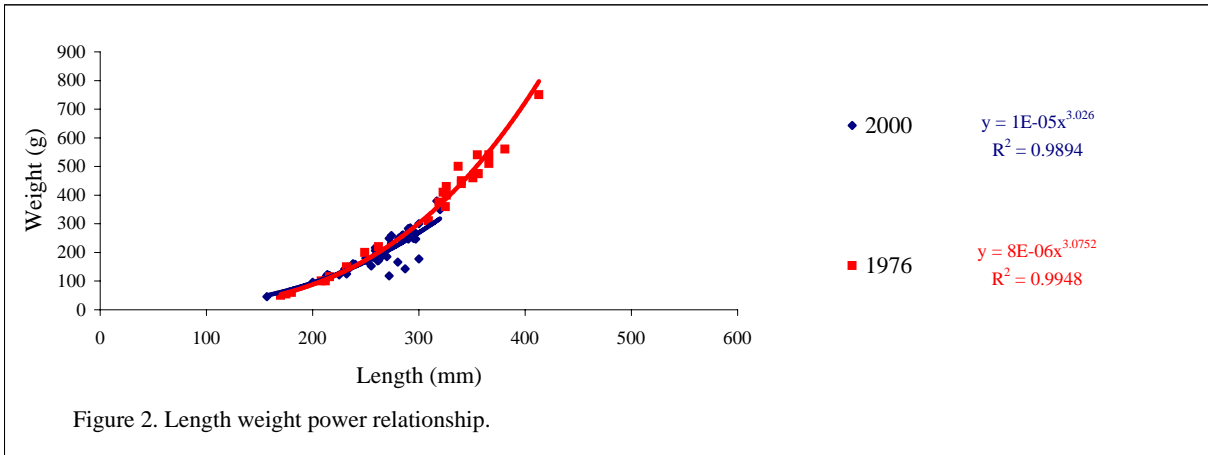
**Table 2. Catch summary for all sample years.**

Sample Year	Sample Size	Length (mm)				Weight (g)				Condition (k)				
		Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Var
2000	50	261	157	320	33.2	196	46	380	69.6	1.07	0.59	1.26	0.15	0.02
1976	26	300	170	413	71.0	348	50	750	192.0	1.12	1.01	1.31	0.09	0.01

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

<i>Survey Year</i>	2000	1976
Less than 250 mm	34.0 %	30.8 %
Between 250-350 mm	66.0 %	38.5 %
Between 350-400 mm	66.0 %	65.4 %
Greater than 400 mm	0.0 %	3.8 %
Greater than 500 mm	0.0 %	0.0 %

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

Release Date	Species Name	Fish Count	Stock	Mark	Average Size (gm)	Life Cycle Stage
10-Sep-97	RB	800	NRT DRAGON		0.99	FALL FRY
10-Sep-97	RB	1700	BADGER TUNKWA		0.83	FALL FRY
8-Sep-94	RB	2500	PREMIER DR		1.7	FALL FRY
1-Sep-92	RB	2500	DRAGON		0.88	FALL FRY
29-Aug-90	RB	5000	DRAGON		0.6	FALL FRY
1-Aug-86	RB	2500	TUNKWA		0.6	UNKNOWN

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

October 5, 1976			Secchi Disc = 2m		
Depth (m)	DO mg/L	DO %sat	Temp. °C	pH	TDS (mg/L)
0	8		9.3	6.6	70
1					
2					
3					
4	8		9.3	6.6	
5	bottom		bottom		
6					
7					
8					
9					
10					
11					
12					
13					
14					

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**Table 6. Stock Assessment Data for 2000 (see lake files for additional survey data).**

Lake	Sample#	Site	Species Caught	Age	Length (mm)	Weight (grams)	Condition (k)	Scale Age	Structure
Davidson	1	1	rb	2	157	46	1.2	2+	scale
Davidson	30	1	rb	3	200	96	1.2	3+	scale
Davidson	34	1	rb	3	213	118	1.2	3+	scale
Davidson	28	1	rb	3	214	123	1.3	3+	scale
Davidson	27	1	rb	3	215	114	1.1	3+	scale
Davidson	29	1	rb	3	216	119	1.2	3+	scale
Davidson	21	1	rb	3	230	142	1.2	3+	scale
Davidson	24	1	rb	3	231	140	1.1	3+	scale
Davidson	35	1	rb	3	232	143	1.1	3+	scale
Davidson	43	1	rb	3	233	149	1.2	3+	scale
Davidson	11	1	rb	3	238	160	1.2	3+	scale
Davidson	12	1	rb	3	240	158	1.1	3+	scale
Davidson	8	1	rb	3	251	171	1.1	3+	scale
Davidson	45	1	rb	3	258	185	1.1	3+	scale
Davidson	4	1	rb	3	274	232	1.1	3+	scale
Davidson	15	1	rb	3	300	178	0.7	3+	scale
Davidson	14	1	rb	4	225	121	1.1	4+	scale
Davidson	13	1	rb	4	232	138	1.1	4+	scale
Davidson	25	1	rb	4	235	147	1.1	4+	scale
Davidson	7	1	rb	4	250	180	1.2	4+	scale
Davidson	31	1	rb	4	255	153	0.9	4+	scale
Davidson	36	1	rb	4	257	183	1.1	4+	scale
Davidson	17	1	rb	4	259	207	1.2	4+	scale
Davidson	41	1	rb	4	259	217	1.2	4+	scale
Davidson	46	1	rb	4	261	171	1.0	4+	scale
Davidson	6	1	rb	4	262	172	1.0	4+	scale
Davidson	22	1	rb	4	264	182	1.0	4+	scale
Davidson	10	1	rb	4	270	186	0.9	4+	scale
Davidson	32	1	rb	4	272	249	1.2	4+	scale
Davidson	18	1	rb	4	274	259	1.3	4+	scale
Davidson	33	1	rb	4	280	166	0.8	4+	scale
Davidson	26	1	rb	4	281	251	1.1	4+	scale
Davidson	39	1	rb	4	285	262	1.1	4+	scale
Davidson	3	1	rb	4	286	253	1.1	4+	scale
Davidson	48	1	rb	4	286	256	1.1	4+	scale
Davidson	23	1	rb	4	287	143	0.6	4+	scale
Davidson	9	1	rb	4	290	284	1.2	4+	scale
Davidson	16	1	rb	4	291	278	1.1	4+	scale
Davidson	49	1	rb	4	292	286	1.2	4+	scale
Davidson	2	1	rb	4	295	249	1.0	4+	scale
Davidson	19	1	rb	4	297	267	1.0	4+	scale
Davidson	20	1	rb	4	297	246	0.9	4+	scale
Davidson	40	1	rb	4	320	350	1.1	4+	scale
Davidson	44	1	rb	5	232	125	1.0	5+	scale
Davidson	5	1	rb	5	272	118	0.6	5+	scale
Davidson	38	1	rb	5	284	259	1.1	5+	scale
Davidson	42	1	rb	5	290	247	1.0	5+	scale
Davidson	47	1	rb	5	293	267	1.1	5+	scale
Davidson	37	1	rb	5	300	300	1.1	5+	scale
Davidson	50	1	rb	5	317	380	1.2	5+	scale