Executive Summary Tebbutt Lake 2006

A stocking assessment was conducted at Tebbutt Lake on June 16, 2006. This was the first assessment completed since the inception of stocking in 1993. The management goal for Tebbutt Lake is to maintain a trophy-quality catch and release fishery for eastern brook trout. Tebbutt Lake is an 11.4 ha lake, situated 12.5 km southeast of Fort St James along highway #27. One multi-mesh floating (RISC standard mesh sizes) gillnet and one SLIN gillnet were set at Tebbutt Lake in 2006. The total sampling effort was 3.3 hours, resulting in a high gillnet catch per unit effort (CPUE) of 17.27 fish per net-hour. The objectives of this assessment were to: 1) document the status of the fishery for the first time since stocking was initiated 2) document the presence (if any) of fertile eastern brook trout that may have residualized following stocking in 1993 and 1997. Based on this assessment and anecdotal angler reports, this fishery is providing an average to slightly above average angling experience, as 78.9% of the fish sampled were between 250 - 400 mm length. The mean fish size was 359 mm and 500 g. Tebbutt Lake was evaluated as part of ongoing regional assessments for the presence of fertile diploid eastern brook trout that have residualized in some Omineca Lakes. No fertile brook trout were found during this assessment.

To increase average fish size in the lake and to meet the trophy management objective the stocking rate for Tebbutt Lake will be reduced be from 3000 fish stocked every second year to 1500 sterile eastern brook trout stocked every second year. The next scheduled stocking is for spring 2008.

Figure 1. Photo of gill net set in Tebbutt Lake in June 2006, with inset showing two fish from the catch.

OMINECA REGION
LAKE STOCK ASSESSMENT REPORT

LAKE NAME: Tebbutt ***ALIAS:*** Tebbut ***BC WBID:*** 02283STUL

LAKE LOCATION: *Nearest center:* 12.5 km SSE Fort St. James *Drainage:* FRASER
UTM: 10.418012.6019964

LAKE ATTRIBUTES:

Surface Area:	11.4 Ha	*Elevation:*	749	m
Littoral Area:	7.8 Ha	*T.D.S.:*	76	ppm
Max Depth:	14.1 m	*Mean depth:*	4.4	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 ☒	No fish caught.
Year(s) Surveyed:	1987		MOE.

STOCKING DATA:

Current Stocking Rate	263	Fish/Ha	Odd Years
Stock Type	AYLMER AF3N		
Species	EB		
Previous Stocking Rate	263		

SURVEY METHODS:

Method		Date (yy.mm.dd)	Survey Agency	Crew
Fish	SGN	2006-06-16	BCCF	Marcel Macullo; Andrew Walker
Chem.	Laboratory	1987	MOE.	
Physical	Bathymetric	1987	MOE.	
Temp.	Profile	1987	MOE.	

Netting Specs: *Net type:* Standard Experimental; One SLIN Net *Net length:* 90m (3x30m)
Setting: Littoral *Panel Mesh:* 2.5 inch

SURVEY RESULTS:

Catch

	RB	EB	RSC	LKC	LSU	CSU	NSC	CAS	BT	LT
2006	0	57	0	0	0	0	0	0	0	0
-	0	0	0	0	0	0	0	0	0	0
-	0	0	0	0	0	0	0	0	0	0
-	0	0	0	0	0	0	0	0	0	0

Survey Year	**2006**	-	-	-	
Effort Hours	3.3				
RB CPUE:	0.00				RB/Net Hour
EB CPUE:	17.27				EB/Net Hour
# of Sets:	2				

Next Assessment : 2011

SURVEY CONCLUSIONS:

Objective	Objectives Achieved Yes	No	Reason
1. Family	☐	☐	
2. Average	☐	☐	
3. Above Average	☐	☐	
4. Trophy	☐	☒	Lake is overstocked for size of lake and management objective.

RECOMMENDATIONS:

Assessment: No diploid EB present in catch. Next assessment in 3 to 5 years. Also note effort appears to be 0 anglers/ Ha based on two years of SLIM boats counts from 2005 and 2006. Some anglers report high catch rates.

Management: Re-evaluate management objective for trophy fishery and fishery regulations after next assessment. Reduce stocking rate to 1500 EB in even years. Reduce stocking rate by 50%, due to high net CPUE, low average size relative to management goal (Multi Lake effort model was calibrated with data from the 2006 assessment to quantify bounds for this reduction). Note: TDS is quite low for original management objective, however reports from early stocking efforts suggest that 4 lb fish were present.

Comments: Trophy fishery was recommended as an outcome of public meeting (May 30, 2001) aimed at setting the management direction for Echo and Tebbutt Lakes. Echo is being managed as a quality fishery with limited retention or large fish. Poor access is likely contributing to the lack of use in combination with the average quality of the fishery. Depending on outcome of reduced stocking rate, investigate possibility of local club improving public access from the north.

Uncertainties: Lack of good public access is an ongoing issue for management of this fishery.

Recent Brood Request Comments:

2007 Brood Request comments: Cancel June 06. Odd year stocking of 3,000. Assessed '06. Prelim Data-Not achieving management goal of trophy fishery. Therefore reduce stocking rate to 1500 in even years.

History of Angling Regulations

Tebbutt Lake is being managed as a catch and release, summer only, trophy brook trout fishery. Angling restrictions at the time writing include: Closed Nov 1 to April 30, Bait Ban, Single Barbless Hook and Brook Trout Release.

Directions to the Lake

Turn east off highway #27 onto large gravel road to Looncall Lake (note the a sign for Icelandic horse rides and kayaking). Follow this road past the gravel pit. Turn right onto gas pipeline access road (well signed). Follow pipeline to end (doesn't take long). 4WD is a good idea. Follow road up hill and note that there is one v. soft section. A winch is likely required if wet. At end of pipeline, a small road leads to right. Follow this road and turn right (UTM 10.417856.6019905) down a small overgrown road.

Reported by: Cory Williamson
Date: Jan-07

Table 1. Brook trout physical attributes for all sample years by age:

			Length (mm)				Weight (g)				Condition (k)				
Sample Year	Age	Sample Size	Mean	Min	Max	*s*	Mean	Min	Max	*s*	Mean	Min	Max	*s*	Var
2006	1														
2006	2	6	234	224	252	10.4	159	137	192	21.7	1.24	1.10	1.39	0.1	0.01
2006	3	1	344	344	344		460	460	460		1.13	1.13	1.13		
2006	4	39	365.7	329	400	14.3	512	375	630	55.0	1.05	0.87	1.19	0.1	0.01
2006	5	0													
2006	6	9	415	392	456	19.8	685	540	875	136.5	0.95	0.78	1.19	0.1	0.01

Table 2. Catch summary for all sample years.

		Length (mm)				Weight (g)				Condition (k)				
Sample Year	Sample Size	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Var
2006	57	359	224	456	49.3	501	137	875	151.4	1.05	0.78	1.39	0.11	0.01

Table 3. Proportion of Catch (by survey year)

Survey Year	2006	-	-	-
Less than 250 mm	8.8 %			
Between 250-350 mm	17.5 %			
Between 250-400 mm	78.9 %			
Greater than 400 mm	14.0 %			
Greater than 500 mm	0.0 %			

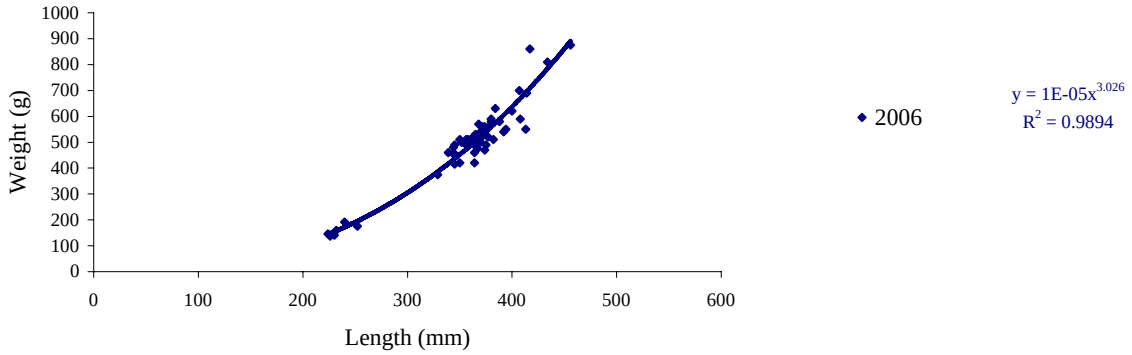

Figure 2. Length weight power relationship.

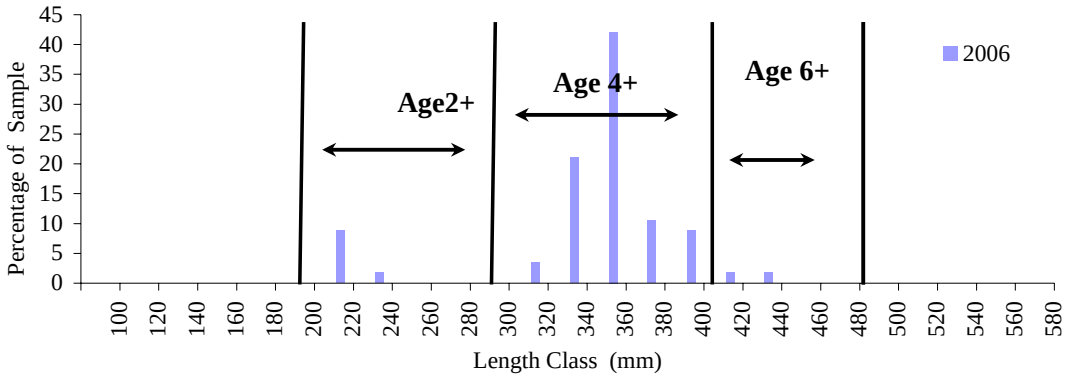

Figure 3. Length frequency distribution. Age brackets apply to the 2006 data only. Dash line indicates approximate 3+ age class.

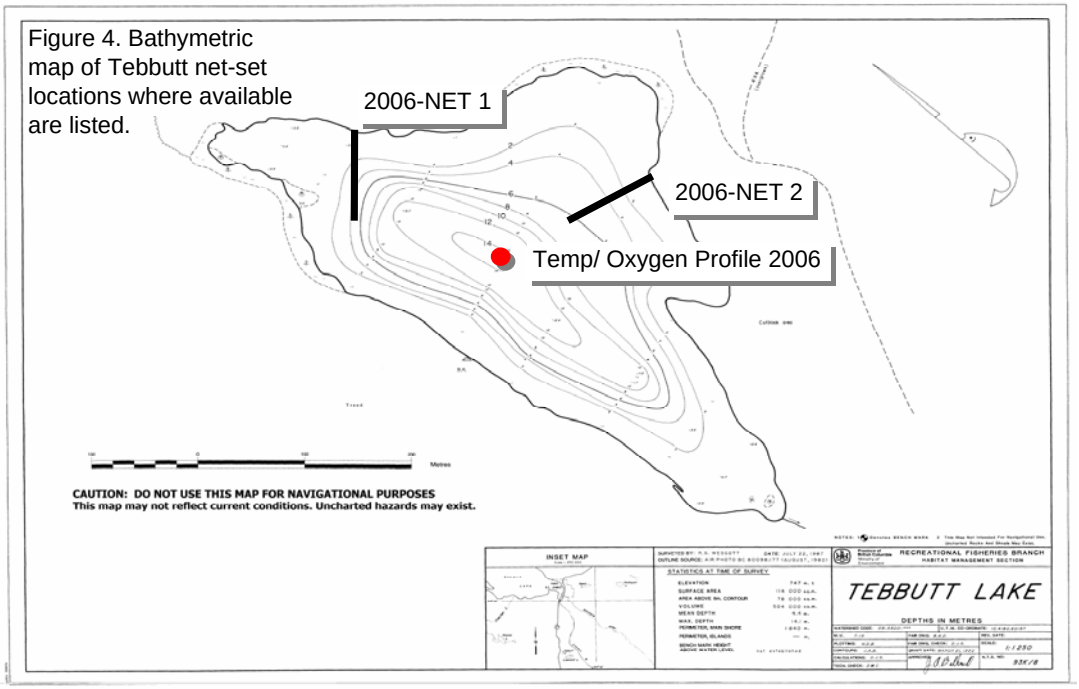

Figure 4. Bathymetric map of Tebbutt net-set locations where available are listed.

Table 4. Stocking History for Tebbutt Lake to 2006.

Release Date	Species Name	Fish Count	Stock	Mark	Average Size (gm)	Life Cycle Stage
7-Jun-05	Brook Trout	3000	AYLMER AF3N		7.4	FINGERLING
11-Jun-03	Brook Trout	3000	AYLMER AF3N		6.59	FINGERLING
5-Jun-01	Brook Trout	3000	AYLMER AF3N		7.84	FINGERLING
1-Jun-99	Brook Trout	3000	AYLMER AF3N		5.9	FINGERLING
18-Jun-97	Brook Trout	3000	AYLMER		3.01	FINGERLING
11-Jun-93	Brook Trout	5000	AYLMER		4.37	FINGERLING

Table 5. Dissolved Oxygen/ Temperature Profile

22-Jul-87		
Depth (m)	DO	Temp. ^{0}C
0	10.2	20.5
1	10.2	20.5
2	10.3	20
3	6	19
4	8.4	14
5	1.2	9.5
6	0.3	6.5
7		
8		
9		
10		
11		
12		
13		
14		

16-Jun-06 Station UTM 10.417856.6019905					
Depth (m)	DO mg/L	DO %sat	Temp. ^{0}C	pH	Cond (25^{o}C)
0	5.1	0.5	19.89		36
1	4.8	0.4	17.3		36
2	6	0.6	13.5		38
3	6.4	0.7	10.3		
4	6.5	0.8	7.72		
5	6.6	0.8	5.93		
6	6.3	0.8			
7					
8					
9					
10					
11					
12					
13					
14					

Table 6. Stock Assessment Data for 2004 (see lake files for additional survey data).

Species Caught	Calender Age	Length (mm)	Weight (grams)	Condition (k)	Age	Age Structure	Ageing Confidence (0-9)	Clip	Sex	Maturity	Ageing Comments	Comments
eb	2+	240	192	1.4	2	OT	8		m	im		photo w/ gonads; 2N??????
eb	2*	224	146	1.3	2	OT	9		f	im		
eb	4*	370	540	1.1	4	OT	9		f	im		photo w/ gonads
eb	4*	364	420	0.9	4	OT	9		f	im		
eb	6*	408	590	0.9	6	OT	8		f	im		skinny fish, small eggs
eb	4+	345	415	1.0	4	OT	8		f	3n		photo underdeveloped eggs
eb	4*	329	375	1.1	4	OT	7		f	3n	edges broken	
eb	4*	365	530	1.1	4	OT	7		f	3n	tip broken	
eb	4*	372	550	1.1	4	OT	8		f	3n		
eb	n/a	375	550	1.0			-		f	3n	no sample	photo: gonad strand w/ single egg
eb	4*	374	540	1.0	4	OT	9		f	3n		
eb	4+	380	590	1.1	4	OT	5		f	3n		underdeveloped eggs
eb	4*	374	560	1.1	4	OT	9		f	3n		
eb	4*	380	580	1.1	4	OT	8		f	3n		
eb	6*	456	875	0.9	6	OT	5		f	3n		underdeveloped eggs
eb	4*	377	520	1.0	4	OT	8		f	3n		underdeveloped eggs
eb	4*	388	580	1.0	4	OT	9		f	3n		
eb	4*	363	510	1.1	4	OT	9		f	3n		
eb	6*	392	540	0.9	6	OT	4		f	3n	one otolith looks like	skinny
eb	4+	375	490	0.9	4	OT	8		f	3n		
eb	4*	358	510	1.1	4	OT	7		f	3n		
eb	6*	413	550	0.8	6	OT	8		f	3n		v. skinny
eb	4*	370	500	1.0	4	OT	9		f	3n		a few underdeveloped eggs
eb	4*	363	520	1.1	4	OT	9		f	3n		
eb	4*	350	420	1.0	4	OT	5		f	3n	broken	
eb	4*	371	520	1.0	4	OT	9		f	3n		underdeveloped eggs
eb	4*	364	460	1.0	4	OT	6		f	3n		
eb	4*	372	530	1.0	4	OT	9		f	3n		
eb	3+	344	460	1.1	3	OT	5		f	3n		photo:many underdeveloped eggs
eb	4*	382	510	0.9	4	OT	6		f	3n		
eb	4*	367	505	1.0	4	OT	8		f	3n		
eb	4*	345	450	1.1	4	OT	8		f	3n		
eb	4*	339	460	1.2	4	OT	7		f	3n		
eb	2+	226	137	1.2	2	OT	8		f	3n		
eb	2+	232	160	1.3	2	OT	9		f	3n		
eb	2+	252	176	1.1	2	OT	9		f	3n		
eb	2*	230	141	1.2	2	OT	9		f	3n		
eb	6*	407	700	1.0	6	OT	8		f	3n		
eb	4*	368	570	1.1	4	OT	8		f	3n		
eb	4*	384	630	1.1	4	OT	7		f	3n		
eb	6*	394	550	0.9	6	OT	6		f	3n		underdeveloped eggs
eb	4*	378	560	1.0	4	OT	8		f	3n		underdeveloped eggs
eb	4*	400	620	1.0	4	OT	8		f	3n		
eb	n/a	344	480	1.2			-		f	3n	no sample	
eb	6*	414	690	1.0	6	OT	8		f	3n		
eb	4*	350	510	1.2	4	OT	9		f	3n		underdeveloped eggs
eb	4*	358	500	1.1	4	OT	7		f	3n		underdeveloped eggs
eb	6*	417	860	1.2	6	OT	6		f	3n		underdeveloped eggs
eb	4*	356	490	1.1	4	OT	8		f	3n		underdeveloped eggs
eb	4+	374	470	0.9	4	OT	8		f	3n		underdeveloped eggs
eb	4*	356	510	1.1	4	OT	8		f	3n	tip broken	underdeveloped eggs
eb	4*	367	475	1.0	4	OT	8		f	3n		underdeveloped eggs
eb	4*	352	500	1.1	4	OT	7		f	3n		underdeveloped eggs
eb	6*	434	810	1.0	6	OT	8		f	3n		underdeveloped eggs
eb	4*	372	560	1.1	4	OT	8		f	3n		
eb	4*	345	490	1.2	4	OT	8		f	3n		underdeveloped eggs
eb	4*	364	490	1.0	4	OT	5		f	3n		