Executive Summary Chubb Lake 2004

A stocking assessment was conducted at Chubb Lake on September 29, 2004. The objective of this assessment was to document the status of the fishery. Chubb Lake is a 67.3 ha lake situated 100 km south of Prince George. There is both a small Forest Service campground and a Church camp located on the lake with launches suitable for car-top sized boats. The original management goal for Chubb Lake is for a high-use winter and summer fishery for rainbow trout to one kilogram.

Chubb Lake was chemically rehabilitated in 1972; however, it was noted that there were an incomplete kill. Presently, Chubb Lake supports populations of cyprinid fish including longnose suckers, redside shiners and northern pikeminnow (formerly northern squawfish). In 1984 there was a spawning channel created through enhancement of a small stream to alleviate the egg-bound condition of the adult female rainbow trout. Maintenance of the spawning channel ceased in 2001 when sterile fish (AF3N- all female triplod) were introduced into the lake. Reproductive eastern brook trout were also stocked in Chubb Lake until 1989, however there have not been any recorded captures of brook trout since that time.

Two 91.4 m experimental floating gillnets were set on September 29, 2004. The total sampling effort was 45.1 hours resulting in a gillnet catch per unit effort (CPUE) of 2.31 fish per hour. At this time the rainbow trout population is providing for an average quality angling experience as rainbow trout sampled had a mean length of 296 mm and a maximum length of 451 mm. The 2004 catch contained a large number (over 100) of northern pikeminnow which is the first record of this species since the lake was rehabilitated in 1972. It is recommended that large (> 20 g) yearling Blackwater stock be used in place of Pennask stock to allow the stocked rainbow trout to better compete with other fish species.

Chubb Lake should have an angler creel/satisfaction survey completed in the summer of 2005 to complement the proposed aerial census survey scheduled for the spring and summer of 2005. This survey is particularly important for Chubb Lake because it was noted in 1998 that angler use had substantially declined from previous years.

Figure 1. Photo of Chubb Lake taken in 1980.

OMINECA REGION
LAKE STOCK ASSESSMENT REPORT

LAKE NAME: Chubb Lake ***BC WBID:*** 00681COTR

LAKE LOCATION: *Nearest center:* 100 km S of P.G. *Drainage:* FRASER
UTM: 10.529414.5902964

LAKE ATTRIBUTES:

Surface Area:	67.3 Ha	*Elevation:*	727	m
Littoral Area:	50.1 Ha	*T.D.S.:*	na	ppm
Max Depth:	14.6 m	*Mean depth:*	4.5	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 ☒ Zimmerman 1998
Year(s) Surveyed: 1998

STOCKING DATA:

Current Stocking Rate 66 Fish/Ha Even years
Stock Type **BW DRAGON AF3N**
Species rb, mixed species present (N. pikeminnow)
Previous Stocking Rate 74

SURVEY METHODS:

Method		Date (yy.mm.dd)	Survey Agency	Crew
Fish	SGN	2004-09-29	BCCF	Chad Robertson, Kevin Mernickle
Chem.	na			
Physical	bathymetric			
Temp.	na			

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

SURVEY RESULTS:

Catch

	RB	EB	RSC	LKC	LSU	CSU	NSC	CAS	BT	LT
2004	104	0	1	0	20	0	100	0	0	0
1998	84	0	0	0	19	0	0	0	0	0
1900	0	0	0	0	0	0	0	0	0	0
1900	0	0	0	0	0	0	0	0	0	0

Survey Year	**2004**	**1998**	
Effort Hours	45	2.2	
RB CPUE:	2.31	38.18	RB/Net Hour
EB CPUE:	0.00	0.00	EB/Net Hour
# of Sets:	2	1	

Next Assessment **2009**

SURVEY CONCLUSIONS:

Objective	Objectives Achieved Yes	No	Reason
1. Family	☐	☐	
2. Average	☑	☐	75% of the sample was 250-400 mm in length
3. Above Average	☐	☐	
4. Trophy	☐	☐	

RECOMMENDATIONS:

Assessment: The next stock assessment for Chubb Lake is scheduled for 2009.

Management: Manage as an average quality fishery for rainbow trout. Most of the rainbow trout are being removed from the fishery by the time they reach age three; however some fish in the sample were aged 4-6 years. Chubb Lake rainbow trout are showing signs of good growth.

Comments: Previous to the introduction of AF3N stock there was a spawning channel maintained to prevent excessive numbers of rainbow trout from becoming spawnbound. The spawning channel is no longer in operation. There is also a large amount of biological data (see lakes files) captured on Chubb Lake rainbow trout gathered through the operation of a small fish fence located on the spawning channel.
Pike-minnow have re-entered Chubb Lake; monitor fishery quality.

Uncertainties: The number of anglers using Chubb Lake. In 1998 it was reported that angler use had declined substantially over previous years.

Recent Brood Request Comments:

2004 AF3N stocked first time 2001. 98 assessment indicated spawnbound problem. Creeled 02, good angler use. Reassess 04.

2005 Change stock to BW AF3N- Mixed species present. Assessed '04 preliminary data indicates good growth of AF3N.

History of Angling Regulations

There is an engine power restriction of 7.5 KW or 10 HP.

Reported by: Adrian Clarke
Date: Mar-05

Table 1. Rainbow trout physical attributes for sample years:

			Length (mm)				Weight (g)				Condition (k)				
Sample Year	Age	Sample Size	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Var
2004	1	9	219	199	241	14.1	119	92	150	20.0	1.13	1.06	1.21	0.1	0.00
2004	2	14	295	280	326	13.6	290	225	400	53.8	1.11	0.99	1.25	0.1	0.01
1998	2	14	224	188	262	17.2	143	95	200	28.6	1.25	1.11	1.43	0.1	0.01
2004	3	15	330	304	358	14.4	382	325	480	44.2	1.06	1.00	1.16	0.0	0.00
1998	3	50	315	276	362	23.5	380	245	580	86.8	1.20	0.99	1.38	0.1	0.01
2004	4	1	346				460				1.11				
1998	4	8	363	302	399	29.3	529	325	700	105.5	1.10	0.99	1.21	0.1	0.00
1998	5	12	385	339	427	25.7	640	465	870	139.4	1.12	0.91	1.31	0.1	0.02
2004	6	1	451				995				1.08				

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
2004	40	296	199	451	51.7	308	92	995	158.0	1.10	0.99	1.25	0.06	0.00
1998	84	314	188	427	51.7	392	95	870	171.5	1.19	0.91	1.43	0.11	0.01

Table 3. Proportion of Catch (by survey year)

Survey Year	2004	1998
Less than 250 mm	22.5 %	15.5 %
Between 250-350 mm	72.5 %	63.1 %
Between 250-400 mm	75.0 %	82.1 %
Greater than 400 mm	2.5 %	6.0 %
Greater than 500 mm	0.0 %	0.0 %

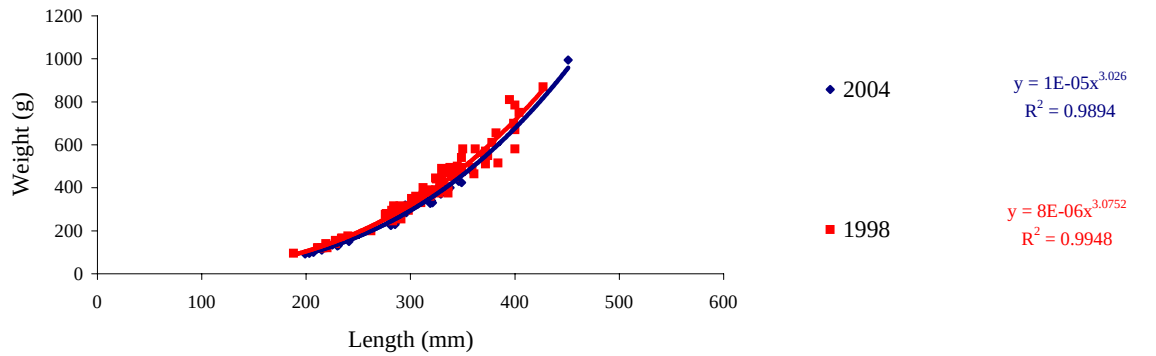
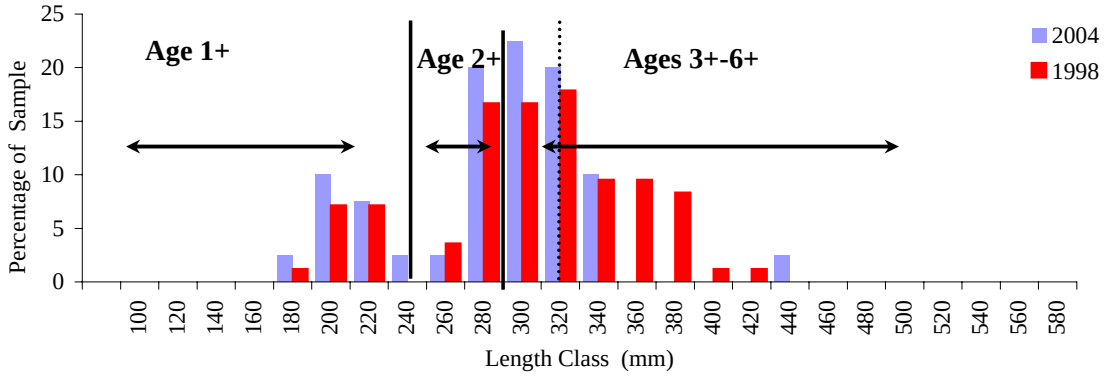


Figure 2. Length weight power relationship.



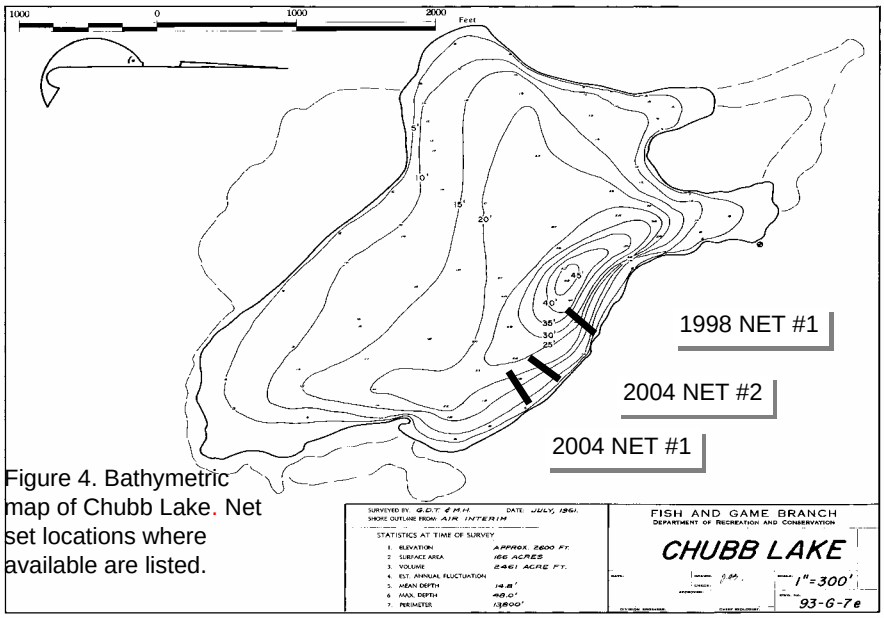


Figure 4. Bathymetric map of Chubb Lake. Net set locations where available are listed.

STOCKING HISTORY:

Release Date	Species Name	Fish Count	Stock	Mark	Average Size (gm)	Life Cycle Stage
23-Jun-04	RB	4430	BW DRAGON AF3N		23.48	YEARLING
6-Jun-04	RB	5000	PENNASK AF3N		13	YEARLING
3-Jun-03	RB	10000	PENNASK AF3N		15.87	YEARLING
14-Jun-02	RB	10000	PENNASK AF3N		15.55	YEARLING
12-Jun-01	RB	10000	PENNASK AF3N		14.17	YEARLING
29-May-00	RB	10000	PENNASK PENN AF		6.56	YEARLING
4-Jun-99	RB	10000	PENNASK BEAV AF		15.15	YEARLING
27-May-98	RB	8000	PENNASK AF		13.16	YEARLING
12-Jun-97	RB	10000	BADGER TUNKWA		7.35	YEARLING
2-Jun-96	RB	10000	BADGER TUNKWA		5.32	YEARLING
1-Jun-95	RB	10000	BLACKWATER GE		12.88	YEARLING
13-Jun-94	RB	10000	TUNKWA		7.46	YEARLING
26-May-93	RB	10000	BEAVER		3.61	YEARLING
18-Jun-92	RB	10000	NRT PREMIER		8.33	YEARLING
3-Jun-91	RB	3802	BADGER		19.3	YEARLING
29-May-91	RB	4898	NRT PREMIER		6.33	YEARLING
29-May-91	RB	6300	BADGER		9.52	YEARLING
25-May-90	RB	15000	BADGER		23.6	YEARLING
15-May-89	RB	10000	NRT PREMIER		5.4	YEARLING
1-May-88	RB	10000	TUNKWA		11.2	UNKNOWN
1-May-87	RB	10000	TUNKWA		13.3	UNKNOWN
1-May-86	RB	10000	NRT PREMIER		3	UNKNOWN
1-May-85	RB	10000	SPAHOMIN		7.5	UNKNOWN
1-May-84	RB	5000	NRT PREMIER		5.2	UNKNOWN
1-May-83	RB	10000	BEAVER		3.9	UNKNOWN
1-May-82	RB	10000	BADGER DR		5.6	UNKNOWN
1-May-81	RB	10000	DRAGON		11.5	UNKNOWN
1-Jun-80	RB	10000	BADGER		6.3	UNKNOWN
1-Jan-79	RB	15000	TUNKWA		4.8	UNKNOWN
1-Jan-76	RB	10000	PENNASK		1.4	UNKNOWN
1-Jan-75	RB	10000	NRT PREMIER		15	FINGERLING
1-Jan-73	RB	25000	SWALWELL		15	FINGERLING

Table 4. 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	Clip	Sex	Maturity
Chubb	1	1	RB	3	346	430	1.0	3+	OT	UN	AF3N	
Chubb	2	1	RB	2	280	260	1.2	2++	OT	UN	AF3N	
Chubb	3	1	RB	3	328	390	1.1	3+	OT	UN	AF3N	
Chubb	4	1	RB	2	296	285	1.1	2++	OT	UN	AF3N	
Chubb	5	1	RB	1	231	132	1.1	1++	OT	UN	AF3N	
Chubb	6	1	RB	3	338	400	1.0	3+	OT	UN	AF3N	
Chubb	7	1	RB	2	295	320	1.2	2++	OT	UN	F	MT
Chubb	8	1	RB	2	291	268	1.1	2++	OT	UN	AF3N	
Chubb	9	1	RB	1	225	134	1.2	1++	OT	UN	AF3N	
Chubb	10	1	RB	2	304	322	1.1	2++	OT	UN	AF3N	
Chubb	11	1	RB	3	320	370	1.1	3+	OT	UN	AF3N	
Chubb	12	1	RB	2	307	325	1.1	2++	OT	UN	F	IM
Chubb	13	1	RB	3	329	370	1.0	3+	OT	UN	AF3N	
Chubb	14	1	RB	2	326	400	1.2	2++	OT	UN	F	IM
Chubb	15	1	RB	2	306	330	1.2	2++	OT	UN	F	MT
Chubb	16	1	RB	6	451	995	1.1	6+	OT	UN	AF3N	
Chubb	17	1	RB	3	334	400	1.1	3+	OT	UN	AF3N	
Chubb	18	1	RB	1	199	92	1.2	1++	OT	UN	AF3N	
Chubb	19	1	RB	1	207	100	1.1	1++	OT	UN	AF3N	
Chubb	20	1	RB	3	335	400	1.1	3+	OT	UN	AF3N	
Chubb	21	1	RB	1	218	125	1.2	1++	OT	UN	AF3N	
Chubb	22	1	RB	2	283	240	1.1	2++	OT	UN	AF3N	
Chubb	23	1	RB	1	203	96	1.1	1++	OT	UN	AF3N	
Chubb	24	1	RB	4	346	460	1.1	4+	OT	UN	AF3N	
Chubb	25	1	RB	3	320	340	1.0	3+	OT	UN	AF3N	
Chubb	26	2	RB	3	335	400	1.1	3+	OT	UN	AF3N	
Chubb	27	2	RB	3	304	325	1.2	3+	OT	UN	AF3N	
Chubb	28	2	RB	3	319	328	1.0	3+	OT	UN	AF3N	
Chubb	29	2	RB	2	285	230	1.0	2+	OT	UN	AF3N	
Chubb	30	2	RB	2	281	225	1.0	2+	OT	UN	AF3N	
Chubb	31	2	RB	3	313	345	1.1	3+	OT	UN	AF3N	
Chubb	32	2	RB	3	358	480	1.0	3+	OT	UN	AF3N	
Chubb	33	2	RB	1	241	150	1.1	1++	OT	UN	AF3N	
Chubb	34	2	RB	3	321	330	1.0	3+	OT	UN	AF3N	
Chubb	35	2	RB	3	349	425	1.0	3+	OT	UN	AF3N	
Chubb	36	2	RB	2	310	360	1.2	2+	OT	UN	F	IM
Chubb	37	2	RB	2	286	240	1.0	2++	OT	UN	AF3N	
Chubb	38	2	RB	2	285	250	1.1	2++	OT	UN	AF3N	
Chubb	39	2	RB	1	230	129	1.1	1++	OT	UN	AF3N	
Chubb	40	2	RB	1	215	110	1.1	1++	OT	UN	AF3N	