

## Executive Summary

## Purden Lake 2006

A stocking assessment was conducted at Purden Lake between June 12 and 13, 2006. Purden Lake was last assessed in 1994, however, only one rainbow trout was captured during that survey. The management goal for Purden Lake is to maintain a high-use, average-quality fishery for rainbow trout. Prior to this assessment it was unclear whether wild rainbow trout recruitment was sufficient or whether supplementation with hatchery fish was needed to support the fishery. Data from a creel survey in 1990 indicated that return to the creel from the stocked rainbow trout was potentially a substantial contributor to the fishery. Purden Lake has been supplemented with hatchery rainbow trout annually since 1979, however, this is the first successful stock assessment since supplementation began.

Purden Lake is 836 ha and is situated 54 km North East of Prince George. Purden Lake Provincial Park encompasses most of the perimeter of the lake except for a portion of the shoreline on south west side of the lake near highway 16 east. Much of this additional land is developed with private cabins and a resort. Purden Lake can be accessed from Highway 16 east either through Purden Lake Provincial Park or through private land. Fisheries work on this lake in the last 20 years has included attempts at improving the quality of the rainbow trout fishery through habitat improvement on rainbow spawning tributaries. Purden Lake supports populations of non-game fish including lake chub and large-scale suckers; sports-fish include burbot and rainbow trout.

The objective of the 2006 survey was to assess the contribution of wild rainbow trout to the fishery in a mixed species environment by utilizing a marked cohort of hatchery rainbow trout yearlings that were stocked in 2005. Five nets were set in Purden Lake on June 12, 2006. Three multi-mesh floating (RISC standard mesh sizes) gillnets and two SLIN gillnets (1.5 inch mesh) were used. The total sampling effort was 88.6 hours, resulting in a gillnet catch per unit effort (CPUE) of 2.27 rainbow trout per net-hour. Based on this assessment, the fishery appears to be providing an average quality angling experience, as 38.5% of the fish sampled in the stock assessment were between 300 - 400 mm in length and net catch rates were high. The mean rainbow trout size in the sub-sampled catch was 280 mm and 285 g. Age-2 stocked rainbow trout that were marked with an adipose clip, comprised 27% of the gillnet catch.

Based on the results of this survey and in consideration of the high angler-use of this fishery, it is recommended that the stocking program for rainbow trout in Purden Lake be continued, however given that this lake contains native rainbow trout future supplementation should be limited to AF3N strain. It is also recommended that Purden Lake be evaluated for possible introduction of all female sterile Kokanee in future if these fish become available to the stocking program and once evaluation of the stocking program on 10-mile Lake in Region 5 (Cariboo) is complete. Kokanee are pelagic foragers and have the potential to co-exist with wild rainbow trout and other non-game fish species in environments with extensive pelagic habitat such as Purden Lake. In many locations, kokanee are popular sport-fish that provide an important opportunity for entry level anglers. These features in combination with close proximity of Purden Lake to Prince George, make this potential opportunity worth investigating.

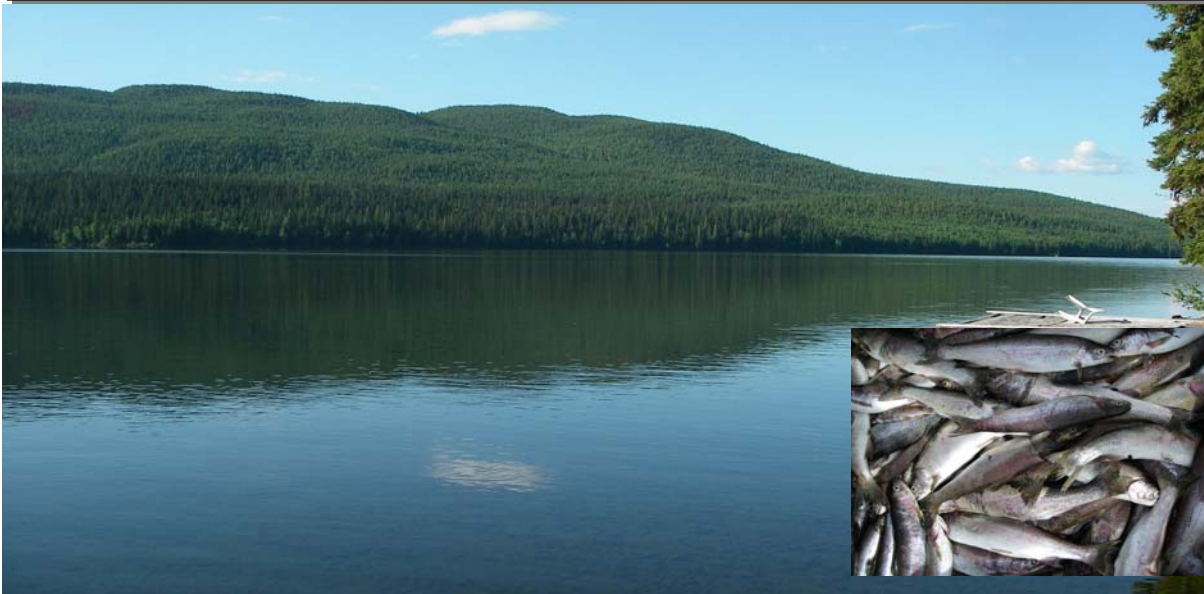


Figure 1. Photo of Purden Lake. Inset shows rainbow trout from the gillnet sample.

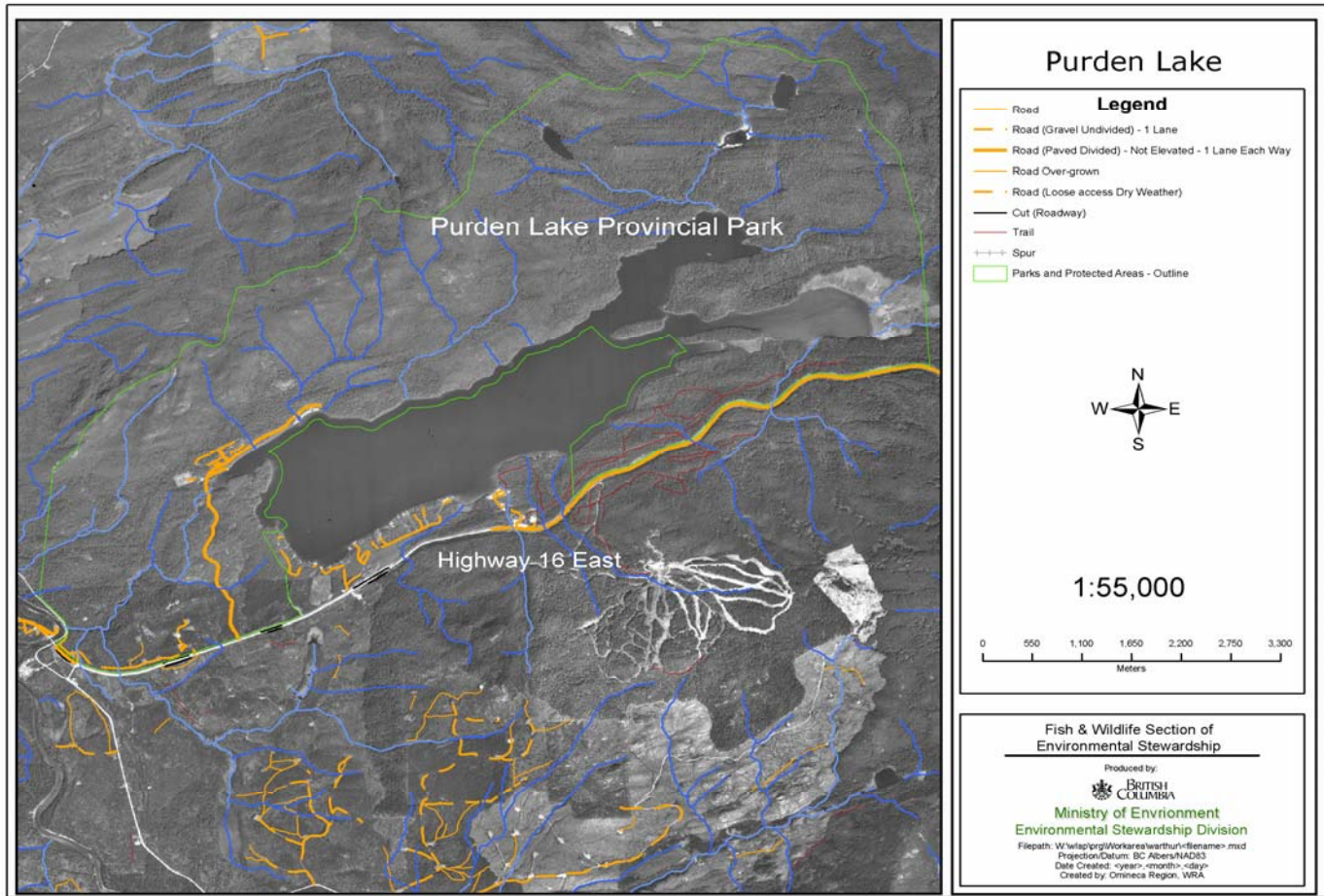


Figure 1. Map Purden Lake and Purden Lake Provincial Park.

**OMINECA REGION  
LAKE STOCK ASSESSMENT REPORT**

**LAKE NAME:** Purden      **ALIAS:** Purden      **BC WBID:** 00140BOWR

**LAKE LOCATION:**      *Nearest center:* 54 km NE of Prince George      *Drainage:* FRASER  
*UTM:*      10.570224,5973785

**LAKE ATTRIBUTES:**      *Surface Area:*      836 Ha      *Elevation:*      773 m  
*Littoral Area:*      n/a Ha      *T.D.S.:*      48-54 ppm  
*Max Depth:*      52 m      *Mean depth:*      20.1 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       1994, See Lakes Files  
 Year(s) Surveyed:      1976, 1979,1981-1983, 1990, 1994

**STOCKING DATA:**

*Current Stocking Rate*      12      Fish/Ha      Annual  
*Stock Type*      **BLACKWATER DR**  
*Species*      RB mixed  
*Previous Stocking Rate*      12

**SURVEY METHODS:**

Method	Date (yy.mm.dd)	Survey Agency	Crew
Fish	SGN      2006-06-12	BC Conservation	Marcel Macullo, Andrew Walker
Chem.	TDS etc.      1980	M.O.E.	
Physical	Bathy.      1969	Fish and Wildlife Branch	
Temp.	Profiles      1980	M.O.E.	

**Netting Specs:**      *Net type:*      Standard Experimental      *Net length:*      90m (3x30m)  
                          *Setting:*      Sinking and Floating      *Panel Mesh:*      SGN and 1.5 SLIN net.

**SURVEY RESULTS:**

**Catch**

	RB	BB	RSC	LKC	LSU	CSU	NSC	CAS	BT	LT
<b>2006</b>	200	19	0	0	643	0	0	0	0	0
<b>1990</b>	79									
<b>1981-1983</b>	57									
-										

\* 1981-1983 and 1990 data are from a creel survey

Survey Year	<b>2006</b>
Effort Hours	88.16
RB CPUE:	2.27
EB CPUE:	0.00
# of Sets:	5

RB/Net Hour  
EB/Net Hour

**Next Assessment:**

**2011**

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### **SURVEY CONCLUSIONS:**

Objective	Objectives Achieved		Reason
	Yes	No	
1. Family	<input type="checkbox"/>	<input type="checkbox"/>	The stocking program appears to support about 30% of the trout fishery.
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:** 48% of age-2 rainbows in the sub-sampled catch were adipose marked fish that were stocked in 2005. An estimated 27% of the total catch of two year olds were marked.

**Management:** Consider increasing stocking rate to increase return to the fishery as natural recruitment potential is limited in Purden. Change stock to AF3N. Also consider stocking with AF3N kokanee if and when they become available.

**Comments:** In each of 2005-2006 Purden Lake supported about 2500 angler days, or 5.5 angler days/ha. Data from 1990 and 1981-83 are from creel surveys

**Uncertainties:** The whole catch was not sampled for length and weight, therefore uncertainties exist as to how the catch was sub-sampled and what percentage of the total catch was age-two. Age samples from creel surveys were aged using scales, therefore ages of older fish may be overestimated.

### **Recent Brood Request Comments:**

2007 Annual. Provincial Park. Assessed in '06. Preliminary results indicate good potential return to the creel. No changes pending final report.

### **History of Angling Regulations**

No special regulations.

**Reported by:** Cory Williamson

**Date:** Feb-07

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

Sample Year	Sample Age	Sample Size	Length (mm)				Weight (g)				Condition (k)				
			Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Var
2006	1	16	130	112	150	10.4	24	17	36	5.0	1.10	0.93	1.35	0.1	0.01
1990	1	2	178	140	215	53.0	97	53	140	61.5	1.67	1.41	1.93	0.4	0.14
1981-1983	1	0	0	0	0	0.0	0	0	0	0.0	0.00	0.00	0.00	0.0	0.00
2006	2	53	276	200	318	22.5	235	77	400	59.1	1.09	0.83	1.29	0.1	0.01
1990	2	60	284	160	363	36.4	276	41	560	86.0	1.13	0.00	1.53	0.3	0.09
1981-1983	2	1	238				170			1.26					
2006	3	42	327	258	378	30.1	387	205	620	99.5	1.09	0.84	1.28	0.1	0.01
1990	3	17	331	266	400	35.3	394	260	640	105.9	1.09	0.66	1.59	0.2	0.06
1981-1983	3	24	262	200	316	30.5	214	99	369	71.9	1.15	0.61	1.31	0.1	0.02
2006	4	7	386	346	444	38.8	647	470	1090	235.4	1.09	0.97	1.25	0.1	0.01
1981-1983	4	17	308	262	375	32.0	321	142	610	118.7	1.06	0.72	1.26	0.2	0.02
2006	5	1	366				505			1.03					
1981-1983	5	11	364	305	412	34.3	530	312	794	130.6	1.08	0.92	1.19	0.1	0.01
1981-1983	6	2	401	373	429	39.6	638	539	737	140.0	0.99	0.93	1.04	0.1	0.01
1981-1983	7	1	460				794			0.82					

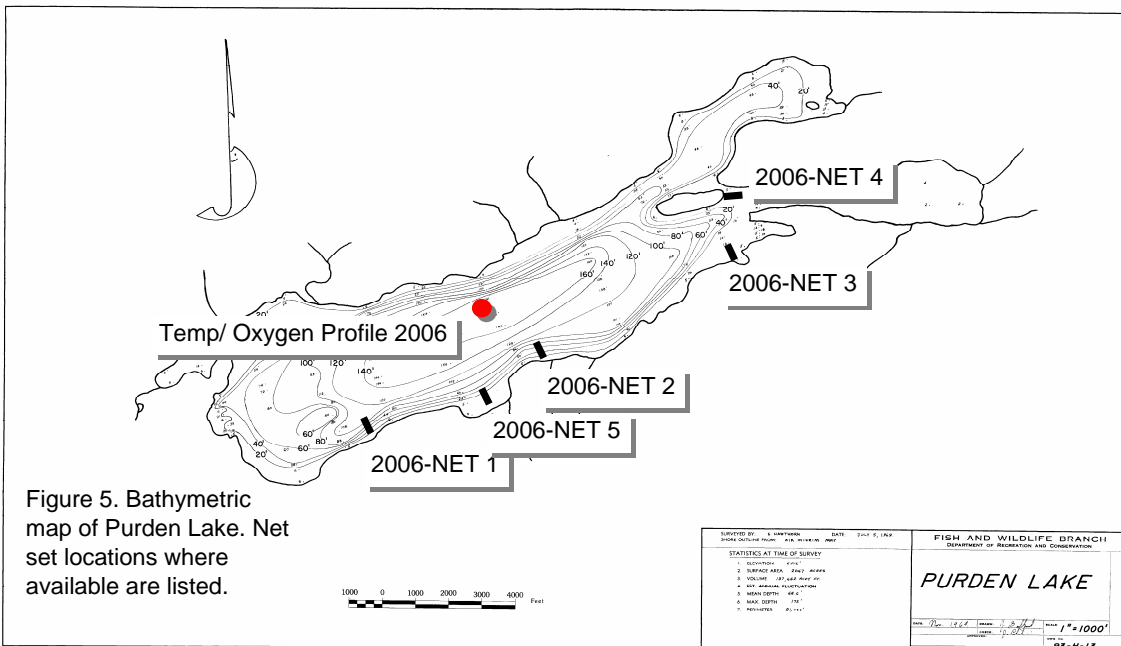
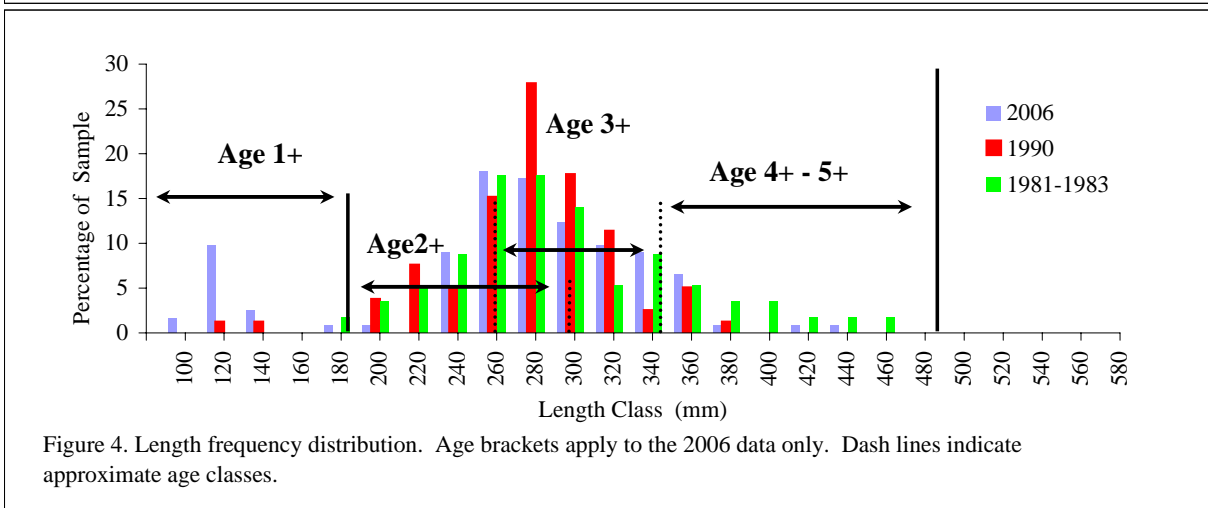
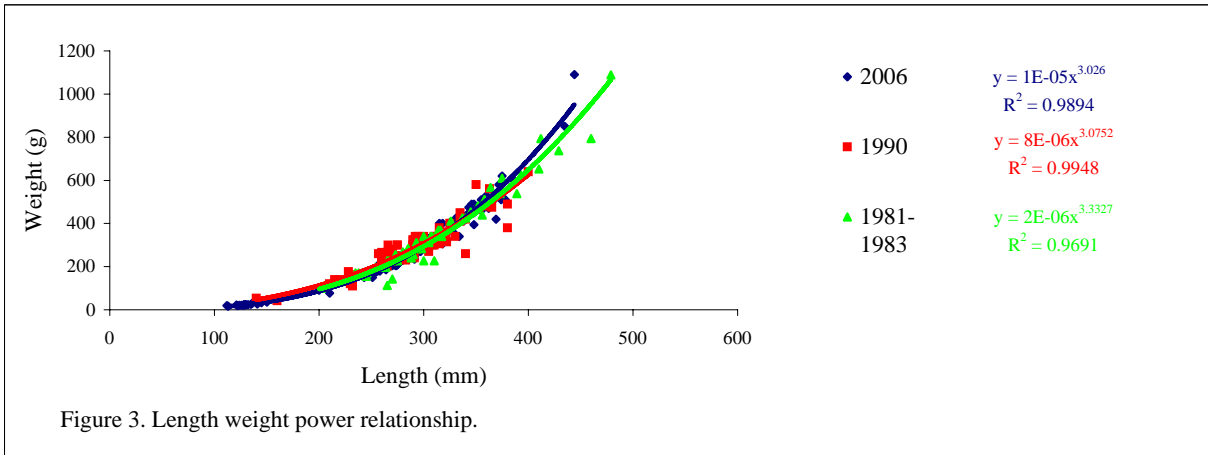
**Table 2. Catch summary for all sample years.**

Sample Year	Sample Size	Length (mm)				Weight (g)				Condition (k)				
		Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Mean	Min	Max	StdDev	Var
2006	122	280	112	444	72.6	285	17	1090	173.0	1.09	0.83	1.35	0.09	0.01
1990	79	291	140	400	45.0	298	41	640	107.2	1.14	0.00	1.93	0.30	0.09
1981-1983	57	307	200	479	61.3	346	99	1089	202.2	1.10	0.61	1.31	0.14	0.02

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

Survey Year	2006	1990	1981-1983
Less than 250 mm	17.2 %	13.9 %	17.5 %
Between 250-300 mm	42.6 %	48.1 %	36.8 %
Between 300-400 mm	38.5 %	38.0 %	36.8 %
Greater than 400 mm	1.6 %	1.3 %	8.8 %
Greater than 500 mm	0.0 %	0.0 %	0.0 %

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**Table 4. Complete stocking history for Purden Lake to (1979-2006.)**

Release Date	Species Name	Fish Count	Stock	Mark	Average Size (gm)	Life Cycle Stage
11-Jun-06	RB	2500	BLACKWATER DR		23.7	YEARLING
06-Jun-06	RB	7500	BLACKWATER DR		21.23	YEARLING
31-May-05	RB	10000	BLACKWATER DR	Adipose	25.7	YEARLING
27-May-04	RB	10000	BLACKWATER DR		21.83	YEARLING
22-May-03	RB	10000	BLACKWATER DR		21.28	YEARLING
5-Jun-02	RB	10000	BLACKWATER DR		21.79	YEARLING
25-Jun-01	RB	10000	BLACKWATER DR		21.28	YEARLING
2-Jun-00	RB	3600	BLACKWATER DR		22.17	YEARLING
2-Jun-00	RB	6400	BLACKWATER DR		25.64	YEARLING
19-Jun-99	RB	10000	BLACKWATER GE		23.15	YEARLING
4-Jun-98	RB	10000	BLACKWATER DR		26	YEARLING
30-May-97	RB	10000	BLACKWATER GE		7.21	YEARLING
3-Jun-96	RB	10000	BADGER TUNKWA		5.32	YEARLING
1-Jun-95	RB	10000	BLACKWATER GE		13.13	YEARLING
13-Aug-94	RB	11053	TUNKWA	Adipose	16.7	YEARLING
13-Jun-93	RB	3820	DRAGON/TUNKWA		3.7	YEARLING
13-Jun-93	RB	8682	DRAGON/TUNKWA/BEAVER		3.29	YEARLING
28-May-92	RB	10000	TUNKWA		14.98	YEARLING
23-May-91	RB	10000	BADGER		16.1	YEARLING
16-May-89	RB	10000	TUNKWA		9.6	YEARLING
1-May-88	RB	20000	TUNKWA		10.3	UNKNOWN
1-May-87	RB	10000	TUNKWA		13.3	UNKNOWN
1-Jun-86	RB	8800	DRAGON		27.8	UNKNOWN
1-Jun-85	RB	10000	BEAVER		18.2	UNKNOWN
1-Jun-84	RB	10000	NRT PREMIER		11.6	UNKNOWN
1-Jun-82	RB	50000	BEAVER		0	UNKNOWN
1-Jun-82	RB	50000	PENNASK		0	UNKNOWN
1-Jun-81	RB	50000	BEAVER		0	UNKNOWN
1-Jun-81	RB	50000	SPAHOMIN		0	UNKNOWN
1-Jun-80	RB	50000	SPAHOMIN		0	UNKNOWN
1-Jan-79	RB	10000	BEAVER		0	UNKNOWN

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

12-Sep-94			12-Jun-06 Station UTM 10.571274.5974934					
Depth (m)	DO	Temp. °C	Depth (m)	DO mg/L	DO %sat	Temp. °C	pH	Cond (25°C)
0	8	16.5	0	8.7		20.36		
1	8	17	1	8.6		17.43		74
2	7	17	2	8.8		16.82		94
3	8	17	3	9.1		16.14		
4	8.2	17	4	9.3		15.24		79
5	8.3	16.5	5	9.6		13.62		74
6	8.4	16.5	6	10		11.53		74
7	8.4	16.5	7	10.4		10.32		67
8	8.5	16.5	8	10.9		8.37		75
9			9	11.2		7.75		66
10			10	11.4		7.25		73
11			11	11.7		6.76		
12			12	11.8		6.47		
13			13	12		6.14		
14			14	12.2		5.85		
			15	12.3		5.64		69
			16	12.4		5.56		76
			17	12.5		5.44		76
			18	12.6		5.33		
			19	12.7		5.21		



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Table 6. Stock Assessment Data for 2006 (see lake files for additional survey data).

Lake	Sample#	Site	Haul	Species		Length (mm)	Weight (grams)	Condition (k)	Calendar Age	Age Structure	Ageing Confidence (0-9)	Clip	Sex	Maturity
				Caught	Age									
Purden	purb1	1	1	rb	3*	378	510	0.9	3	otolith	7		m	spent
Purden	purb2	1	1	rb	2*	251	150	0.9	2	otolith	4	adipose	m	mature
Purden	purb3	1	1	rb	2*	259	190	1.1	2	otolith	7		m	mature
Purden	purb4	1	1	rb	1*	112	19	1.4	1	otolith	8		m	immature
Purden	purb5	1	1	rb	1*	129	23	1.1	1	otolith	8		unk	immature
Purden	purb6	1	1	rb	1*	126	21	1.0	1	otolith	8		unk	immature
Purden	purb7	1	1	rb	3*	375	620	1.2	3	otolith	7		m	maturing
Purden	purb8	1	1	rb	2*	300	295	1.1	2	otolith	2		m	maturing
Purden	purb9	1	1	rb	2*	295	290	1.1	2	otolith	8	adipose	f	maturing
Purden	purb10	1	1	rb	2*	302	300	1.1	2	otolith	7		f	maturing
Purden	purb11	1	1	rb	2*	285	249	1.1	2	otolith	6		f	maturing
Purden	purb12	1	1	rb	3*	339	415	1.1	3	otolith	7		m	maturing
Purden	purb13	1	1	rb	3*	377	510	1.0	3	otolith	7		f	spent
Purden	purb14	1	1	rb	2*	285	250	1.1	2	otolith	8		f	maturing
Purden	purb15	1	1	rb	2*	304	310	1.1	2	otolith	7	adipose	m	maturing
Purden	purb16	1	1	rb	3*	348	480	1.1	3	otolith	7		f	maturing
Purden	purb17	1	1	rb	3*	369	420	0.8	3	otolith	7		f	spent
Purden	purb18	1	1	rb	2*	290	240	1.0	2	otolith	2	adipose	m	maturing
Purden	purb19	1	1	rb	2*	304	320	1.1	2	otolith	8	adipose	m	maturing
Purden	purb20	1	1	rb	3*	348	450	1.1	3	otolith	6		m	maturing
Purden	purb21	2	1	rb	n/a	128	21	1.0		otolith	-		unk	immature
Purden	purb22	2	1	rb	3*	336	420	1.1	3	otolith	9		f	maturing
Purden	purb23	2	1	rb	2*	290	290	1.2	2	otolith	7		f	maturing
Purden	purb24	2	1	rb	3*	291	235	1.0	3	otolith	7		m	spent
Purden	purb25	2	1	rb	4*	374	510	1.0	4	otolith	7		m	maturing
Purden	purb26	2	1	rb	4*	444	1090	1.2	4	otolith	6		f	spawning
Purden	purb27	2	1	rb	2*	256	190	1.1	2	otolith	7		f	maturing
Purden	purb28	2	1	rb	2*	281	260	1.2	2	otolith	7		f	maturing
Purden	purb29	2	1	rb	3*	315	350	1.1	3	otolith	8		m	maturing
Purden	purb30	2	1	rb	4*	384	610	1.1	4	otolith	7		m	maturing
Purden	purb31	2	1	rb	3*	304	329	1.2	3	otolith	8		m	maturing
Purden	purb32	2	1	rb	3*	325	405	1.2	3	otolith	8		f	maturing
Purden	purb33	2	1	rb	2*	304	295	1.1	2	otolith	7		f	maturing
Purden	purb34	2	1	rb	4*	362	470	1.0	4	otolith	7		f	spent
Purden	purb35	2	1	rb	3*	332	430	1.2	3	otolith	7		m	maturing
Purden	purb36	2	1	rb	2*	280	230	1.0	2	otolith	7	adipose	f	maturing
Purden	purb37	2	1	rb	3*	334	340	0.9	3	otolith	8		f	maturing
Purden	purb38	2	1	rb	3*	328	390	1.1	3	otolith	8		f	maturing
Purden	purb39	2	1	rb	1*	150	36	1.1	1	otolith	9		unk	immature
Purden	purb40	2	1	rb	3*	318	400	1.2	2	otolith	7	adipose	m	maturing
Purden	purb41	2	1	rb	1*	122	19	1.0	1	otolith	9		unk	immature
Purden	purb42	2	1	rb	1*	128	23	1.1	1	otolith	3		unk	immature
Purden	purb43	2	1	rb	1*	130	23	1.0	1	otolith	8		unk	immature
Purden	purb44	2	1	rb	1*	121	22	1.2	1	otolith	8		unk	immature
Purden	purb45	2	1	rb	1*	124	21	1.1	1	otolith	8		unk	immature
Purden	purb46	2	1	rb	1*	136	29	1.2	1	otolith	9		f	immature
Purden	purb47	2	1	rb	1*	145	33	1.1	1	otolith	8		unk	immature
Purden	purb48	2	1	rb	1*	113	17	1.2	1	otolith	3		unk	immature
Purden	purb49	2	1	rb	1*	130	24	1.1	1	otolith	3		unk	immature
Purden	purb50	2	1	rb	1*	132	24	1.0	1	otolith	8		unk	immature
Purden	purb51	2	1	rb	1*	141	26	0.9	1	otolith	8		m	immature
Purden	purb52	2	1	rb	1*	135	25	1.0	1	otolith	9		unk	immature
Purden	purb53	2	1	rb	3*	330	350	1.0	3	otolith	2		f	maturing
Purden	purb54	2	1	rb	3*	338	435	1.1	3	otolith	3		f	maturing
Purden	purb55	2	1	rb	5*	366	505	1.0	5	otolith	8		m	maturing
Purden	purb56	2	1	rb	3*	343	450	1.1	3	otolith	7		f	maturing
Purden	purb57	2	1	rb	3*	348	490	1.2	3	otolith	8		f	maturing
Purden	purb58	2	1	rb	n/a	302	340	1.2	3	otolith	-		f	maturing
Purden	purb59	2	1	rb	3*	295	290	1.1	3	otolith	8		f	maturing
Purden	purb60	2	1	rb	2*	268	205	1.1	2	otolith	8	adipose	f	maturing
Purden	purb61	2	1	rb	4*	355	510	1.1	4	otolith	7		m	maturing
Purden	purb62	2	1	rb	2*	290	265	1.1	2	otolith	8	adipose	f	maturing
Purden	purb63	2	1	rb	3*	330	405	1.1	3	otolith	8		m	maturing
Purden	purb64	2	1	rb	2*	270	205	1.0	2	otolith	8	adipose	f	maturing
Purden	purb65	2	1	rb	3*	315	325	1.0	3	otolith	6		f	maturing
Purden	purb66	2	1	rb	2*	310	305	1.0	2	otolith	6	adipose	unk	unk
Purden	purb67	3	1	rb	2*	296	290	1.1	2	otolith	7		m	maturing
Purden	purb68	3	1	rb	3*	300	320	1.2	2	otolith	7	adipose	m	maturing
Purden	purb69	3	1	rb	3*	270	220	1.1	3	otolith	9		m	mature
Purden	purb70	3	1	rb	2*	295	330	1.3	2	otolith	6		f	maturing
Purden	purb71	3	1	rb	2*	273	240	1.2	2	otolith	7		m	maturing
Purden	purb72	3	1	rb	4*	435	850	1.0	4	otolith	8		f	maturing
Purden	purb73	3	1	rb	3*	343	475	1.2	3	otolith	8		f	maturing
Purden	purb74	3	1	rb	3*	318	305	0.9	3	otolith	8		f	maturing
Purden	purb75	3	1	rb	3*	322	360	1.1	3	otolith	7		m	maturing

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**Table 6 continued. Stock Assessment Data for 2006 (see lake files for additional survey data).**

Lake	Sample#	Site	Haul	Species		Length (mm)	Weight (grams)	Condition (k)	Calender Age	Age Structure	Ageing Confidence (0-9)	Clip	Sex	Maturity
				Caught	Age									
Purden	purb76	3	1	rb	4*	346	490	1.2	4	otolith	9		f	spawning
Purden	purb77	3	1	rb	2*	258	180	1.0	2	otolith	8		m	maturing
Purden	purb78	3	1	rb	3*	258	215	1.3	3	otolith	9		f	maturing
Purden	purb79	3	1	rb	3*	332	420	1.1	3	otolith	9		f	maturing
Purden	purb80	3	1	rb	3*	372	580	1.1	3	otolith	8		m	maturing
Purden	purb81	3	1	rb	3*	360	530	1.1	3	otolith	8		m	maturing
Purden	purb82	3	1	rb	3*	330	420	1.2	3	otolith	7		f	maturing
Purden	purb83	3	1	rb	3*	355	460	1.0	3	otolith	7		f	maturing
Purden	purb84	3	1	rb	2*	253	190	1.2	2	otolith	7	adipose	f	maturing
Purden	purb85	3	1	rb	3*	348	475	1.1	3	otolith	8		m	spawning
Purden	purb86	3	1	rb	3*	315	400	1.3	3	otolith	7		f	maturing
Purden	purb87	3	1	rb	3*	304	320	1.1	3	otolith	7		f	maturing
Purden	purb88	3	1	rb	3*	302	295	1.1	3	otolith	8		m	maturing
Purden	purb89	3	1	rb	2*	275	220	1.1	2	otolith	8	adipose	f	maturing
Purden	purb90	3	1	rb	n/a	296	290	1.1		otolith	-		f	maturing
Purden	purb91	3	1	rb	3*				3	otolith	8			
Purden	purb92	4	1	rb	2*	267	220	1.2	2	otolith	8		f	maturing
Purden	purb93	4	1	rb	2*	272	230	1.1	2	otolith	8		m	maturing
Purden	purb94	4	1	rb	3*	348	395	0.9	3	otolith	8		f	spent
Purden	purb95	4	1	rb	2*	256	180	1.1	2	otolith	8		f	maturing
Purden	purb96	4	1	rb	3*	296	300	1.2	3	otolith	8		m	maturing
Purden	purb97	4	1	rb	2*	294	290	1.1	2	otolith	6		m	maturing
Purden	purb98	4	1	rb	2*	254	175	1.1	2	otolith	8	adipose	m	maturing
Purden	purb99	4	1	rb	2*	285	245	1.1	2	otolith	9		m	maturing
Purden	purb100	4	1	rb	2*	273	250	1.2	2	otolith	8	adipose	f	maturing
Purden	purb101	4	1	rb	3*	274	205	1.0	3	otolith	9		m	maturing
Purden	purb102	4	1	rb	2*	275	210	1.0	2	otolith	3		m	maturing
Purden	purb103	4	1	rb	2*	200	90	1.1	2	otolith	7		unk	
Purden	purb104	4	1	rb	3*	294	305	1.2	3	otolith	8		f	maturing
Purden	purb105	4	1	rb	2*	266	210	1.1	2	otolith	6		m	maturing
Purden	purb106	4	1	rb	2*	250	170	1.1	2	otolith	7		f	maturing
Purden	purb107	4	1	rb	2*	277	220	1.0	2	otolith	8		f	maturing
Purden	purb108	4	1	rb	2*	264	185	1.0	2	otolith	7		m	maturing
Purden	purb109	4	1	rb	2*	210	77	0.8	2	otolith	8		f	maturing
Purden	purb110	4	1	rb	3*	273	205	1.0	3	otolith	7		f	maturing
Purden	purb111	4	1	rb	n/a	316	340	1.1		otolith	-		m	maturing
Purden	purb112	4	1	rb	2*	293	260	1.0	2	otolith	9		f	maturing
Purden	purb113	4	1	rb	2*	243	150	1.0	2	otolith	3	adipose	m	maturing
Purden	purb114	4	1	rb	2*	297	270	1.0	2	otolith	7	adipose	f	maturing
Purden	purb115	4	1	rb	2*	276	240	1.1	2	otolith	8	adipose	m	maturing
Purden	purb116	4	1	rb	2*	274	235	1.1	2	otolith	7	adipose	f	maturing
Purden	purb117	4	1	rb	2*	267	210	1.1	2	otolith	6	adipose	f	maturing
Purden	purb118	4	1	rb	2*	270	230	1.2	2	otolith	6	adipose	f	maturing
Purden	purb119	4	1	rb	2*	268	210	1.1	2	otolith	9	adipose	f	maturing
Purden	purb120	5	1	rb	2*	275	210	1.0	2	otolith	8	adipose	f	maturing
Purden	purb121	5	1	rb	2*	255	180	1.1	2	otolith	8	adipose	f	maturing
Purden	purb122	5	1	rb	2*	278	230	1.1	2	otolith	9	adipose	m	maturing
Purden	purb123	5	1	rb	3*	289	270	1.1	2	otolith	7	adipose	f	maturing