



## ERRATA

### **Hydrology and Water Use for Salmon Streams in the Thompson River Watershed, British Columbia**

**Canadian Manuscript Report of Fisheries and Aquatic Sciences No. 2297**

#### REVISED TABLES

**Rates in gallons per day for domestic, waterworks and industrial licences were incorrectly converted to litres per second, resulting in underestimated total demand. This error does not have much effect on the ranking or prioritizing of the sensitive streams because irrigation diversions are by far the most significant water use in the Thompson drainage salmon streams. However, correcting the conversion does increase the demand on winter flows in some salmon streams.**

**The following tables have been revised accordingly and replace those in the report.**

#### **TABLES 2, 3 and 4**

**Summary of the hydrology of the North Thompson HMA, South Thompson/Shuswap HMA and the Thompson/Nicola HMA.**

#### **TABLES 8, 9 and 10**

**Sensitivity indices for the North Thompson HMA, South Thompson/Shuswap HMA and the Thompson/Nicola HMA.**

#### **TABLES 11, 12 and 13**

**Most sensitive streams in the North Thompson HMA, South Thompson/Shuswap HMA and the Thompson/Nicola HMA.**

Table 2: Hydrology of the Salmon Streams in the NorthThompson HMA

Stream Name	WSC Gauge No.	Basin Area (mouth) (km <sup>2</sup> )	Logged Area (km <sup>2</sup> )		Improved Farmland (1990) (km <sup>2</sup> )	Domestic (g/day)	Total Water Licenses (g/day)		Instream (g/day)	Conservation (cts)	Licensed Demand (L/s)		Naturalized Flows in the Salmon Streams (m <sup>3</sup> /s)										
			Recent	Older			Irrigation (sec-ft)	Waterworks			Aug	Sept	Feb	Mean Annual	Mean Flood	Mean Monthly	Aug	Sept	Summer	Mean 7-day Flow	Winter		
N. Thompson R		20742	2511.9	2211.1	91.55	-	-	-	-	-	-	-	420.0	1890	406.08	270	205	76					
Louis Creek	06LB072	526	32.1	77.1	6.59	32,000	4,703	122,000	182,986	0.6	566	348	18	23.4	1.78	1.36	1.07	0.57					
- Christian Ck		19	1.9	5.6	0.33	3,500	950	0	500	0.6	111	67	0	0.9	0.11	0.07	0.07	0.003					
Barriere R	06LB020	1151	113.8	225.7	1.63	70,500	2,710	2,002,500	24,000	0	427	301	110	94.9	7.60	5.42	3.95	2.62					
- E Barriere R		318	36.5	59	0	45,500	313	2,500	500	0	39	25	3	3.9	41.0	1.31	0.97	0.68	0.42				
- Haggard Ck		92	13.7	13.7	0	4,500	32	0	0	0	4	2	0	1.1	19.0	0.45	0.36	0.2	0.14				
- Fennell Ck		110	5.5	22	0	500	0	0	0	0	0	0	0	1.4	27.2	0.34	0.36	0.15	0.12				
Lemieux Ck	08LB078	454	45.4	45.4	1.68	11,000	921	0	1,182,103	0	171	127	63	22.1	1.80	1.18	0.84	0.58					
Joseph Ck		259	25.5	34.6	0.27	7,000	800	5,000	0	1.07	84	57	1	6.4	53.4	3.43	2.94	1.87	0.79				
- Dunn Ck		105	2.5	19.2	0.27	500	272	0	0	0.07	32	19	0	2.6	21.6	1.41	1.27	0.89	0.33				
- McTaggart Ck		21	0	7.4	0.27	500	231	0	0	0	27	16	0	0.1	1.0	0.06	0.04	0.03	0.01				
Mann Ck	08LB050	295	72.7	29.1	0	9,000	731	40,000	27,500	0	90	55	4	3.0	29.8	1.37	1.21	0.61	0.33				
Clearwater R	08LA001	10551	1315.7	804	36.79	123,800	10,921	2,270,000	161,986	10.3	1412	901	134	220.0	280.4	78.4	50.50	22.4					
- Brookfield Ck		52	18.3	4.6	0.3	0	52	10,000	30,000	0	8	6	2	1.7	15.5	0.42	0.34	0.19	0.14				
- Mahood R	08LA008	4915	1228.7	737.2	35.09	86,300	9,332	4,060,000	124,486	0.3	1317	860	225	33.7	166.0	25.1	16.8	12	7				
Raff R		764	189.3	113.6	0.63	2,500	879	0	1,500	0	103	62	0	15.2	116.6	4.42	3.75	2	1.1				
Reg Christie Ck		76	11.3	3.8	0	1,000	342	0	0	0	40	24	0	1.5	10.8	0.50	0.42	0.22	0.15				

1. Gauge numbers indicate that flow characteristics were calculated from WSC gauging records.
2. Logged areas, improved farmland, mean annual flows and mean annual flood from Sigma (1991).
3. Total water licences for each salmon stream expressed in imperial units, as provided by Water Management Branch.
4. Reference for all data in table is the mouth of the salmon stream.
5. Licensed demands (L/s) calculated from total water licences as described in body of report.
6. Naturalized flows are estimates of those that would occur in the absence of all upstream water extractions.

**Table 2: Hydrology of the Salmon Streams in the North Thompson HMA**

Stream Name	WSC Gauge No.	Basin Area (mouth) (km <sup>2</sup> )	Logged Area (km <sup>2</sup> )		Improved Farmland (1990) (km <sup>2</sup> )	Total Water Licenses				Licensed Demand (L/s)				Naturalized Flows in the Salmon Streams (m <sup>3</sup> /s)				
			Recent	Older		Domestic (g/day)	Irrigation (ac-ft)	Waterworks (g/day)	Industrial (g/day)	Conservation (cfs)	Aug	Sept	Feb	Annual Mean	Mean Flood	Aug	Sept	Summer
Mad R		227	45.4	45.4	0	0	0	0	0	0	0	0	0	0	0.98	0.74	0.49	0.31
Unnamed Ck (04-4210)		11	4	0	0	0	0	0	0	0	0	0	0	0	0.07	0.06	0.025	0.023
Avola Ck		5	0	2.1	0	0	0	45,000	0	0	2	2	0.1	0.03	0.03	0.03	0.011	0.011
Unnamed Ck (04-4600)		10	2.4	0	0	0	0	0	0	0	0	0	0.2	0.06	0.06	0.02	0.02	0.02
Tumtum Ck		24	2.4	1.2	0	0	0	0	0	0	0	0	0.5	0.10	0.06	0.035	0.033	
Lion Ck		46	9.3	9.3	0	0	0	0	0	0	0	0	0.9	0.17	0.14	0.069	0.061	
Finn Ck		134	33.4	13.4	0	500	0	0	0	2.7	0	0	4.7	1.19	1.01	0.58	0.32	
Goose Ck		9	2.2	1.8	0	0	0	0	0	0	0	0	0.3	0.02	0.014	0.005	0.008	
Blue R	LB038	275	19.2	22	0	0	0	200,000	5,000	0	11	11	9.7	80.3	7.21	4.94	3.18	1.21
Cedar Ck		11	1.1	1.7	0	1,000	11	0	0	0	1	1	0.4	0.07	0.066	0.025	0.023	
Cook Ck		11	1.1	1.7	0	1,000	0	0	0	0	0	0	0.4	0.09	0.09	0.034	0.028	
Albreda R		406	28.5	32.5	0	500	0	0	1,000	0	0	0	14.3	118.6	3.37	2.69	1.89	0.87

1. Gauge numbers indicate that flow characteristics were calculated from WSC gauging records.
2. Logged areas, improved farmland, mean annual flows and mean annual flood from Sigma (1991).
3. Total water licenses for each salmon stream expressed in imperial units, as provided by Water Management Branch.
4. Reference for all data in table is the mouth of the salmon stream.
5. Licensed demands (L/s) calculated from total water licenses as described in body of report.
6. Naturalized flows are estimates of those that would occur in the absence of all upstream regulation and water extractions.

**Table 3: Hydrology of the Salmon Streams in the South Thompson/Shuswap HMA**

Stream Name	WSC Gauge No.	Basin Area (mouth) (km <sup>2</sup> )	Logged Area		Improved Farmland (1990) (km <sup>2</sup> )	Total Water Licenses				Licensed Demand (L/s)			Naturalized Flows in the Salmon Streams (m <sup>3</sup> /s)						
			Recent (km <sup>2</sup> )	Older (km <sup>2</sup> )		Domestic (g/day)	Irrigation (ac-ft) (g/day)	Water works (g/day)	Industrial (g/day)	Conservation (cfs)	Aug	Sept	Feb	Mean Annual	Mean Flood	Mean Monthly Aug	Mean Monthly Sept	Mean 7-day Flow Summer	Mean 7-day Flow Winter
S. Thompson River (lower mainstem)	06LE031	17311	1844.5	2830.4	-	-	-	-	-	-	-	-	311	930	397	242	-	-	62.2
Chase Ck		297	17.8	41.6	3.64	2,559	2,559	6,000	716,298	0	339	219	39	1.4	13.5	0.72	0.54	0.30	0.10
S. Thompson River (upper mainstem)		15209	1455.5	2428.8	299.55	-	-	-	-	-	-	-	17.8	71.3	-	-	-	-	-
Adams R - Hluhili Ck	08LD001	3323	205	397.1	6.53	46,000	3,553	52,000	1,449,209	2	497	331	81	74.1	230	110	74.0	45.2	22.6
- Nikwikwaia Ck		110	11	21.9	0.97	3,500	1,068	-	938,209	0	174	124	49	1.4	11.1	0.35	0.25	0.15	0.10
Adams R above Adams Lake		3087	179	343.8	5.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Sinnmax Ck		191	28.6	38.2	5.51	3,000	1,897	0	47,500	0	225	136	3	0.8	3.0	0.63	0.40	0.30	0.20
- Mornich R		477	27.3	61.9	0	-	-	-	-	-	0	0	0	21.1	152	5.30	4.50	3.56	1.90
- Cayenne Ck		368	22.1	51.5	0	-	-	-	-	-	0	0	0	16.3	117	4.10	3.50	2.74	1.52
Scotch Ck		611	61	183.2	0.54	1,500	203	0	0	0	24	14	0	7.7	61.7	5.40	4.40	3.59	1.94
Onyx Ck		57	5.7	17.3	2.15	6,000	543	0	0	0	64	38	0	1.0	9.6	0.27	0.18	0.13	0.09
Ross Ck		106	10.6	31.7	0	0	535	0	0	0	63	38	0	1.9	17.8	0.60	0.51	0.24	0.15
Seymour R	08LE027	807	40.3	96.8	0.27	5,000	26	0	0	0	3	2	0	35.7	257	32.50	25.60	11.70	6.70
- McNamee Ck		68	3.4	23.7	0	-	-	-	-	-	0	0	0	3.0	21.7	0.83	0.76	0.38	0.21
Hunakwa Ck		35	0	8.8	0	-	-	-	-	-	0	0	0	0.9	7.0	0.21	0.18	0.08	0.07
Anstey R		238	23.8	59.4	0	0	0	0	0	0	0	0	0	10.5	75.9	3.25	2.81	1.76	0.74

1. Gauge numbers indicate that flow characteristics were calculated from WSC gauging records.
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3. Total water licences for each salmon stream expressed in imperial units, as provided by Water Management Branch.
4. Reference for all data in table is the mouth of the salmon stream.
5. Licensed demands (L/s) calculated from total water licences as described in body of report.
6. Naturalized flows are estimates of those that would occur in the absence of all upstream water extractions.

**Table 3: Hydrology of the Salmon Streams in the South Thompson/Shuswap HMA**

Stream Name	WSC Gauge No.	Basin Area (mouth) (km <sup>2</sup> )	Logged Area		Improved Farmland (1990) (km <sup>2</sup> )	Domestic (g/day)	Irrigation (ac-ft)	Total Water Licenses		Industrial		Conservation (cfs)	Licensed Demand (L/s)		Naturalized Flows in the Salmon Streams (m <sup>3</sup> /s)			
			Recent (km <sup>2</sup> )	Older (km <sup>2</sup> )				Water works (g/day)	Indus-trial (g/day)	Aug	Sept		Feb	Mean Annual	Mean Flood	Aug	Sept	Summer
Eagle R	08LE024	1246	158.1	154.6	10.8	42,000	2,306	18,500	5,543,665	10	565	457	295	31.06	24.16	18.52	10.34	
- Owlhead Ck		24	0.5	3	0.85	2,000	82	0	0	0	7	4	0	6.0	0.27	0.26	0.11	
- Perry R		438	43.8	65.7	0	0	0	0	0	0	0	0	0	8.15	7.07	4.85	1.66	
- South Pass Ck		31	1.6	9.2	0	0	0	0	0	0	0	0	0	0.60	0.60	0.26	0.14	
Reinecker Ck		53	2.6	15.3	0	0	0	0	0	0	0	0	0	0.30	0.25	0.13	0.09	
Tappen Ck		131	6	36.2	5.98	49,000	1,002	0	308,428	10	136	89	19	0.45	0.34	0.20	0.15	
Salmon R	08LE021	1501	181.4	439.1	88.1	132,750	19,582	40,000	40,879	0	2300	1385	11	4.6	28.6	3.16	2.59	
- Bolean Ck	08LE094	221	33.2	55.4	2.16	8,000	705	0	0	0	53	50	0	1.1	7.9	0.39	0.17	
Caro Ck		80	1.6	18.3	12.07	17,500	296	2,233,000	4,446	0	153	139	119	0.2	1.0	0.13	0.04	
Shuswap R	08LC002	5415	674.6	770.5	?	313,350	49,100	12,011,402	2,951,682	1,38	6549	4251	804	79.1	57.2	46.49	37.91	
Shuswap R (Mabel Lake to Mara Lake)	08LC018	1372	115.5	203.4	116.28	-	-	-	-	-	-	-	-	18.6	99.2	50.1	-	
- Johnson Ck		22	1.1	3.2	0.32	3,500	171	0	0	0	20	12	0	0.9	6.4	0.27	0.11	
- Blorton Ck		24	1.2	7.2	0.27	8,500	270	0	5,000	0	32	20	1	1.0	7.0	0.25	0.10	
- Fortune Ck		151	3	12.1	60.98	13,250	799	2,544,000	29,403	0	230	192	136	1.2	10.0	0.32	0.25	
- Trinity Ck		195	13.7	15.6	2.72	7,000	1,632	0	3,000	0	192	115	1	2.0	8.5	0.41	0.26	
Kingfisher Ck		192	17.7	49.4	0	500	38	0	53,855	0	7	5	3	8.1	56.7	1.42	0.72	
- Dainforth Ck		29	1.5	8.3	0	-	-	-	-	-	0	0	0	1.2	8.4	0.15	0.06	
Shuswap River	08LC019	4029	566	565.3	56.83	-	-	-	-	-	-	-	-	-	-	-	-	
- Nolsy Ck		59	5.8	17.6	0	0	0	0	0	0	0	0	0	2.5	17.1	0.64	0.29	
- Wap Ck		364	35.4	53.1	0	0	0	0	0	0	0	0	0	14.9	103	6.11	5.31	
- Tsulus Ck		104	20.9	31.5	0	-	-	-	-	-	-	-	-	8.8	60.9	2.34	1.95	
- Ireland Ck		210	8.3	12.5	0.8	2,500	680	0	2,500	0	80	48	0	4.4	30.2	0.50	0.23	
- Bassette Ck	08LC039	795	109.5	78.5	39.24	49,600	30,939	2,537,901	148,164	1,38	3754	2316	144	4.5	34.3	5.69	4.53	
- Creighton Ck		154	15.4	23.1	10.96	12,000	1,733	0	1,000	0	204	122	1	0.9	7.8	0.59	0.28	
- Duteau Ck	08LC006	217	54.3	21.7	17.73	9,000	18,329	2,537,901	40,164	1,38	2281	1423	136	1.2	11.0	0.89	0.41	
- Harris Ck		212	21.2	10.6	0	0	8,000	0	2,000	0	936	562	0	1.2	10.7	1.39	0.71	

- Gauge numbers indicate that flow characteristics were calculated from WSC gauging records.
- Logged areas, improved farmland, mean annual flows and mean annual flood from Sigma (1991).
- Total water licenses for each salmon stream expressed in imperial units, as provided by Water Management Branch.
- Reference for all data in table is the mouth of the salmon stream.
- Licensed demands (L/s) calculated from total water licenses as described in body of report.
- Naturalized flows are estimates of those that would occur in the absence of all upstream regulation and water extractions.

**Table 4: Hydrology of the Salmon Streams in the Thompson/Nicola HMA.**

Stream Name	WSC Gauge No.	Basin Area (mouth) (km <sup>2</sup> )	Logger Area		Improved Farmland (1990) (km <sup>2</sup> )	Total Water Licenses			Licensed Demand (L/s)			Naturalized Flows in the Salmon Streams (m <sup>3</sup> /s)											
			Recent (km <sup>2</sup> )	Older (km <sup>2</sup> )		Domes- tic (g/day)	Irrig- ation (ac-ft)	Water- works (g/day)	Indus- trial (g/day)	Conser- vation (cfs)	Aug	Sept	Feb	Mean Annual	Mean Flood	Mean Monthly Aug	Sept	Summer	Winter				
Thompson R	08LF051	56665	2313.4	2909.3	180.4										961.00	444.00							
Nicola R	08LG006	7227	727.1	1180.9	80.7	72,869	2,342,203	12,898,501	408.6	9317	6916	814	22.7	180	16.67	11.77	10.25	5.06					
Splus Ck	08LG008	780	138.9	95.2	1.4	6,500	1,864	0	0	195	117	0	8.33	80.9	1.85	1.41	0.98	1.56					
Maka Ck		217	54.2	10.8	0					0	0	0	2.6	22.5	0.51	0.39	0.24	0.43					
Coldwater R	08LG010	915	45.7	274.5	9.5	40,350	2,000,703	3,000	3	787	515	108	7.42	74.3	2.02	1.53	1.16	1.37					
Spahomin Ck	08LG060	237	11.9	11.9	4.4	500	4,405	20,000	237	517	310	1	0.62	3.77	1.03	0.40	0.38	0.09					
Bonaparte R	08LF002	5390	1078.1	1078.1	27.4	108,900	30,238	4,157,290	0	3905	2489	366	4.51	20.8	8.45	4.91	4.00	1.00					
Deadman R	08LF027	1497	149.7	298.5	6.9	32,001	11,436	0	5,000	11.1	1340	805	2	2.85	24	2.96	1.46	0.49					

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4. Reference for all data in table is the mouth of the salmon stream.
5. Licensed demands (L/s) calculated from total water licenses as described in body of report.
6. Naturalized flows are estimates of those that would occur in the absence of all upstream water extractions.

**Table 8: Sensitivity Indices -- North Thompson HMA**

Stream Name	Status	SUMMER WATER USE				LOW FLOWS			PEAK FLOW		LOGGINGS	
		Index 1 Aug Use/ Sum Q7L2	Index 2 Sept Use/ Sum Q7L2	Index 3 Aug Use/ mean, Aug	Index 4 Sept Use/ mean Sept	Index 5 Sum Q7L2/ QAA	Index 6 Win Q7L2/ QAA	Index 7 Q2/ QAA	Index 8 Recent/ Basin	Index 9 Total/ Basin		
N. Thompson R		-	-	-	-	-	-	5	12%	23%		
Louis Creek	FR	53%	33%	32%	26%	26%	20%	9	6%	21%		
- Christian Ck	FR	164%	99%	98%	99%	1%	3%	9	10%	39%		
Barriere R		11%	8%	6%	6%	26%	18%	7	10%	29%		
- E. Barriere R.		6%	4%	3%	3%	17%	11%	10	11%	30%		
- Haggard Ck		2%	1%	1%	1%	17%	12%	17	15%	30%		
- Fennell Ck		0%	0%	0%	0%	11%	9%	20	5%	25%		
Lernieux Ck		20%	15%	9%	11%	24%	18%	8	10%	20%		
Joseph Ck		5%	3%	3%	2%	28%	12%	8	10%	23%		
- Dunn Ck		5%	3%	2%	2%	26%	13%	8	2%	21%		
- McTaggart Ck	PWS	103%	62%	47%	45%	9%	9%	9	0%	35%		
Mann Ck		15%	9%	7%	5%	18%	11%	10	25%	35%		
Clearwater R	RES	3%	2%	0%	1%	23%	10%	4	12%	20%		
- Brookfield Ck		4%	3%	2%	2%	11%	8%	9	20%	25%		
- Mahood R		11%	7%	5%	5%	33%	20%	5	25%	40%		
Raft R		5%	3%	2%	2%	13%	7%	8	25%	40%		
Reg Christie Ck		18%	11%	8%	6%	13%	10%	7	15%	20%		

- Status refers to restrictions noted by the Water Management Branch: FR, fully recorded with exceptions for storage; RES, reserved, no licencing; PWS, possible water shortages, RNW, refused, no water.

- Aug and Sept Use are total demands in these months; Sum and Win Q7L2 are summer and winter mean 7 day low flows; mean Aug and Sept are mean August and September monthly flows; QAA is mean annual flow; Q2 is the mean annual flood; Recent and Total are recent and total logging areas in the basin; Basin is basin area above the mouth.

- Indices expressed as percentages except 7, which is a direct ratio.

**Table 8: Sensitivity Indices -- North Thompson HMA**

Stream Name	Status	SUMMER WATER USE				LOW FLOWS			PEAKFLOW		LOGGING	
		Index 1 Aug Use/ Sum Q7L2	Index 2 Sept Use/ Sum Q7L2	Index 3 Aug Use/ mean Aug	Index 4 Sept Use/ mean Sept	Index 5 Sum Q7L2/ QAA	Index 6 Win Q7L2/ QAA	Index 7 Q2/ QAA	Index 8 Recent/ Basin	Index 9 Total/ Basin		
Mad R		0%	0%	0%	0%	11%	7%	9	20%	40%		
Unnamed Ck (04-4210)		0%	0%	0%	0%	11%	11%	9	36%	36%		
Avola Ck		22%	22%	8%	8%	9%	9%	9	0%	42%		
Unnamed Ck (04-4600)		0%	0%	0%	0%	10%	10%	9	24%	24%		
Turntum Ck		0%	0%	0%	0%	7%	7%	9	10%	15%		
Lion Ck		0%	0%	0%	0%	8%	7%	9	20%	40%		
Finn Ck		0%	0%	0%	0%	12%	7%	8	25%	35%		
Goose Ck		0%	0%	0%	0%	2%	3%	8	24%	44%		
Blue R		0%	0%	0%	0%	33%	12%	8	7%	15%		
Cedar Ck		5%	3%	2%	1%	6%	6%	8	10%	25%		
Cook Ck		0%	0%	0%	0%	9%	7%	8	10%	25%		
Albreds R		0%	0%	0%	0%	13%	6%	8	7%	15%		

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- Indices expressed as percentages except 7, which is a direct ratio.

**Table 9: Sensitivity Indices -- South Thompson/Shuswap HMA**

Stream Name	Status	SUMMER WATER USE						LOW FLOWS			PEAK FLOW		LOGGING	
		Index 1 Aug Use/ Sum Q7L2	Index 2 Sept Use/ Sum Q7L2	Index 3 Aug Use/ mean Aug	Index 4 Sept Use/ mean Sept	Index 5 Sum Q7L2/ QAA	Index 6 Win Q7L2/ QAA	Index 7 Q2/ QAA	Index 8 Recent/ Basin	Index 9 Total/ Basin				
S. Thompson River (lower mainstem)	RES	113%	73%	47%	41%	6%	4%	10				9%	26%	
S. Thompson River (upper mainstem)		-	-	-	-	-	-	4				10%	26%	
Adams R	RES	1%	1%	0%	0%	62%	30%	3				6%	18%	
- Hiuhill Ck	RES	116%	83%	50%	49%	2%	4%	8				10%	30%	
- Nikiwikwaia Ck		0%	0%	0%	0%	11%	7%	8				12%	35%	
Adams R above Adams	RES											6%	17%	
- Sinmax Ck	FR	75%	45%	35%	34%	20%	25%	4				15%	35%	
- Mornich R		0%	0%	0%	0%	17%	9%	7				6%	19%	
- Cayenne Ck		0%	0%	0%	0%	17%	9%	7				6%	20%	
Scotch Ck		1%	0%	0%	0%	46%	25%	8				10%	40%	
Onyx Ck		49%	30%	24%	22%	9%	9%	9				10%	40%	
Ross Ck		26%	16%	10%	7%	10%	8%	9				10%	40%	
Seymour R		0%	0%	0%	0%	33%	19%	7				5%	17%	
- McNamee Ck		0%	0%	0%	0%	13%	7%	7				5%	40%	
Hunakwa Ck		0%	0%	0%	0%	9%	8%	8				0%	25%	
Anstey R		0%	0%	0%	0%	17%	7%	7				10%	35%	

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 - Aug and Sept. Use are total demands in these months; Sum and Win Q7L2 are summer and winter mean 7 day low flows; mean Aug and Sept are mean August and September monthly flows; QAA is mean annual flow; Q2 is the mean annual flood; Recent and Total are recent and total logging areas in the basin; Basin is basin area above the mouth.  
 - Indices expressed as percentages except 7, which is a direct ratio.

**Table 9: Sensitivity Indices -- South Thompson/Shuswap HMA**

Stream Name	Status	SUMMER WATER USE				LOW FLOWS			PEAK FLOW		LOGGING	
		Index 1 Aug Use/ Sum Q7L2	Index 2 Sept Use/ Sum Q7L2	Index 3 Aug Use/ mean Aug	Index 4 Sept Use/ mean Sept	Index 5 Sum Q7L2/ QAA	Index 6 Win Q7L2/ QAA	Index 7 Q2/ QAA	Index 8 Recent/ Basin	Index 9 Total/ Basin		
Eagle R		3%	2%	2%	2%	48%	27%	6	13%	25%		
- Owlhead Ck		7%	4%	3%	2%	10%	7%	6	2%	15%		
- Perry R		0%	0%	0%	0%	25%	9%	7	10%	25%		
- South Pass Ck		0%	0%	0%	0%	20%	11%	7	5%	35%		
Reinecker Ck		0%	0%	0%	0%	13%	9%	10	5%	35%		
Tappen Ck		68%	45%	30%	26%	37%	44%	3	5%	32%		
Salmon R	RES	89%	54%	59%	44%	26%	33%	6	11%	40%		
- Bolean Ck	RES	49%	29%	21%	11%	11%	10%	7	15%	40%		
Canoe Ck	RES	393%	358%	118%	155%	0%	0%	5	2%	25%		
Shuswap R		14%	9%	8%	7%	42%	37%	4	12%	27%		
Shuswap R (Mabel Lake to Mara Lake)								5	8%	23%		
- Johnson Ck		18%	11%	7%	5%	11%	8%	7	5%	20%		
- Blurton Ck		33%	20%	13%	9%	8%	7%	7	5%	35%		
- Fortune Ck		91%	76%	60%	60%	5%	0%	8	2%	10%		
- Trinity Ck		75%	45%	47%	34%	7%	5%	4	7%	15%		
Kingfisher Ck		1%	1%	1%	0%	9%	5%	7	9%	35%		
- Danforth Ck		0%	0%	0%	0%	5%	4%	7	5%	36%		
Shuswap River									14%	28%		
- Noisy Ck		0%	0%	0%	0%	12%	7%	7	10%	40%		
- Wap Ck		0%	0%	0%	0%	24%	9%	7	10%	25%		
- Tsuius Ck		0%	0%	0%	0%	14%	6%	7	10%	25%		
- Ireland Ck		35%	21%	16%	12%	4%	4%	7	8%	20%		
- Bessette Ck		110%	68%	66%	51%	25%	18%	8	14%	24%		
- Creighton Ck		74%	44%	35%	27%	18%	23%	9	10%	25%		
- Duteau Ck		760%	474%	351%	347%	15%	8%	9	25%	35%		
- Harris Ck		132%	79%	67%	51%	12%	33%	9	10%	15%		

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 - Indices expressed as percentages except 7, which is a direct ratio.

**Table 10: Sensitivity Indices -- Thompson/Nicola HMA**

Stream Name	Status	SUMMER WATER USE						LOW FLOWS			PEAK FLOW		LOGGING	
		Index 1 Aug Use/ Sum Q7L2	Index 2 Sept Use/ Sum Q7L2	Index 3 Aug Use/ mean Aug	Index 4 Sept Use/ mean Sept	Index 5 Sum-Q7L2/ QAA	Index 6 Win Q7L2/ QAA	Index 7 Q2/ QAA	Index 8 Recent/ Basin	Index 9 Total/ Basin				
Thompson R											3	4%	9%	
Nicola R	FR	91%	58%	56%	50%	19%	19%	19%	8	10%		10%	26%	
Spilus Ck	FR	20%	12%	11%	8%	9%	17%	17%	9	18%	9	18%	30%	
Maka Ck		0%	0%	0%	0%	9%	17%	17%	9	25%	9	25%	30%	
Coldwater R		68%	45%	39%	34%	9%	17%	17%	10	5%	10	5%	35%	
Spahomin Ck		135%	81%	50%	78%	11%	15%	15%	6	5%	6	5%	10%	
Bonaparte R	FR	98%	62%	46%	51%	33%	14%	14%	5	20%	5	20%	40%	
Deadman R	FR	91%	55%	45%	37%	23%	17%	17%	8	10%	8	10%	30%	

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- Aug and Sept Use are total demands in these months; Sum and Win Q7L2 are summer and winter mean 7 day low flows; mean Aug and Sept are mean August and September monthly flows; QAA is mean annual flow; Q2 is the mean annual flood; Recent and Total are recent and total logging areas in the basin; Basin is basin area above the mouth.

- Indices expressed as percentages except 7, which is a direct ratio.

**Table 11: Most Sensitive Streams  
North Thompson HMA**

<i>Water Demand</i>	<i>Summer Low Flows</i>	<i>Winter Low Flows</i>	<i>Recent Harvesting</i>
<i>1 to 4</i>	<i>5</i>	<i>6</i>	<i>8</i>
Louis Creek	Christian Creek	Christian Creek	Mann Creek
Christian Creek	McTaggart Creek	Raft River	Brookfield Creek
Barriere River	Avola Creek	Mad River	Mahood River
Lemieux Creek	Tumtum Creek	Tumtum Creek	Raft River
McTaggart Creek	Lion Creek	Lion Creek	Mad River
Mann Creek	Goose Creek	Finn Creek	Unnamed Creek
Mahood River	Cedar Creek	Goose Creek	Unnamed Creek
Reg Christie Creek	Cook Creek	Cedar Creek	Lion Creek
		Cook Creek	Finn Creek
		Albreda River	Goose Creek

**Table 12: Most Sensitive Streams  
South Thompson/Shuswap HMA**

<i>Water Demand</i>	<i>Summer Low Flows</i>	<i>Winter Low Flows</i>	<i>Recent Harvesting</i>
<i>1 to 4</i>	<i>5</i>	<i>6</i>	<i>8</i>
Chase Creek	Chase Creek	Chase Creek	Duteau Creek
Huihill Creek	Huihill Creek	Huihill Creek	
Sinmax Creek	Onyx Creek	Nikwikwala Creek	
Salmon River	Hunakwa Creek	McNomee Creek	
Canoe Creek	Canoe Creek	Anstey River	
Fortune Creek	Blurton Creek	Owlhead Creek	
Bessette Creek	Fortune Creek	Canoe Creek	
Creighton Creek	Trinity Creek	Blurton Creek	
Duteau Creek	Kingfisher Creek	Fortune Creek	
Harris Creek	Danforth Creek	Trinity Creek	
	Ireland Creek	Kingfisher Creek	
		Danforth Creek	
		Noisy Creek	
		Tsuius Creek	
		Ireland Creek	

**Table 13: Most Sensitive Streams  
Thompson/Nicola HMA**

<i>Water Demand <sup>1</sup></i>	<i>Summer Low Flows</i>	<i>Winter Low Flows</i>	<i>Recent Harvesting</i>
<i>1 to 4</i>	<i>5</i>	<i>6</i>	<i>8</i>
Nicola River Spahomin Creek Bonaparte Creek Deadman River Coldwater River	Spius Creek Maka Creek Coldwater River	Spahomin Creek Bonaparte Creek	Maka Creek Bonaparte River

1. All streams with demands over 60% of summer 7 day low flows