# Quarterly Oil and Gas BC Oil & Gas COMMISSION Water Management Summary



Fourth Quarter 2016 (October - December)



### **PURPOSE**

This *Quarterly Oil and Gas Water Use Summary* presents short-term water use and water licence data from the Q4 October to December 2016 period.

Previous annual water use reports and quarterly water use summaries are available on the BC Oil and Gas Commission website at <a href="https://www.bcogc.ca">www.bcogc.ca</a>.

## TABLE OF CONTENTS

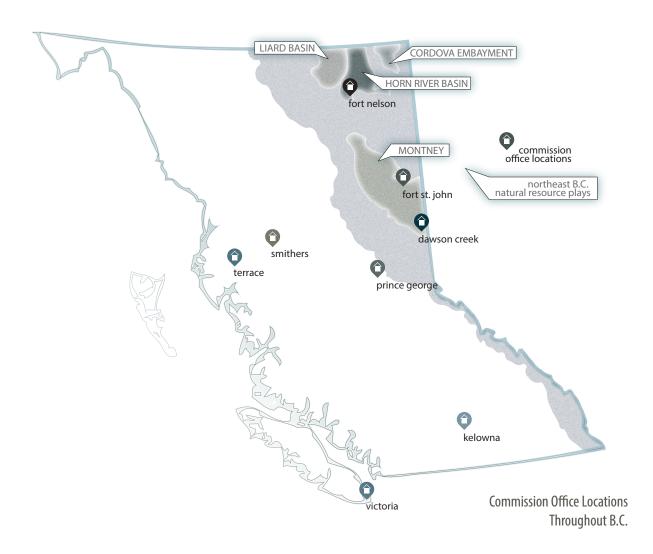
ROLE OF THE BC OIL AND GAS COMMISSION	4
HOW WATER IS USED 5	
HOW WATER IS ACCESSED 5	
LONG-TERM WATER LICENCES AND USE	6
TABLE 1 - SUMMARY OF WATER LICENCES AND USE FOR OIL AND GAS  ACTIVITIES FROM JANUARY TO DECEMBER 2016 6	
TABLE 2 - OIL AND GAS RELATED WATER LICENCES THAT WITHDREW WATER FROM OCTOBER TO DECEMBER 2016 6	
SHORT-TERM WATER APPROVAL AND USE	7
TABLE 3 - SUMMARY OF SHORT-TERM APPROVAL AND USE FOR OIL AND GAS ACTIVITIES FROM JANUARY TO DECEMBER 2016 7	
INTRODUCTION OF WATER SUSTAINABILITY ACT	8
TABLE 4: SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND GAS ACTIVITIES IN 2016, ORGANIZED BY OGC WATER MANAGEMENT BASIN	1

### BC OIL AND GAS COMMISSION

he <u>BC Oil and Gas Commission</u> (Commission) is the provincial regulatory agency with responsibilities for regulating oil and gas activities in British Columbia, including exploration, development, pipeline transportation and reclamation.

The Commission's core services include reviewing and assessing applications for industry activity, consulting with First Nations, cooperating with partner agencies, and ensuring industry complies with provincial legislation and all regulatory requirements. The public interest is protected by ensuring public safety, respecting those affected by oil and gas activities, conserving the environment, and ensuring equitable participation in production.

The Commission is responsible for reviewing, assessing, and making decisions on water authorizations from both surface and subsurface water sources. The Commission has the expertise and tools to make informed water allocation decisions, and protecting and maintaining environmental and community water needs are its first priorities.



### **HOW WATER IS USED**

Water is used for various purposes in the oil and gas industry.



The largest use of water for oil and gas activities is for hydraulic fracturing.

However, water is used for other purposes, such as:



Seismic or geophysical exploration



**Drilling** 



Machine washing



**Dust control** 



Water floods (to enhance oil recovery)



Ice road freezing



Hydrostatic testing of pipelines

### **HOW WATER IS ACCESSED**

here are different ways the oil and gas industry may access water in British Columbia. Some methods are managed through provincial legislation, including:

- Water licences issued under the Water Sustainability Act (WSA) for surface and groundwater. The Commission has staff designated as Regional Water Managers with authority for issuing and administering long-term water licences.
- Short-term surface water use or diversion approvals issued under Section 10 of the WSA. Short-term water use is administered by the Commission.
- Water source wells authorized by the Commission under the Oil and Gas
  Activities Act (OGAA). Water source wells are a specific type of well where the water
  withdrawn is intended for injection into an underground formation to enhance oil or
  natural gas recovery.
- Flowback water that returns to the surface after being injected for hydraulic fracturing.
- **Produced water** that flows to the surface as a by-product of oil and gas production.

The oil and gas industry can access water by means outside of regulatory oversight:



**Private agreements** can be made with landowners or others who have a source of surface water supply such as a dugout or a groundwater well. In some cases, private agreements may require a Waterworks water licence under the WSA.

## LONG-TERM WATER LICENCES AND USE

At the end of the fourth quarter of 2016, there were 21 active oil and gas related water licences, representing 37 withdrawal locations, held by 10 companies (Table 1).

The total annual licenced water volume was 17,825,759 m³.

A total of 862,790 m<sup>3</sup> of licenced water was reported as withdrawn for the year (Table 1).

During the fourth quarter 2016, three companies withdrew water by way of water licences, totalling 167,789 m³ (Table 2).

A break-down of water licence allocation and use by OGC Water Management Basin is listed in Table 4.

TABLE 1 - SUMMARY OF WATER LICENCE AND USE FOR OIL AND										
GAS ACTI	VITIES FROM JANUARY TO DECEMBER 2016	Q1	Q2	Q3	Q4					
	Companies with Active Water Licences	7	10	10	10					
WATER	Active Water Licences	16	21	21	21					
LICENCE	Licenced Withdrawal Locations	31	37	37	37					
LICLINCL	Annual Volume Available for Use for Water Licences (m <sup>3</sup> )	15,548,135	17,825,759	17,825,759	17,825,759					
	Cumulative Volume Reported Used in 2016 (m³)	287,680	403,609	695,001	862,790					

TABLE 2:
OIL AND GAS RELATED WATER LICENCES THAT WITHDREW WATER FROM OCTOBER TO DECEMBER 2016

LICENCE#	LICENCEE	SOURCE	OGC WATER MANAGEMENT BASIN	ANNUAL APPROVAL (m³/YR)	Q4 WATER USE (m³/YR)
C112155 C132688	Whitecap Resources Canadian Natural Resources Limited	Peace River Charlie Lake	Lower Peace River Lower Beatton River	1,825,000 394,000	137,835 15,128
C133155	Canbriam Energy Inc.	Williston Lake	Peace Arm	3,650,000	14,826

## SHORT-TERM WATER APPROVAL AND USE

At the end of the fourth quarter of 2016, there were a total of 278 short-term water use approvals in place, representing 746 withdrawal locations, held by 44 companies (Table 3).

The total water volume associated with short-term approvals that were active on the last day of the quarter was 8,905,774 m<sup>3</sup>.

A total of 798,752 m³ was reported as withdrawn by oil and gas operators during the 2016 year (Table 3).

A break-down of short-term water approval and use by OGC Water Management Basin is listed in Table 4.

	- SUMMARY OF SHORT-TERM APPROVAL AND L GAS ACTIVITIES FROM JANUARY TO DECEMBER				
		Q1	Q2	Q3	Q4
	Companies with Active Approvals	39	46	41	44
	Active Approvals	162	202	227	278
SHORT-	Approved Withdrawal locations	753	749	653	746
TERM	Volume Available for Use (m³)	9,347,183	10,903,248	8,761,992	8,905,774
	Cumulative Volume Reported Withdrawn (m³)	269,564	484,338	701,548	798,752



### WATER SUSTAINABILITY ACT

he Water Sustainability Act (WSA) came into effect on Feb. 29, 2016, resulting in changes to surface water and groundwater allocation processes by the Commission. With the implementation of the WSA, the following regulations were created or revised and brought into force:

- Water Sustainability Regulation (replaces Water Regulation)
- Groundwater Protection Regulation (revised)
- Dam Safety Regulation (revised)
- Fees, Rentals and Charge Tariff Regulation (new)

The WSA modernizes the language of the Water Act and introduces a number of significant policy changes. Examples of key items that affect oil and gas activities include, but are not limited to:

- Water in a stream, and the percolation and flow of groundwater, are vested to the Crown.
- The regulatory scheme for the diversion and use of stream water is maintained and applied to both stream water and aquifer water.
- The rights of prior appropriation are retained First In Time, First In Right (FITFIR).
- The consideration of the environmental flow needs of a stream in licensing decisions is mandated for all water allocation decisions related

- to streams, and to aquifers "reasonably likely" of being hydraulically connected to a stream.
- Explicit notification, objection and appeal rights for short-term water use approvals and changes in and about a stream are specified (appeals are to the Environmental Appeal Board).
- Deep groundwater is exempted from the requirement for a water licence.
- New powers are created to be applied when streams are at risk of falling or have fallen below their critical environmental flow thresholds, to modify the existing precedence of water use for the purpose of protecting the aquatic ecosystem of streams and aquifers

- and essential domestic uses (i.e., FITFIR can be overridden).
- Authority is provided to statutory decision makers to require environmental mitigation or offsetting when the diversion and use of water, or changes in and about a stream, are likely to have a significant adverse impact on the water quality, water quantity or aquatic ecosystem of a stream or aquifer.

As there are significant changes resulting from the implementation of the WSA, operators are strongly encouraged to review the document <u>Water Sustainability</u> <u>Act Applications Support for Operators</u>. This supplemental outlines material changes to application manuals,



processes and fees, short-term water use approvals, water licensing, and the aforementioned regulations.

The WSA and its regulations may be viewed online:

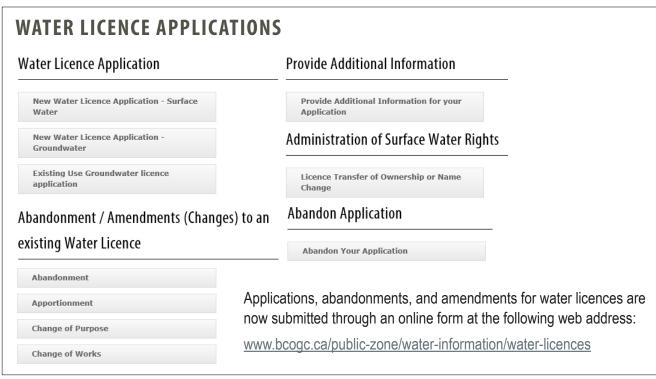
Water Sustainability Act

Water Sustainability Regulation

Water Sustainability Fees, Rentals and Charges Tariff Regulation

**Groundwater Protection Regulation** 

**Dam Safety Regulation** 





### SHORT-TERM WATER USE APPROVALS - BC OIL AND GAS COMMISSION

### OIL AND GAS RELATED WATER LICENCES

ORGANIZED BY OGC WATER MANAGEMENT BASIN (Page 1 of 4)  MAJOR and Sub-Basin Name	NUMBER OF APPROVED WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m³) FOR LOCATIONS ACTIVE ON 12/31/2016	TOTAL VOLUME APPROVED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2016 (m³)	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL RUNOFF	NUMBER OI LICENCED WITHDRAWA LOCATIONS	VOLUME AL LICENCED	TOTAL VOLUME LICENCED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2016 (m³)	TOTAL VOLUME WITHDRAWN as % of MEAN ANNUAL RUNOFF	MEAN ANNUAL RUNOFF (m³)
BEATTON RIVER (sub-basin of Peace River)											
Upper Beatton River	21	1,251,970	0.251%	139,828	0.028%	2	780,000	0.156%			499,408,440
Middle Beatton River	26	195,437	0.078%	954	0.000%	0					249,152,995
Middle Beatton Total (incl. Upper Beatton)	47	1,447,407	0.193%	140,782	0.019%	2	780,000	0.104%			748,561,435
Milligan Creek	14	323,895	0.169%	0	0.000%	0					191,536,686
Blueberry River	43	791,547	0.270%	776	0.000%	0		0.000%			293,278,540
Doig River	4	6,000	0.002%	0	0.000%	0		0.000%			323,069,523
Lower Beatton River	1	3,000	0.002%	0	0.000%	1	394,000	0.285%	43,845	0.032%	138,262,629
BEATTON TOTAL	109	2,571,849	0.152%	141,558	0.008%	3	1,174,000	0.069%	43,845	0.003%	1,694,708,813
HALFWAY RIVER (sub-basin of Peace River)											
Chowade River	0	0		0		0					327,027,527
Upper Halfway River	4	32,550	0.004%	590		0					795,962,409
Upper Halfway Total (includes Chowade)	4	32,550	0.003%	590	0.000%	0	0	0.000%			1,122,989,936
Graham River	3	306,300	0.036%	30,287	0.004%	0					860,627,172
Cameron River	24	959,289	0.429%	34,771	0.016%	0					223,679,567
Lower Halfway River	12	622,795	0.411%	6,960	0.005%	0					151,526,991
HALFWAY TOTAL	43	1,920,934	0.081%	72,608	0.003%	0	0	0.000%			2,358,823,666
MOBERLY RIVER (sub-basin of Peace River)											
Moberly River	1	23,102	0.006%	0		0					391,714,995
MOBERLY TOTAL	1	23,102	0.000%	0	0.000%	0	0	0.000%			391,714,995
PINE RIVER (sub-basin of Peace River)											
Burnt River	0	0	0.000%	0	0.000%	0					737,930,022
Sukunka River	3	30,000	0.003%	0		0					1,047,282,572
Sukunka River Total (includes Burnt)	3	30,000	0.002%	0	0.000%	0	0	0.000%			1,785,212,594
Upper Pine River	2	4,358	0.000%	1,840	0.000%	0					1,466,884,035
Murray River	4	30,096	0.001%	465	0.000%	8	390,000	0.014%	0	0.000%	2,698,285,017
Lower Pine River	27	244,626	0.178%	88,955	0.065%	1	650,000	0.472%	45,000	0.033%	137,619,889
PINE TOTAL	36	309,080	0.019%	91,260	0.001%	9	1,040,000	0.017%	45,000	0.001%	6,088,001,535

SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND	SHOR	SHORT-TERM WATER USE APPROVALS - BC OIL AND GAS COMMISSION						OIL AND GAS RELATED WATER LICENCES						
GAS ACTIVITIES IN 2016, ORGANIZED BY OGC WATER MANAGEMENT BASIN (Page 2 of 4)  MAJOR and	NUMBER OF APPROVED WITHDRAWAL	TOTAL VOLUME APPROVED (m³) FOR LOCATIONS ACTIVE ON	TOTAL VOLUME APPROVED as % of MEAN	TOTAL VOLUME WITHDRAWN	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL	NUMBER OF LICENCED WITHDRAWA	VOLUME	TOTAL VOLUME LICENCED as % of MEAN ANNUAL	TOTAL VOLUME WITHDRAWN	TOTAL VOLUM WITHDRAWN as % of MEAI ANNUAL	N MEAN			
Sub-Basin Name	LOCATIONS	12/31/2016	ANNUAL RUNOFF	IN 2016 (m <sup>3</sup> )	RUNOFF	LOCATIONS		RUNOFF	IN 2016 (m <sup>3</sup> )	RUNOFF	(m³)			
KISKATINAW RIVER (sub-basin of Peace River)														
West Kiskatinaw River	0	0	0.000%	0	0.000%	0					117,515,115			
East Kiskatinaw River	2	7,300	0.007%	1,170	0.001%	0					105,452,962			
Middle Kiskatinaw River	11	64,531	0.115%	53,107	0.094%	0					56,347,972			
Middle Kiskatinaw Total (incl. West & East)	13	71,831	0.026%	54,277	0.019%	0					279,316,049			
Lower Kiskatinaw River	28	538,452	0.601%	7,167	0.008%	1	20,969	0.023%	0	0.000%	89,659,847			
KISKATINAW TOTAL	41	610,283	0.165%	61,444	0.017%	1	20,969	0.006%	0	0.000%	368,975,896			
PEACE RIVER														
Peace Arm	0	0		0		2	7,300,000		268,067		N/A			
Upper Peace River	0	0	0.000%	0		0	0	0.000%			36,423,413,429			
Lynx Creek	0	0	0.000%	0		0					30,436,635			
Farrell Creek	4	40,706	0.045%	10,030	0.011%	0					91,018,843			
Cache Creek	0	0	0.000%	0	0.000%	1	185,022	0.248%			74,603,546			
Pouce Coupe River	10	218,716	0.086%	81,421	0.032%	2	132,754	0.052%			255,686,202			
Lower Peace River	10	38,314	0.033%	8,577	0.007%	3	2,298,348	2.008%	493,887	0.431%	114,470,012			
PEACE TOTAL (incl. Kisk/Pine/Moberly/Half/Beatton)	254	5,732,984	0.012%	466,898	0.001%	21 1	2,151,093	0.025%	850,799	0.002%	47,891,853,572			
SMOKY RIVER														
Smoky River	10	56,700	0.002%	0	0.000%	1	2,500	0.000%			2,669,506,123			
SMOKY TOTAL	10	56,700	0.002%	0	0.000%	1	2,500	0.000%			2,669,506,123			
MUSKWA RIVER (sub-basin of Fort Nelson River)														
Upper Muskwa River	0	0	0.000%	0		0					1,725,201,511			
Middle Muskwa River	0	0	0.000%	0		0					1,973,711,816			
Middle Muskwa Total (incl. Upper Muskwa)	0	0	0.000%	0	0.000%	0	0	0.000%			3,698,913,327			
Lower Muskwa River	0	0	0.000%	0		0					646,841,560			
MUSKWA TOTAL	0	0	0.000%	0	0.000%	0	0	0.000%			4,345,754,887			
<b>PROPHET RIVER</b> (sub-basin of Fort Nelson River)														
Upper Prophet River	1	2,250	0.000%	0	0.000%	0					1,470,271,289			
Middle Prophet River	5	30,700	0.005%	0		0					621,428,680			
Middle Prophet Total (incl. Upper Prophet)	6	32,950	0.002%	0	0.000%	0	0	0.000%			2,091,699,969			
Lower Prophet River	12	463,510	0.170%	6,974	0.003%	0					272,262,427			
PROPHET TOTAL	18	496,460	0.021%	6,974	0.000%	0	0	0.000%			2,363,962,396			

SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND	SHORT-TERM WATER USE APPROVALS - BC OIL AND GAS COMMISSION					OIL AND GAS RELATED WATER LICENCES						
GAS ACTIVITIES IN 2016, ORGANIZED BY OGC WATER MANAGEMENT BASIN (Page 3 of 4)  MAJOR and	NUMBER OF APPROVED WITHDRAWAL	TOTAL VOLUME APPROVED (m³) FOR LOCATIONS ACTIVE ON	TOTAL VOLUME APPROVED as % of MEAN	TOTAL VOLUME WITHDRAWN	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL	NUMBER O LICENCED WITHDRAW/	VOLUME	TOTAL VOLUME LICENCED as % of MEAN ANNUAL	TOTAL VOLUME WITHDRAWN	TOTAL VOLUME WITHDRAWN as % of MEAN ANNUAL	MEAN ANNUAL RUNOFF	
Sub-Basin Name	LOCATIONS	12/31/2016	ANNUAL RUNOFF	IN 2016 (m <sup>3</sup> )	RUNOFF	LOCATIONS		RUNOFF	IN 2016 (m <sup>3</sup> )	RUNOFF	(m³)	
SIKANNI CHIEF RIVER (sub-basin of Fort Nelson River)												
Upper Sikanni Chief River	1	75,000	0.009%	0	0.000%	1	2,993,000	0.371%	11,991	0.001%	807,771,692	
Middle Sikanni Chief River	34	256,180	0.027%	86,597	0.009%						949,755,794	
Middle Sikanni Chief Total (incl. Upper Sikanni)	35	331,180	0.019%	86,597	0.005%	1	2,993,000	0.170%	11,991	0.001%	1,757,527,486	
Lower Sikanni Chief	4	9,200	0.001%	0							875,678,142	
SIKANNI CHIEF TOTAL	39	340,380	0.013%	86,597	0.003%	1	2,993,000	0.114%	11,991	0.000%	2,633,205,628	
FORT NELSON RIVER												
Kahntah River	14	87,400	0.022%	1,210	0.000%	0					400,582,903	
Fontas River	0	0	0.000%	0		0					591,531,903	
Fontas Total (includes Kahntah)	14	87,400	0.009%	1,210	0.000%	0	0	0.000%	0	0.000%	992,114,806	
Klua Creek	0	0	0.000%	0	0.000%	0					402,135,448	
Upper Fort Nelson River	4	28,200	0.010%	410		0					276,181,026	
Upper Fort Nelson Total (incl. Sikanni Chief Total	l, 57	455,980	0.011%	88,217	0.002%	1	2,993,000	0.070%	11,991	0.000%	4,303,636,908	
Kahntah, Fontas, Klua)												
Snake River	7	25,000	0.008%	3,200	0.001%	0					310,763,522	
Sahtaneh River	17	177,246	0.037%	17,084	0.004%	2	60,000	0.013%	0	0.000%	474,904,729	
Middle Fort Nelson River	8	47,825	0.009%	5,470	0.001%	0			0		515,348,901	
Middle Ft Nelson Total (incl. Upper Ft. Nelson total,	107	1,202,511	0.010%	120,945	0.001%	3	3,053,000	0.025%	11,991	0.000%	12,314,371,343	
Muskwa Total, Prophet Total, Snake, Sahtaneh)												
Kiwigana River	21	54,000	0.012%	1,307	0.000%	5	42,500	0.010%			441,657,543	
Lower Fort Nelson River	5	22,000	0.007%	100		0					312,768,938	
FORT NELSON TOTAL	133	1,278,511	0.010%	122,352	0.001%	8	3,095,500	0.024%	11,991	0.000%	13,068,797,824	
LIARD RIVER		0										
Muncho River	0	0		0		0					551,551,360	
Upper Liard River	0	0		0		0					33,125,817,465	
Upper Liard Total (incl. Muncho)	0	0	0.000%	0	0.000%	0	0	0.000%			33,677,368,825	
Grayling River	0	0		0		0					630,833,914	
Upper Toad River	0	0		0		0					1,521,055,576	
Racing River	0	0		0		0					1,488,336,681	
Lower Toad River Beaver River	0	0		0		0					419,472,722	
	0	U		0		0					10,862,659,426	
Middle Liard River	0			U		U					463,652,312	

SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND GAS ACTIVITIES IN 2016, ORGANIZED BY OGC WATER

### SHORT-TERM WATER USE APPROVALS - BC OIL AND GAS COMMISSION

OIL AND GAS RELATED WATER LICENCES

GAS ACTIVITIES IN 2016, ORGANIZED BY OGC WATER	Jiion	7 TERM WATER O.	SE ALL HOVALS DO	C OIL AILD GAS	COMMISSION	VIETUV VII ILEDITEV IIII ET ETCETOR						
MANAGEMENT BASIN (Page 4 of 4)  MAJOR and Sub-Basin Name	NUMBER OF APPROVED WITHDRAWAL	TOTAL VOLUME APPROVED (m³) FOR LOCATIONS ACTIVE ON 12/31/2016	APPROVED as % of MEAN	TOTAL VOLUME WITHDRAWN	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL	NUMBER ( LICENCEI WITHDRAW	O VOLUME VAL LICENCED	TOTAL VOLUME LICENCED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN	TOTAL VOLUME WITHDRAWN as % of MEAN ANNUAL	MEAN ANNUAL RUNOFF	
	LOCATIONS	12/31/2010	ANNUAL RUNOFF	IN 2016 (m <sup>3</sup> )	RUNOFF	LOCATION	S (m³)	NUNUFF	IN 2016 (m <sup>3</sup> )	RUNOFF	(m³)	
LIARD RIVER con't		0	2 2000/	0	0.0000/		0	2 0000/			40.043.370.464	
Middle Liard Total (incl. Upper Liard Total, Grayling,	0	0	0.000%	0	0.000%	0	0	0.000%			49,063,379,456	
Upper Toad, Racing, Lower Toad, Beaver)	4	10.000	0.0220/	25.022	0.0100/	0					102 070 051	
Capot-Blanc Creek	4	40,000	0.022%	35,032	0.019%	0					183,879,851	
Dunedin River	0	0	0.000%	04.220	0.000%	0					820,464,167	
Lower Liard River	11	342,610	0.028%	94,239	0.008%	0	3 445 544	2 0050/	44.004	2 2000/	1,236,634,664	
LIARD TOTAL (incl. Fort Nelson)	148	1,661,121	0.003%	251,623	0.000%	8	3,095,500	0.005%	11,991	0.000%	64,373,155,962	
PETITOT RIVER					/							
Sahdoanah River	46	43,380	0.017%	6,953	0.003%	0					252,625,362	
Upper Petitot River	62	88,085	0.006%	1,459	0.000%	0					1,476,579,488	
Tsea River	51	59,405	0.014%	4,188	0.001%	3	2,520,000	0.581%	0	0.000%	434,062,484	
Middle Petitot River	19	28,825	0.004%	3,983	0.001%	2	26,666	0.004%			698,562,753	
Middle Petitot Total (incl. Sahdoanah,	178	219,695	0.008%	16,583	0.001%	5	2,546,666	0.089%	0	0.000%	2,861,830,087	
Upper Petitot, Tsea)												
Lower Petitot River	29	55,800	0.006%	1,260		2	30,000	0.003%			904,314,069	
PETITOT TOTAL	207	275,495	0.007%	17,843	0.000%	7	2,576,666	0.068%	0	0.000%	3,766,144,156	
HAY RIVER												
Upper Kotcho River	1	4,000	0.001%	0	0.000%	0					311,519,217	
Kyklo River	2	13,000	0.009%	8,640	0.006%	0					145,897,691	
Shekilie River	28	181,600	0.040%	66	0.000%	0					450,747,494	
Lower Kotcho River	2	7,500	0.002%	2,666	0.001%	0					311,519,217	
Lower Kotcho Total (includes Upper Kotcho,	33	206,100	0.017%	11,372	0.001%	0	0	0.000%			1,219,683,619	
Kyklo, Shekilie)												
Hay River	30	224,200	0.042%	29,990	0.006%	0					538,672,352	
HAY TOTAL	63	430,300	0.024%	41,362	0.002%	0	0	0.000%			1,758,355,971	
CHINCHAGA RIVER												
Chinchaga River	30	109,097	0.100%	2,048	0.002%	0					109,492,680	
CHINCHAGA TOTAL	30	109,097	0.100%	2,048	0.002%	0	0	0.000%			109,492,680	
OTHER (outside Northeast B.C.)	34	640,077		18,978		0	0				N/A	
GRAND TOTAL	746	8,905,774	0.007%	798,752	0.001%	37	17,825,759	0.015%	862,790	0.001%	120,568,508,464	



Previous annual water reports and quarterly updates are available on the Commission's website at: <a href="http://www.bcogc.ca/public-zone/water-information">http://www.bcogc.ca/public-zone/water-information</a>

For specific questions or enquiries regarding this data, please contact: OGC.Communications@bcogc.ca