

Quarterly Oil and Gas Water Management Summary



First Quarter 2020 (Jan - Mar)



PURPOSE

This *Quarterly Oil and Gas Water Management Summary* presents short-term water use and water licence data from the Q1 January to March 2020 period.

Previous annual water use reports and quarterly water management summaries are available on the BC Oil and Gas Commission website at www.bcogc.ca.

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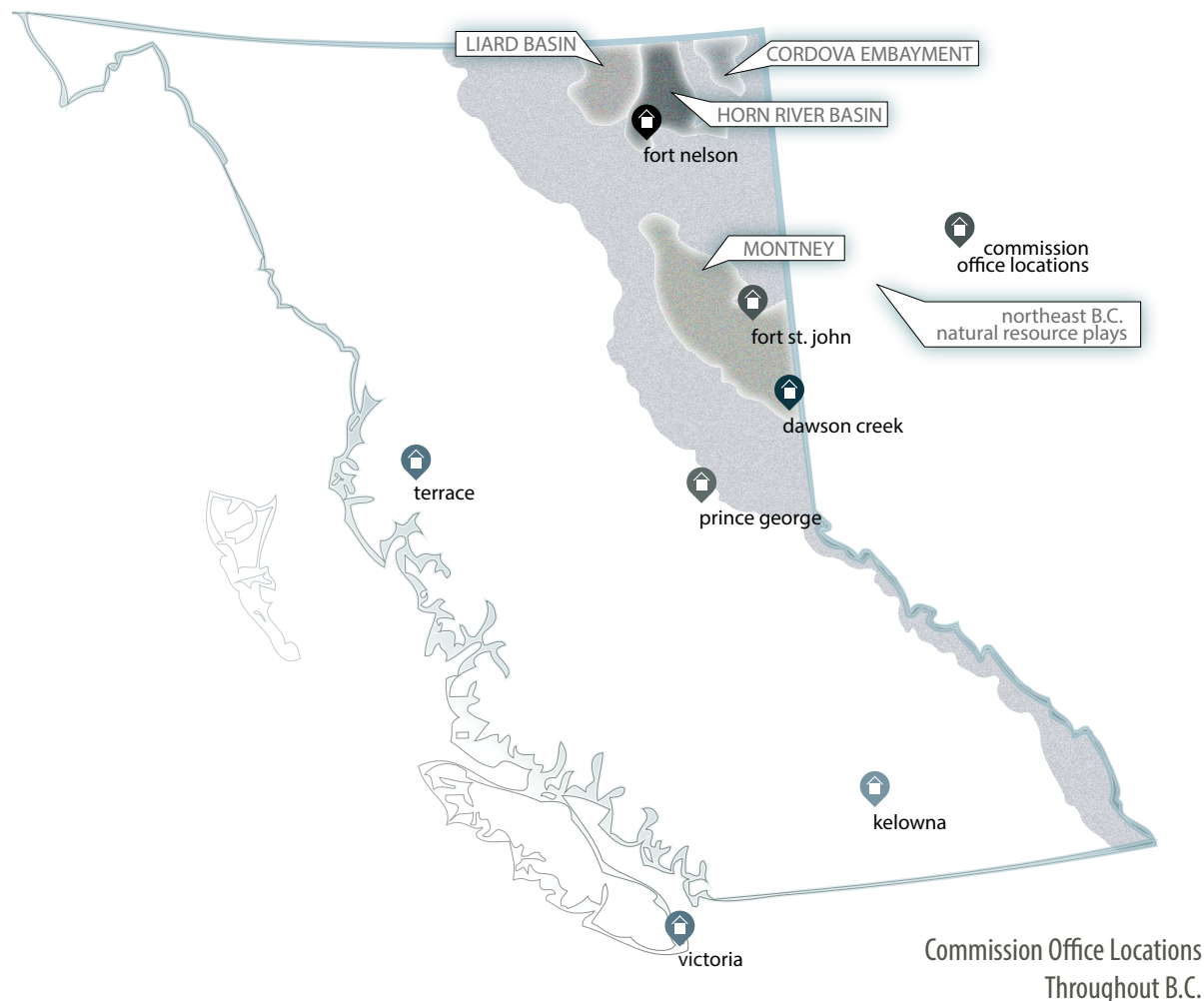
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BC OIL AND GAS COMMISSION

The [BC Oil and Gas Commission](#) (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

There 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 land owners 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.

SHORT-TERM WATER APPROVAL AND USE

During January to March of 2020, there were 254 short-term water use approvals in place, representing 734 withdrawal locations, held by 49 companies (Table 1).

The total water volume associated with short-term approvals active on the last day of the first quarter was 13,053,459 m³.

A total of 192,525 m³ was reported as withdrawn by oil and gas operators in the first quarter of 2020.

TABLE 1 - SUMMARY OF SHORT-TERM APPROVAL AND USE FOR OIL AND GAS ACTIVITIES FROM JANUARY TO MARCH 2020

	Q1
SHORT-TERM	Companies with Active Approvals
	49
	Active Approvals
	254
	Approved Withdrawal locations
	734
	Volume Available for Use (m ³)
	13,053,459
	Cumulative Volume Reported Withdrawn (m ³)
	192,525

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

LONG-TERM WATER LICENCES AND USE

In the first quarter of 2020, there were 90 active oil and gas related water licences, representing 95 withdrawal locations, held by 23 companies (Table 2).

The total annual volume available for use for water licences was 30,383,754 m³.

A total of 621,868 m³ of licenced water was reported withdrawn by the end of Q1. Companies with active licences in Q1 are listed in Table 3.

TABLE 2 - SUMMARY OF WATER LICENCE AND USE FOR OIL AND GAS ACTIVITIES FROM JANUARY TO MARCH 2020

	Q1
WATER LICENCE	Companies with Active Water Licences
	23
	Active Water Licences
	90
	Licensed Withdrawal Locations
	95
	Annual Volume Available for Use for Water Licences (m ³)
	30,383,754
	Cumulative Volume Reported Withdrawn (m ³)
	621,868

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

TABLE 3: OIL AND GAS RELATED WATER LICENCES THAT WITHDREW WATER FROM JANUARY TO MARCH 2020

LICENCE #	LICENCEE	SOURCE	OGC WATER MGMT BASIN	ANNUAL APPROVAL (m³/YR)	2019 WATER USE (m³/YR)
C112155	Whitecap Resources Inc.	Peace River	Lower Peace River	1,825,000	154,182
C132688	Canadian Natural Resources Limited (CNRL)	Charlie Lake	Lower Beaton River	394,000	7,299
C134469	ConocoPhillips Canada	Halfway River	Lower Halfway River	3,650,000	239,109
C134471	Petronas Energy Canada	Sikanni Chief River	Upper Sikanni Chief	2,993,000	72,972
C500172	Tervita Corporation	Aquifer 634	Lower Peace River	36,500	3,928
C500226	Veresen Energy Pipeline	Aquifer 621	Smoky River	5,500	1,105
C500355	Ovintiv Canada ULC	Dugout nr Eight Mile Creek	Lower Peace River	90,000	841
C501076	Ovintiv Canada ULC	Bissette/Dawson Ck Aquifer	Pouce Coupe River	482,000	11,191
C501120	Canlin Energy Corp.	FSJ Aquifer	Upper Beaton River	1,825	28
C501135	CNRL	Aquifer 451	Blueberry River	1,825	289
C501206	CNRL	Dawson Creek Bedrock	Murray River	730	309
C501207	CNRL	FSJ Aquifer	Kahntah River	2,555	529
C501210	CNRL	FSJ Aquifer	Kahntah River	365	109
C501211	CNRL	FSJ Aquifer	Upper Beaton River	730	118
C501212	CNRL	Dawson Creek Aquifer	Smoky River	1,095	318
C501357	Pineview Trucking/Excav.	Unnamed Aquifer	Parsnip River (Outside NEBC)	98,550	4,492
C501398	Umbrella Oilfield Ltd.	Chrissy Creek/FSJ Aquifer	Cameron River	150,000	135
C501477	TAQA North Ltd.	FSJ Aquifer	Middle Beaton River	1,095	60
C501507	Ovintiv Canada ULC	Aquifer 622	Pouce Coupe River	200,000	22,419
C501566	Kelt Exploration Ltd.	Aquifer 451	Cache Creek	36,245	4,003
C501672	Kelt Exploration Ltd.	Aquifer 451	Cache Creek	49,750	4,803
C501683	Kelt Exploration Ltd.	Aquifer 451	Cache Creek	146,000	37,796
C501685	Kelt Exploration Ltd.	Aquifer 451	Cache Creek	160,235	39,691
C501773	Black Swan Energy Ltd.	FSJ Aquifer	Upper Beaton River	19,710	784
C501791	CNRL	Aquifer 931	Milligan Creek	36,500	3,777
C501793	CNRL	Aquifer 931	Milligan Creek	36,500	3,221
C501794	CNRL	Aquifer 931	Milligan Creek	51,100	4,578
C501797	CNRL	Aquifer 931	Lower Beaton River	23,725	3,777

TABLE 4 - SUMMARY OF WATER ALLOCATION
AND USE FOR OIL AND GAS ACTIVITIES IN 2020,
ORGANIZED BY OGC WATER MANAGEMENT BASIN
(Page 1 of 4)

MAJOR and Sub-Basin Name	OIL AND GAS RELATED SHORT-TERM WATER USE APPROVALS - SECTION 10					OIL AND GAS RELATED WATER LICENCES - SECTION 9					
	NUMBER OF WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m³)	TOTAL VOLUME APPROVED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2020 (m³)	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL RUNOFF	NUMBER OF LICENCED WITHDRAWAL LOCATIONS	TOTAL VOLUME LICENCED (m³)	TOTAL VOLUME LICENCED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2020 (m³)	TOTAL VOLUME WITHDRAWN as % of MEAN ANNUAL RUNOFF	MEAN ANNUAL RUNOFF (m³)
BEATTON RIVER (sub-basin of Peace River)											
Upper Beatton River	12	236,810	0.047%	0	0.000%	18	2,102,599	0.421%	932	0.000%	499,408,440
Middle Beatton River	1	18,000	0.007%	0	0.000%	1	1,095	0.000%	60	0.000%	249,152,995
Middle Beatton Total (incl. Upper Beatton)	13	254,810	0.034%	0	0.000%	19	2,103,694	0.281%	992	0.000%	748,561,435
Milligan Creek	9	120,000	0.063%	2,380	0.001%	5	211,700	0.111%	11,576	0.006%	191,536,686
Blueberry River	43	1,592,122	0.543%	0	0.000%	4	197,100	0.067%	289	0.000%	293,278,540
Doig River	12	94,000	0.029%	306	0.000%	1	51,100	0.016%	0	0.000%	323,069,523
Lower Beatton River	31	359,533	0.260%	0	0.000%	2	417,725	0.302%	11,076	0.008%	138,262,629
BEATTON TOTAL	108	2,420,465	0.143%	2,686	0.000%	31	2,981,319	0.176%	23,933	0.001%	1,694,708,813
HALFWAY RIVER (sub-basin of Peace River)											
Chowade River	0					0					327,027,527
Upper Halfway River	0					0					795,962,409
Upper Halfway Total (includes Chowade)	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	1,122,989,936
Graham River	2	3,450	0.000%	0	0.000%	0					860,627,172
Cameron River	39	1,003,668	0.449%	40,482	0.018%	14	736,725	0.329%	135	0.000%	223,679,567
Lower Halfway River	16	1,038,399	0.685%	400	0.000%	7	3,838,688	2.533%	239,110	0.158%	151,526,991
HALFWAY TOTAL	57	2,045,517	0.087%	40,882	0.002%	21	4,575,413	0.194%	239,245	0.010%	2,358,823,666
MOBERLY RIVER (sub-basin of Peace River)											
Moberly River	5	55,631	0.014%	18	0.000%	0					391,714,995
MOBERLY TOTAL	5	55,631	0.014%	18	0.000%	0	0	0.000%	0	0.000%	391,714,995
PINE RIVER (sub-basin of Peace River)											
Burnt River	0					0					737,930,022
Sukunka River	3	30,000	0.003%	0	0.000%	0					1,047,282,572
Sukunka River Total (includes Burnt)	3	30,000	0.002%	0	0.000%	0	0	0.000%	0	0.000%	1,785,212,594
Upper Pine River	0					0					1,466,884,035
Murray River	3	20,850	0.001%	0	0.000%	1	730	0.000%	309	0.000%	2,698,285,017
Lower Pine River	32	553,907	0.402%	0	0.000%	1	650,000	0.472%	0	0.000%	137,619,889
PINE TOTAL	38	604,757	0.019%	0	0.000%	2	650,730	0.011%	309	0.000%	6,088,001,535

OIL AND GAS RELATED SHORT-TERM WATER USE APPROVALS - SECTION 10						OIL AND GAS RELATED WATER LICENCES - SECTION 9					
MAJOR and Sub-Basin Name	NUMBER OF APPROVED WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m³)	TOTAL VOLUME APPROVED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2020 (m³)	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL RUNOFF	NUMBER OF LICENCED WITHDRAWAL LOCATIONS	TOTAL VOLUME LICENCED (m³)	TOTAL VOLUME LICENCED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2020 (m³)	TOTAL VOLUME WITHDRAWN as % of MEAN ANNUAL RUNOFF	MEAN ANNUAL RUNOFF (m³)
KISKATINAW RIVER (sub-basin of Peace River)											
West Kiskatinaw River	0					0					117,515,115
East Kiskatinaw River	0					0					105,452,962
Middle Kiskatinaw River	8	130,296	0.231%	80	0.000%	1	600,000	1.065%	0	0.000%	56,347,972
Middle Kiskatinaw Total (incl. West & East)	8	130,296	0.047%	80	0.000%	1	600,000	0.215%	0	0.000%	279,316,049
Lower Kiskatinaw River	32	1,442,889	1.609%	7,642	0.009%	7	2,738,100	3.054%	0	0.000%	89,659,847
KISKATINAW TOTAL	40	1,573,185	0.426%	7,722	0.002%	8	3,338,100	0.905%	0	0.000%	368,975,896
PEACE RIVER											
Peace Arm	0					3	9,125,000	N/A	0	N/A	N/A
Upper Peace River	4	781,998	0.002%	0	0.000%	0					36,423,413,429
Lynx Creek	3	43,996	0.145%	0	0.000%	0					30,436,635
Farrell Creek	13	454,056	0.499%	62,412	0.069%	0					91,018,843
Cache Creek	9	118,120	0.158%	544	0.001%	5	577,230	0.774%	86,294	0.116%	74,603,546
Pouce Coupe River	24	837,186	0.327%	43,210	0.017%	4	1,650,200	0.645%	33,610	0.013%	255,686,202
Lower Peace River	20	539,401	0.471%	1,150	0.001%	7	4,193,969	3.664%	158,951	0.139%	114,470,012
PEACE TOTAL (incl. Kisk/Pine/Moberly/Half/Beaton)	321	9,474,312	0.020%	158,624	0.000%	81	27,091,961	0.057%	542,342	0.001%	47,891,853,572
SMOKY RIVER											
Smoky River	3	9,000	0.000%	0	0.000%	2	6,595	0.000%	1,424	0.000%	2,669,506,123
SMOKY TOTAL	3	9,000	0.000%	0	0.000%	2	6,595	0.000%	1,424	0.000%	2,669,506,123
MUSKWA RIVER (sub-basin of Fort Nelson River)											
Upper Muskwa River	0					0					1,725,201,511
Middle Muskwa River	0					0					1,973,711,816
Middle Muskwa Total (incl. Upper Muskwa)	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	3,698,913,327
Lower Muskwa River	0					0					646,841,560
MUSKWA TOTAL	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	4,345,754,887
PROPHET RIVER (sub-basin of Fort Nelson River)											
Upper Prophet River	2	1,500	0.000%	176	0.000%	1	36,593	0.002%	0	0.000%	1,470,271,289
Middle Prophet River	7	31,450	0.005%	242	0.000%	0					621,428,680
Middle Prophet Total (incl. Upper Prophet)	9	32,950	0.002%	418	0.000%	1	36,593	0.002%	0	0.000%	2,091,699,969
Lower Prophet River	1	3,900	0.001%	0	0.000%	0					272,262,427
PROPHET TOTAL	10	36,850	0.002%	418	0.000%	1	36,593	0.002%	0	0.000%	2,363,962,396

OIL AND GAS RELATED SHORT-TERM WATER USE APPROVALS - SECTION 10

OIL AND GAS RELATED WATER LICENCES - SECTION 9

MAJOR and Sub-Basin Name	NUMBER OF WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m³)	TOTAL VOLUME APPROVED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2020 (m³)	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL RUNOFF	NUMBER OF LICENCED WITHDRAWAL LOCATIONS	TOTAL VOLUME LICENCED (m³)	TOTAL VOLUME LICENCED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2020 (m³)	TOTAL VOLUME WITHDRAWN as % of MEAN ANNUAL RUNOFF	MEAN ANNUAL RUNOFF (m³)
SIKANNI CHIEF RIVER (sub-basin of Fort Nelson River)											
Upper Sikanni Chief River	4	50,000	0.006%	0	0.000%	3	3,117,689	0.386%	72,972	0.009%	807,771,692
Middle Sikanni Chief River	27	230,313	0.024%	2,261	0.000%	4	29,203	0.003%	0	0.000%	949,755,794
Middle Sikanni Chief Total (incl. Upper Sikanni)	31	280,313	0.016%	2,261	0.000%	7	3,146,892	0.179%	72,972	0.004%	1,757,527,486
Lower Sikanni Chief	22	208,256	0.024%	11,914	0.001%	0					875,678,142
SIKANNI CHIEF TOTAL	53	488,569	0.019%	14,175	0.001%	7	3,146,892	0.120%	72,972	0.003%	2,633,205,628
FORT NELSON RIVER											
Kahntah River	30	168,248	0.042%	3,000	0.001%	2	2,920	0.001%	639	0.000%	400,582,903
Fontas River	4	27,200	0.005%	3,915	0.001%	0					591,531,903
Fontas Total (includes Kahntah)	34	195,448	0.020%	6,915	0.001%	2	2,920	0.000%	639	0.000%	992,114,806
Klua Creek	0					0					402,135,448
Upper Fort Nelson River	0					0					276,181,026
Upper Fort Nelson Total (incl. Sikanni Chief Total, Kahntah, Fontas, Klua)	87	684,017	0.016%	21,090	0.000%	9	3,149,812	0.073%	73,611	0.002%	4,303,636,908
Snake River	1	4,200	0.001%	0	0.000%	0					310,763,522
Sahtaneh River	15	75,300	0.016%	350	0.000%	0					474,904,729
Middle Fort Nelson River	6	15,000	0.003%	5,121	0.001%	0					515,348,901
Middle Ft Nelson Total (incl. Upper Ft. Nelson total, Muskwa Total, Prophet Total, Snake, Sahtaneh)	119	815,367	0.007%	26,979	0.000%	10	3,186,405	0.026%	73,611	0.001%	12,314,371,343
Kiwigana River	21	179,400	0.041%	1,436	0.000%	0					441,657,543
Lower Fort Nelson River	0					0					312,768,938
FORT NELSON TOTAL	140	994,767	0.008%	28,415	0.000%	10	3,186,405	0.024%	73,611	0.001%	13,068,797,824
LIARD RIVER											
Muncho River	0					0					551,551,360
Upper Liard River	0					0					33,125,817,465
Upper Liard Total (incl. Muncho)	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	33,677,368,825
Grayling River	0					0					630,833,914
Upper Toad River	0					0					1,521,055,576
Racing River	0					0					1,488,336,681
Lower Toad River	0					0					419,472,722
Beaver River	0					0					10,862,659,426
Middle Liard River	0					0					463,652,312

OIL AND GAS RELATED SHORT-TERM WATER USE APPROVALS - SECTION 10

OIL AND GAS RELATED WATER LICENCES - SECTION 9

MAJOR and Sub-Basin Name	NUMBER OF WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m³)	TOTAL VOLUME APPROVED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2020 (m³)	TOTAL VOLUME WITHDRAWN AS % OF MEAN ANNUAL RUNOFF	NUMBER OF LICENCED WITHDRAWAL LOCATIONS	TOTAL VOLUME LICENCED (m³)	TOTAL VOLUME LICENCED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2020 (m³)	TOTAL VOLUME WITHDRAWN as % of MEAN ANNUAL RUNOFF	MEAN ANNUAL RUNOFF (m³)
LIARD RIVER con't											
Middle Liard Total (incl. Upper Liard Total, Grayling, Upper Toad, Racing, Lower Toad, Beaver)	0	0	0.000%	0	0.000%	0	0	0.000%	0	0.000%	49,063,379,456
Capot-Blanc Creek	0					0					183,879,851
Dunedin River	0					0					820,464,167
Lower Liard River	0					0					1,236,634,664
LIARD TOTAL (incl. Fort Nelson)	140	994,767	0.002%	28,415	0.000%	10	3,186,405	0.005%	73,611	0.000%	64,373,155,962
PETITOT RIVER											
Sahdoanah River	7	29,800	0.012%	872	0.000%	0					252,625,362
Upper Petitot River	30	70,700	0.005%	0	0.000%	0					1,476,579,488
Tsea River	11	151,234	0.035%	485	0.000%	0					434,062,484
Middle Petitot River	19	91,300	0.013%	0	0.000%	0					698,562,753
Middle Petitot Total (incl. Sahdoanah, Upper Petitot, Tsea)	67	343,034	0.012%	1,357	0.000%	0	0	0.000%	0	0.000%	2,861,830,087
Lower Petitot River	21	175,400	0.019%	0	0.000%	0					904,314,069
PETITOT TOTAL	88	518,434	0.014%	1,357	0.000%	0	0	0.000%	0	0.000%	3,766,144,156
HAY RIVER											
Upper Kotcho River	0					0					311,519,217
Kyklo River	6	33,960	0.023%	0	0.000%	0					145,897,691
Shekilie River	26	158,900	0.035%	0	0.000%	0					450,747,494
Lower Kotcho River	4	10,065	0.003%	538	0.000%	0					311,519,217
Lower Kotcho Total (includes Upper Kotcho, Kyklo, Shekilie)	36	202,925	0.017%	538	0.000%	0	0	0.000%	0	0.000%	1,219,683,619
Hay River	29	198,500	0.037%	562	0.000%	0					538,672,352
HAY TOTAL	65	401,425	0.023%	1,100	0.000%	0	0	0.000%	0	0.000%	1,758,355,971
CHINCHAGA RIVER											
Chinchaga River	41	279,100	0.255%	773	0.001%	0					109,492,680
CHINCHAGA TOTAL	41	279,100	0.255%	773	0.001%	0	0	0.000%	0	0.000%	109,492,680
OTHER (outside Northeast B.C.)	76	1,376,421	N/A	2,256	N/A	2	98,793	N/A	4,492	N/A	N/A
GRAND TOTAL	734	13,053,459	0.011%	192,525	0.000%	95	30,383,754	0.025%	621,869	0.001%	120,568,508,464



Previous annual water reports and quarterly updates
are available on the Commission's website at:

<https://www.bcogc.ca/data-reports>.

For specific questions or enquiries
regarding this data, please contact:

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