

Quarterly Oil and Gas Water Use Summary



Second Quarter 2015 (Apr - Jun)



PURPOSE

This *Quarterly Oil and Gas Water Use Summary* presents short-term water use and water licence data from the Q2 April to June 2015 period.

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

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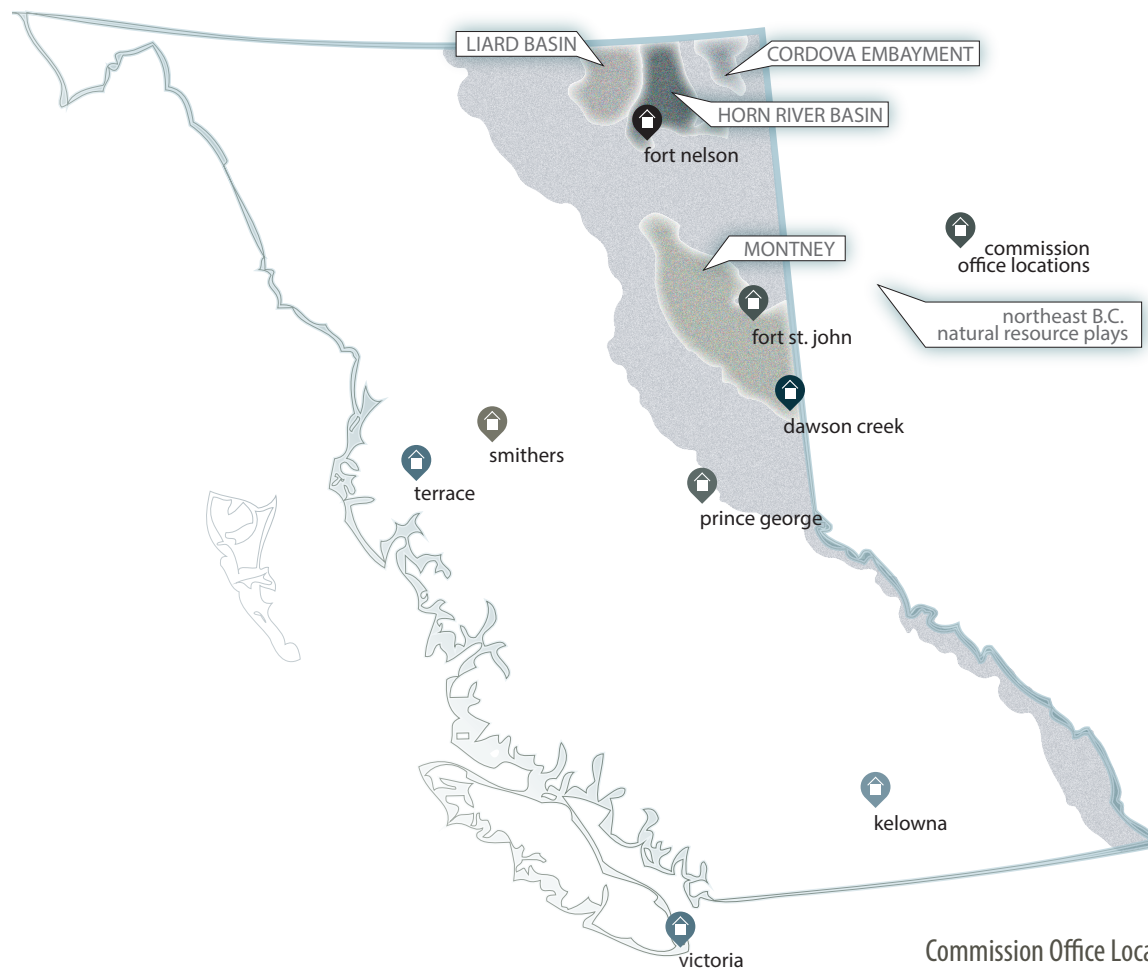
BC OIL AND GAS COMMISSION

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.

Where water authorization is granted, the Commission becomes responsible for regulating the permissions by which oil and gas companies operate.



Commission Office Locations
Throughout B.C.

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 Act. 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 8 of the Water Act. 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 also access water by means currently 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.
- **Groundwater wells** for oil and gas use where the activity does not involve water injection (hydraulic fracturing) into the subsurface. These include road maintenance, geophysical exploration, and other possible uses.

LONG-TERM WATER LICENCES AND USE

In the second quarter of 2015, there were 18 active oil and gas related water licences, representing 33 withdrawal locations, held by eight companies (Table 1).

The total annual licenced water volume was 20,048,135 m³.

Mandatory reporting of water use under water licence has generally not been a requirement; in 2014, the Commission amended these licences to require water use reporting.

A total of 945,592 m³ of licenced water was reported as used in the first half of the year by four companies (Table 1, 2, 3).

A break-down of water licence allocation and use by OGC Water Management Basin is listed in Table 6 on page 8.

TABLE 3: OIL AND GAS RELATED WATER LICENCES THAT WITHDREW WATER FROM JANUARY TO JUNE 2015

TABLE 1 - SUMMARY OF WATER LICENCE AND USE FOR OIL AND GAS ACTIVITIES FROM JANUARY TO JUNE 2015

		Q1	Q2
WATER LICENCE	Companies with Active Water Licences	8	8
	Active Water Licences	18	18
	Licensed Withdrawal Locations	33	33
	Annual Volume Available for Use for Water Licences (m ³)	20,048,135	20,048,135
	Cumulative Volume Reported Used in 2015 (m ³)	587,562	945,592

TABLE 2 - QUARTERLY WATER WITHDRAWALS (m³) FROM WATER LICENCES, 2014 Q1 - 2015 Q2

	Q1	Q2	Q3	Q4	SUM
2014	246,887	1,143,170	812,534	595,969	2,798,560
2015	587,562	358,030			945,592

LICENCE #	LICENCEE	SOURCE	OGC WATER MANAGEMENT BASIN	ANNUAL APPROVAL (m ³ /YR)	2015 WATER USE (m ³ /YR)
C112155	Whitecap Resources	Peace River	Lower Peace River	1,825,000	291,346
C126568	Progress Energy Ltd.	Williston Lake	Peace Arm	3,650,000	14,835
C126877	Canadian Natural Resources Limited	Charlie Lake	Lower Beaton River	394,000	20,319
C127223	Canbriam Energy Inc.	Williston Lake	Peace Arm	3,650,000	187,114
C131230	Progress Energy Ltd.	Sikanni Chief River	Upper Sikanni Chief River	2,993,000	431,978

SHORT-TERM WATER APPROVAL AND USE

During April to June of 2015, there were a total of 210 short-term water use approvals in place, representing 910 withdrawal locations, held by 49 companies (Table 4).

The total water volume associated with short-term approvals that were active on the last day of the quarter was 11,427,058 m³.

A total of 535,407 m³ was reported as used by oil and gas operators for the first six months of the year (Table 4, 5).

A break-down of short-term water approval and use by OGC Water Management Basin is listed in Table 6 on page 8.

TABLE 4 - SUMMARY OF SHORT-TERM APPROVAL AND USE FOR OIL AND GAS ACTIVITIES FROM JANUARY TO JUNE 2015

	Q1	Q2
SHORT-TERM		
Companies with Active Section 8 Approvals	56	49
Active Section 8s	295	210
Approved Withdrawal Locations for Section 8s	1,068	910
Volume Available for Use for Section 8s (m ³)	11,094,777	11,427,058
Cumulative Volume Reported Used in 2015 (m ³)	264,527	535,407

TABLE 5 - QUARTERLY WATER WITHDRAWALS (m³) FROM SECTION 8 APPROVALS, 2011 Q1 - 2015 Q2

	Q1	Q2	Q3	Q4	SUM
2011	782,388	662,767	1,266,317	1,100,613	3,812,085
2012	1,345,289	982,376	1,088,192	340,607	3,756,464
2013	1,077,316	482,054	612,542	728,607	2,900,519
2014	1,136,552	568,342	627,318	178,461	2,510,673
2015	264,895	270,512			535,407

TABLE 6 - SUMMARY OF WATER ALLOCATION AND USE FOR OIL AND GAS ACTIVITIES IN 2015, ORGANIZED BY OGC WATER MANAGEMENT BASIN (Page 1 of 4)

OIL AND GAS RELATED WATER LICENCES											
MAJOR and Sub-Basin Name	NUMBER OF APPROVED WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m³) FOR LOCATIONS ACTIVE ON 6/30/2015	TOTAL VOLUME APPROVED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2015 (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 2015 (m³)	TOTAL VOLUME WITHDRAWN as % of MEAN ANNUAL RUNOFF	MEAN ANNUAL RUNOFF (m³)
BEATTON RIVER (sub-basin of Peace River)											
Upper Beatton River	38	1,437,806	0.288%	143,779	0.029%	0					499,408,440
Middle Beatton River	19	179,150		4,130		0					249,152,995
Middle Beatton Total (incl. Upper Beatton)	57	1,616,956	0.216%	147,909	0.020%	0	0	0.000%			748,561,435
Milligan Creek	11	171,340	0.089%	2,208	0.001%	0					191,536,686
Blueberry River	55	406,400	0.139%	26,602	0.009%	0		0.000%			293,278,540
Doig River	2	1,000	0.000%	0	0.000%	0		0.000%			323,069,523
Lower Beatton River	0					1	394,000		20,319		138,262,629
BEATTON TOTAL	125	2,195,696	0.130%	176,719	0.010%	1	394,000	0.023%	20,319	0.001%	1,694,708,813
HALFWAY RIVER (sub-basin of Peace River)											
Chowade River	0					0					327,027,527
Upper Halfway River	2	150,000		0		0					795,962,409
Upper Halfway Total (includes Chowade)	2	150,000	0.013%	0	0.000%	0	0	0.000%			1,122,989,936
Graham River	3	1,279,900	0.149%	0	0.000%	0					860,627,172
Cameron River	34	1,025,059	0.458%	96,618	0.043%	0					223,679,567
Lower Halfway River	17	1,756,137		7,007		0					151,526,991
HALFWAY TOTAL	56	4,211,096	0.179%	103,625	0.004%	0	0	0.000%			2,358,823,666
MOBERLY RIVER (sub-basin of Peace River)											
Moberly River	0	0		0		0					391,714,995
MOBERLY TOTAL	0	0	0.000%	0	0.000%	0	0	0.000%			391,714,995
PINE RIVER (sub-basin of Peace River)											
Burnt River	3	10,000	0.001%	0	0.000%	0					737,930,022
Sukunka River	2	10,000		0		0					1,047,282,572
Sukunka River Total (includes Burnt)	5	20,000	0.001%	0	0.000%	0	0	0.000%			1,785,212,594
Upper Pine River	0					0					1,466,884,035
Murray River	12	40,596	0.002%	0	0.000%	7	25,000	0.001%	0	0.000%	2,698,285,017
Lower Pine River	31	1,188,026		77,001		0					137,619,889
PINE TOTAL	48	1,248,622	0.019%	77,001	0.001%	7	25,000	0.000%	0	0.000%	6,088,001,535

SECTION 8 WATER USE APPROVALS - BC OIL AND GAS COMMISSION						OIL AND GAS RELATED WATER LICENCES					
MAJOR and Sub-Basin Name	NUMBER OF APPROVED WITHDRAWAL LOCATIONS	TOTAL VOLUME APPROVED (m³) FOR LOCATIONS ACTIVE ON 6/30/2015	TOTAL VOLUME APPROVED as % of MEAN ANNUAL RUNOFF	TOTAL VOLUME WITHDRAWN IN 2015 (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 2015 (m³)	TOTAL VOLUME WITHDRAWN as % of MEAN ANNUAL RUNOFF	MEAN ANNUAL RUNOFF (m³)
KISKATINAW RIVER (sub-basin of Peace River)											
West Kiskatinaw River	2	2,000	0.002%	0	0.000%	0					117,515,115
East Kiskatinaw River	17	8,800	0.008%	0	0.000%	0					105,452,962
Middle Kiskatinaw River	12	89,536		16,848		0					56,347,972
Middle Kiskatinaw Total (incl. West & East)	31	100,336	0.036%	16,848	0.006%	0	0	0.000%			279,316,049
Lower Kiskatinaw River	5	40,108		2,930	0.003%	1	400,000		0		89,659,847
KISKATINAW TOTAL	36	140,444	0.038%	19,778	0.005%	1	400,000	0.108%	0	0.000%	368,975,896
PEACE RIVER											
Peace Arm	0					2	7,300,000	N/A	201,949	N/A	N/A
Upper Peace River	0					0					36,423,413,429
Lynx Creek	0					0					30,436,635
Farrell Creek	4	40,706	0.045%	0	0.000%	0					91,018,843
Cache Creek	2	24,000	0.032%	0	0.000%	1	185,000	0.248%	0		74,603,546
Pouce Coupe River	0					1	2,000	0.001%	0		255,686,202
Lower Peace River	1	0		9,323		3	3,067,469		291,346		114,470,012
PEACE TOTAL (incl. Kisk/Pine/Moberly/Half/Beaton)	272	7,860,564	0.016%	386,446	0.001%	16	11,373,469	0.024%	513,614	0.001%	47,891,853,572
SMOKY RIVER											
Smoky River	34	51,200		0	0.000%	1	2,500	0.000%			2,669,506,123
SMOKY TOTAL	34	51,200	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					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%			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%			4,345,754,887
PROPHET RIVER (sub-basin of Fort Nelson River)											
Upper Prophet River	5	70,330	0.005%	0	0.000%	0					1,470,271,289
Middle Prophet River	5	19,500		765		0					621,428,680
Middle Prophet Total (incl. Upper Prophet)	10	89,830	0.004%	765	0.000%	0	0	0.000%			2,091,699,969
Lower Prophet River	7	36,400		1,581		0					272,262,427
PROPHET TOTAL	17	126,230	0.005%	2,346	0.000%	0	0	0.000%			2,363,962,396

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SIKANNI CHIEF RIVER (sub-basin of Fort Nelson River)											
Upper Sikanni Chief River	1	75,000	0.009%	705	0.000%	1	2,993,000	0.371%	431,978	0.053%	807,771,692
Middle Sikanni Chief River	37	441,004		2,046		0					949,755,794
Middle Sikanni Chief Total (incl. Upper Sikanni)	38	516,004	0.029%	2,751	0.000%	1	2,993,000	0.170%	431,978	0.025%	1,757,527,486
Lower Sikanni Chief	9	14,173		1,275		0					875,678,142
SIKANNI CHIEF TOTAL	47	530,177	0.020%	4,026	0.000%	1	2,993,000	0.114%	431,978	0.016%	2,633,205,628
FORT NELSON RIVER											
Kahntah River	0	0	0.000%	215	0.000%	0					400,582,903
Fontas River	2	450		573		0					591,531,903
Fontas Total (includes Kahntah)	2	450	0.000%	788	0.000%	0	0	0.000%	0	0.000%	992,114,806
Klua Creek	10	55,600	0.014%	17,862	0.004%	0					402,135,448
Upper Fort Nelson River	24	101,500		15,883		0					276,181,026
Upper Fort Nelson Total (incl. Sikanni Chief Total, Kahntah, Fontas, Klua)	83	687,727	0.016%	38,559	0.001%	1	2,993,000	0.070%	431,978	0.010%	4,303,636,908
Snake River	13	40,200	0.013%	20	0.000%	0					310,763,522
Sahtaneh River	48	148,200	0.031%	6,465	0.001%	2	40,000	0.008%	0	0.000%	474,904,729
Middle Fort Nelson River	10	43,700		0		1	3,000,000		0		515,348,901
Middle Ft Nelson Total (incl. Upper Ft. Nelson total, Muskwa Total, Prophet Total, Snake, Sahtaneh)	171	1,046,057	0.008%	47,390	0.000%	4	6,033,000	0.049%	431,978	0.004%	12,314,371,343
Kiwigana River	11	34,400	0.008%	4,053	0.001%	5	42,500	0.010%			441,657,543
Lower Fort Nelson River	20	134,792		8,877		0					312,768,938
FORT NELSON TOTAL	202	1,215,249	0.009%	60,320	0.000%	9	6,075,500	0.046%	431,978	0.003%	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%			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

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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%			49,063,379,456
Capot-Blanc Creek	24	486,715	0.265%	22,391	0.012%	0					183,879,851
Dunedin River	23	111,775	0.014%	0	0.000%	0					820,464,167
Lower Liard River	21	586,681		45,508		0					1,236,634,664
LIARD TOTAL (incl. Fort Nelson)	270	2,400,420	0.004%	128,219	0.000%	9	6,075,500	0.009%	431,978	0.001%	64,373,155,962
PETITOT RIVER											
Sahdoanah River	22	53,966	0.021%	3,789	0.001%	0					252,625,362
Upper Petitot River	56	158,078	0.011%	3,436	0.000%	0					1,476,579,488
Tsea River	21	28,704	0.007%	5,111	0.001%	4	2,540,000	0.585%	0	0.000%	434,062,484
Middle Petitot River	11	35,795		1,482		2	26,666				698,562,753
Middle Petitot Total (incl. Sahdoanah, Upper Petitot, Tsea)	110	276,543	0.010%	13,818	0.000%	6	2,566,666	0.090%	0	0.000%	2,861,830,087
Lower Petitot River	22	382,757		3,521		1	30,000				904,314,069
PETITOT TOTAL	132	659,300	0.018%	17,339	0.000%	7	2,596,666	0.069%	0	0.000%	3,766,144,156
HAY RIVER											
Upper Kotcho River	4	16,600	0.005%	816	0.000%	0					311,519,217
Kyklo River	36	184,300	0.126%	0	0.000%	0					145,897,691
Shekilie River	28	186,610	0.041%	196	0.000%	0					450,747,494
Lower Kotcho River	3	6,000		660		0					311,519,217
Lower Kotcho Total (includes Upper Kotcho, Kyklo, Shekilie)	71	393,510	0.032%	1,672	0.000%	0	0	0.000%			1,219,683,619
Hay River	26	10,000		1,419		0					538,672,352
HAY TOTAL	97	403,510	0.023%	3,091	0.000%	0	0	0.000%			1,758,355,971
CHINCHAGA RIVER											
Chinchaga River	28	28,500	0.026%	312	0.000%	0					109,492,680
CHINCHAGA TOTAL	28	28,500	0.026%	312	0.000%	0	0	0.000%			109,492,680
OTHER (outside Northeast B.C.)	77	23,564		0		0	0				N/A
GRAND TOTAL	910	11,427,058	0.009%	535,407	0.000%	33	20,048,135	0.017%	945,592	0.001%	120,568,508,464



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

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

Jonathan Boyd, P.Ge
Hydrology Technician
Jonathan.Boyd@bcogc.ca
