

Water Use in Oil and Gas Activities

First Quarter 2013 (Jan-Mar)



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About Us

BC Oil and Gas Commission

The BC Oil and Gas Commission is the single-window 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.

For general information about the Commission, please visit www.bcogc.ca or phone 250-794-5200.



More Information

Contact www.bcogc.ca

Data on short-term water approvals, water licensing and usage is updated quarterly on the Commission website at www.bcogc.ca. Resources include:

- [Oil and Gas Activities Act and Water Act](#)
- [Short-term Use of Water Application Manual](#)
- [Data files of all Active Section 8 Approvals](#)
- [2012 Quarterly Updates](#)
- [Northeast Water Tool](#)

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

Allan Chapman, MSc, PGeo.
Hydrologist
BC Oil and Gas Commission
Allan.Chapman@bcogc.ca

Quarterly Report on Section 8 Water Permits and Water Licences

Regulatory responsibility for short-term water use approvals is the statutory authority of the BC Oil and Gas Commission (Commission) through the Oil and Gas Activities Act as a specified enactment of the Water Act. Under Section 8, oil and gas operators must apply to the Commission for approval, valid for a maximum of one year, to use or divert surface water from rivers, lakes or dugouts for an oil or gas activity. The application specifies the total volume of water requested, the maximum withdrawal rate in cubic metres (m³) per day, and the specific geographic coordinates of all withdrawal locations from the requested area. Natural resource officers in the Commission's Permitting and Authorizations division receive, review and adjudicate the applications.

On April 5, 2013 the Ministry of Forests, Lands and Natural Resource Operations designated Commission staff Regional Water Managers and Assistant Regional Water Managers under Section 1 of the Water Act, giving the Commission the authority to issue water licences for oil and gas purposes. Water licences are valid for a specified amount of time greater than one year.

This report contains short-term water use data and water licence data from the January to March 2013 period. Previous annual water reports and quarterly updates are available on the Commission's website at www.bcogc.ca.

Water Used in Oil and Gas Activities

The oil and gas industry obtains water use permits and licences for a number of activities, which include:

- Seismic or geophysical exploration
- Drilling
- Machine washing
- Ice road freezing
- Dust control
- Water floods (to enhance oil recovery)
- Hydraulic fracturing
- Hydrostatic testing of pipelines

Commission Authority for Water

The Commission has natural resource specialists trained to review and adjudicate applications for water use associated with oil and gas activities. These specialists, including a professional hydrologist, have expertise in northeast B.C.'s water resources and oil and gas operations.

The Commission manages water approvals and use with specific focus on environmental values. Methods and tools include:

- The development of a watershed base map for northeast B.C. (derived from the Ministry of Environment's Freshwater Atlas base map).
- The review of water use applications on a watershed basis with an understanding of cumulative effects management, which ensures withdrawals do not exceed environmental limits and environmental flows are maintained.
- The production of publicly available reports on water approvals and use.
- The management of special or unique situations, and the ability to take action if necessary, such as suspending oil and gas water use during the 2010 and 2012 summer droughts in northeast B.C.
- The [Northeast Water Tool](#), a hydrologic model for northeast B.C.
- Cooperation with water stewardship staff from FLNRO to ensure decisions are fully informed.

Total Approvals and Reported Use

During January to March of 2013, there were a total of 246 short-term water use approvals in place held by 42 companies (Table 1).

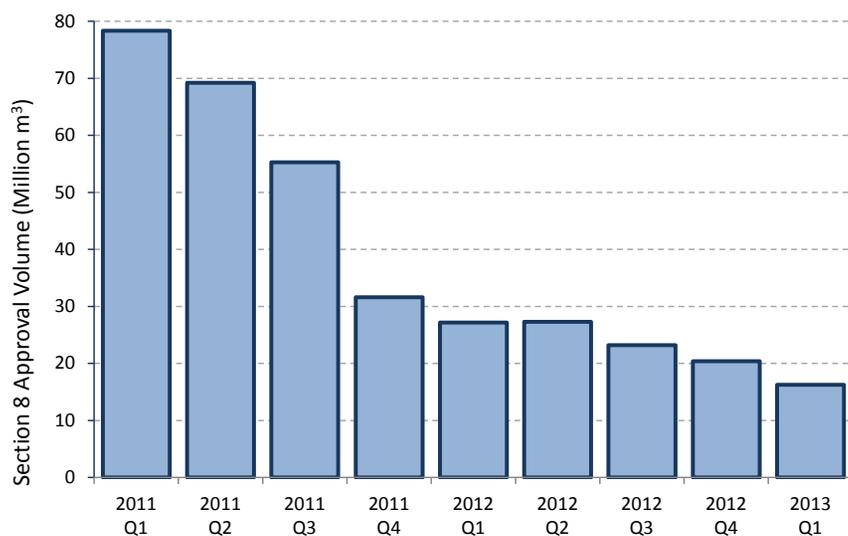
The total water volume associated with active approvals for the annual period beginning January 2013 was 16.3 million m³, which is 40 per cent less than the active approval volume for the first quarter of 2012 (Figure 1).

For the three-month period of January to March, a total of 1,080,531 m³ was reported as used by oil and gas operators.

Table 1: Summary of short-term water use approvals active Jan-Mar 2013

	Q1 Total Jan-Mar 2013
Number of active approvals in each quarter	246
Number of approvals issued in each quarter	90
Number of companies with active approvals	42
Total volume available for use for the 12-month period beginning with each quarter (m ³)	16,250,016
Total volume reported used in each quarter (m ³)	1,080,531
Cumulative total volume reported used in 2012 (m ³)	1,080,531

Figure 1: Trend in annual Section 8 approval volumes by quarter since the start of 2011



The basins with the largest total approved volumes as a percentage of mean annual runoff between January and March are listed in Table 2.

For all the remaining basins between January and March, the approved short-term water use corresponds to less than 0.20 per cent of mean annual runoff (Table 3).

Actual cumulative water use (as reported by the approval holders) in individual basins is a small fraction of the approved water use, and was less than 0.02 per cent of mean annual runoff in all river basins between January and March.

Table 2: Basins with largest total approved percentage of mean annual runoff

	Percentage (Jan-Mar 2013)
Lower Halfway River	1.31
East Kiskatinaw River	0.72
Lower Pine River	0.46
Cameron River	0.28
Kiwigana River	0.24
Capot-Blanc River	0.23
Sahdonah River	0.23

Northeast Water Tool



The [Northeast Water Tool \(NEWT\)](#) is a GIS-based hydrology decision-support tool developed by the Commission. It provides guidance on water availability across northeast B.C., and supports the decision-making process for water use permits and licences. It is available for use for all stakeholders, including industry, First Nations and the public, and is available via the Commission website.

Table 3: Section 8 permits approved by the BC Oil and Gas Commission and water licensed by the Ministry of Forests, Lands and Natural Resource Operations.

Approved volumes for an annual period starting January 2013; actual withdrawals for January to March 2013, and are presented as a percentage of annual river discharge.

Major & Sub-Basin Name	Section 8 Water Use Approvals – BC Oil and Gas Commission					Water Licences – FLNRO			River Discharge and Runoff	
	Section 8 Approvals	Total Volume Approved (m ³)	Total Volume Approved as % of Mean Annual Runoff	Total Volume Withdrawn (m ³) (2013)	Total Volume Withdrawn as % of Mean Annual Runoff	# of Water Licences	Total Volume Licensed (m ³)	Total Volume Licensed as % of Mean Annual Runoff	Mean Annual Discharge (m ³ /s)	Mean Annual Runoff (m ³)
Beatton River										
Upper Beatton River	14	520,680	0.104%	10,953	0.002%				15.8	499,408,440
Middle Beatton River	7	23,500	0.009%	0	0.000%				7.9	249,152,995
Milligan Creek	8	201,590	0.105%	0	0.000%				6.1	191,536,686
Blueberry River	11	225,598	0.077%	1,587	0.001%	16	231,853	0.079%	9.3	293,278,540
Doig River	2	64,200	0.020%	0	0.000%	9	3,350,772	1.037%	10.2	323,069,523
Lower Beatton River						41	7,822,425	5.658%	4.4	138,262,629
Beatton Total	42	1,035,568	0.061%	12,540	0.001%	66	11,405,050	0.673%	53.7	1,694,708,813
Halfway River										
Upper Halfway River	4	209,055	0.026%	0	0.000%	6	133,304	0.017%	25.2	795,962,409
Chowade River								0.000%	10.4	327,027,527
Graham River	3	1,280,400	0.149%	0	0.000%	1	3,319	0.000%	27.3	860,627,172
Cameron River	14	616,070	0.275%	8,594	0.004%	3	7,467	0.003%	7.1	223,679,567
Lower Halfway River	21	1,988,414	1.312%	2,194	0.001%	10	1,036,050	0.684%	4.8	151,526,991
Halfway Total	42	4,093,939	0.174%	10,788	0.000%	20	1,180,139	0.050%	74.7	2,358,823,666
Moberly River										
Moberly River						9	84,402	0.022%	12.41	391,714,995
Moberly Total	0	0	0.000%	0	0.000%	9	84,402	0.022%	12.41	391,714,995
Pine River										
Burnt River	1	1,540	0.000%	0	0.000%	3	37,996	0.005%	23.38	737,930,022

Section 8 Water Use Approvals – BC Oil and Gas Commission						FLNRO Water Licences			River Discharge and Runoff	
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Sukunka River	1	3,042	0.000%	0	0.000%	5	121,079	0.012%	33.19	1,047,282,572
Upper Pine River						13	2,454,627	0.167%	46.48	1,466,884,035
Murray River River	7	658,520	0.024%	1,521	0.000%	34	28,129,268	1.042%	85.5	2,698,285,017
Lower Pine River	12	631,140	0.459%	4,084	0.003%	28	5,576,477	4.052%	4.36	137,619,889
Pine Total	21	1,294,242	0.021%	5,605	0.000%	83	36,319,447	0.597%	192.91	6,088,001,535
Kiskatinaw River										
East Kiskatinaw River	2	763,300	0.724%	5,971	0.006%	7	6,189,820	5.870%	3.3	105,452,962
West Kiskatinaw River									3.7	117,515,115
Middle Kiskatinaw River	1	28,536	0.051%	0	0.000%	9	401,059	0.712%	1.8	56,347,972
Lower Kiskatinaw River	3	153,059	0.171%	0	0.000%	20	1,646,620	1.837%	2.8	89,659,847
Kiskatinaw Total	6	944,895	0.256%	5,971	0.002%	36	8,237,499	2.233%	11.7	368,975,896
Peace River										
Lynx Creek	1	1,500	0.005%	0	0.000%	5	259,970	0.854%	0.96	30,436,635
Farrell Creek	1	10,000	0.011%	0	0.000%	2	7,466	0.008%	2.88	91,018,843
Cache Creek	2	2,250	0.003%	364	0.000%	8	1,978,540	2.652%	2.4	74,603,546
Pouce Coupe River						59	2,999,852	1.173%	8.1	255,686,202
Peace River Mainstem	2	450,000	0.001%	0	0.000%	79	129,434,061	0.383%	1070	33,766,632,000
Peace Total	117	7,832,394	0.017%	35,268	0.000%	367	191,906,426	0.425%	1430.0	45,127,368,000
Smoky River										
Smoky River	2	156,000	0.006%	420	0.000%	2	528,441	0.020%	84.59	2,669,506,123
Smoky Total	2	156,000	0.006%	420	0.000%	2	528,441	0.020%	84.59	2,669,506,123
Fort Nelson River										
Fontas River	5	1,063,627	0.180%	6,360	0.001%				18.7	591,531,903
Kahntah River	1	720	0.000%	11,742	0.003%				12.7	400,582,903

Major & Sub-Basin Name	Section 8 Water Use Approvals – BC Oil and Gas Commission					FLNRO Water Licences			River Discharge and Runoff	
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Kiwigana River	5	1,079,100	0.244%	2,032	0.000%	2	419,609	0.095%	14.0	441,657,543
Klua River	3	24,000	0.006%	50	0.000%				12.7	402,135,448
Sahtaneh River	11	457,400	0.096%	1,925	0.000%	1	329,865	0.069%	15.1	474,904,729
Snake River	2	7,000	0.002%	1,756	0.001%				9.9	310,763,522
Upper Fort Nelson River	29	1,300,206	0.030%	151,235	0.004%	4	70,295	0.002%	136	4,303,636,908
Middle Fort Nelson River	44	3,450,056	0.030%	874,724	0.008%	18	2,912,350	0.025%	365	11,528,703,092
Lower Fort Nelson River	58	4,138,995	0.033%	909,077	0.007%	19	3,242,215	0.026%	400	12,627,140,281
Fort Nelson Total	63	5,218,095	0.040%	911,109	0.007%	21	3,661,825	0.028%	414	13,068,797,824
Liard River										
Capot-Blanc River	4	420,625	0.229%	747	0.000%				5.8	183,879,851
Dunedin River	1	5,000	0.001%	0	0.000%				26.0	820,464,167
Lower Toad River									13.3	419,472,722
Grayling River									20.0	630,833,914
Beaver River									344.2	10,862,659,426
Upper Liard River						2	2,489	0.000%	1049.69	33,125,817,465
Middle Liard River									14.69	463,652,312
Lower Liard River	4	436,500	0.035%	52,863	0.004%				39.19	1,236,634,664
Liard Total	9	884,475	0.002%	52,863	0.000%	2	2,489	0.000%	1512.9	47,743,414,521
Petitot River										
Lower Petitot River	7	517,600	0.057%	9,743	0.001%	1	137,026	0.015%	28.7	904,314,069
Middle Petitot River	4	48,150	0.007%	13,812	0.002%	1	116,404	0.017%	22.1	698,562,753
Sahdoanah River	5	572,395	0.227%	2,292	0.001%	1	830	0.000%	8.0	252,625,362
Tsea River	3	59,200	0.014%	5,181	0.001%	2	2,783,632	0.641%	13.8	434,062,484
Upper Petitot River	3	198,900	0.013%	5,370	0.000%				46.8	1,476,579,488
Petitot Total	22	1,396,245	0.037%	36,398	0.001%	5	3,037,892	0.081%	119.4	3,766,144,156

Major & Sub-Basin Name	Section 8 Water Use Approvals – BC Oil and Gas Commission					FLNRO Water Licences			River Discharge and Runoff	
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Kotcho River										
Kyklo River	4	163,553	0.112%	207	0.000%	1	5,808	0.004%	4.62	145,897,691
Lower Kotcho River	4	160,000	0.051%	910	0.000%				9.87	311,519,217
Shekilie River	4	18,750	0.004%	3,786	0.001%				14.28	450,747,494
Upper Kotcho River	4	42,475	0.014%	1,616	0.001%				9.87	311,519,217
Kotcho Total	16	384,778	0.026%	6,519	0.000%	1	5,808	0.000%	47.2	1,489,518,720
Hay River										
Hay River	10	221,300	0.041%	37,954	0.007%				17.07	538,672,352
Hay Total	10	221,300	0.041%	37,954	0.007%	0	0	0.000%	17.1	538,672,352
Chinchaga River										
Chinchaga River	3	153,575	0.140%	0	0.000%				3.5	109,492,680
Chinchaga River Total	3	153,575	0.140%	0	0.000%	0	0	0.000%	3.5	109,492,680
Other	4	3,154		0						
Total	246	16,250,016		1,080,531		398	199,142,880			

