

BC Environment

River Forecast Centre

Water Supply and Streamflow Conditions

Issued: October 14, 2009

Winter is imminent! Snow is now accumulating in the mountains throughout BC, and many interior rivers began to ice over with the deep cold of last weekend. With the onset of snow and ice conditions, the accurate measurement of stream flow becomes difficult. This may be the final “*Water Supply and Streamflow Conditions*” report for the season.

The summer and fall of 2009 produced extremely low stream flows across much of the South Interior and South Coast. In some basins, rivers dropped to record low levels by mid or late August. Some rivers are currently at record lows for today’s date. The low streamflow situation developed from two factors. First, mountain snowpacks at the beginning of spring were only 70-80% of normal across the South Interior and South Coast; and second, June, July and August weather was extremely hot and dry (as examples, Kamloops received only 28% of normal June-Aug rainfall, Salmon Arm received 44%, Revelstoke received 33%, Kelowna received 62%, Williams Lake received 67%, Abbotsford received 49%, and Victoria received 45%).

There has been little improvement in river levels during the first two weeks of October, although light rainfall appears to have eased conditions somewhat on portions of Vancouver Island. Most rivers through the South Interior and South Coast remain below or well below their normal or median levels for mid-October. Some rivers are continuing to experience significant low flows. The cumulative effect of sustained dry weather following a low snow winter is now reflected in large mainstem rivers, such as the Thompson and Fraser rivers.

Extremely Dry (at or below previously recorded low for the date):

- o Kettle River and West Kettle River
- o Vaseux Creek and Whiteman Creek in the Okanagan
- o North Thompson River
- o South Thompson River
- o Thompson River below Kamloops
- o Fraser River above Texas Creek (upstream of Thompson River confluence)
- o Fraser River at Marguerite (downstream of Quesnel)
- o Penfold Creek (Cariboo Mountains)
- o Squamish River and Clowhom River, on the South Coast
- o Coquihalla River, Chilliwack River and Stave River, in the lower Fraser valley

• **Dry** (5-10+ year return period low flow):

- o South Thompson Basin – Coldwater River, Salmon River, Seymour River, lower Shuswap River near Enderby, Coldwater River
- o Cariboo – Horsefly River, likely other ungauged rivers
- o Okanagan Basin - Camp Creek, Trepanier Creek, Whiteman River, likely other ungauged rivers in the Okanagan
- o Tulameen River

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- o Vancouver Island, South Coast – Gold River, Cruikshank River, Lillooet River, likely other ungauged rivers
- o Kootenay – Granby River, Slocan River, Salmo River, Elk River (at Fernie), Bull River, likely other ungauged rivers
- o Skeena River

Flows on the Nicola River above Nicola Lake, which had been experiencing record low flows in late August and early September, improved in late September (following the reduction in irrigation withdrawals), and has remained steady near a 2-3 year return period level for the past two weeks.

Outlook:

The current weather forecast calls for frontal rainfall on Vancouver Island and across the South Coast from today through to the weekend, and possibly into early next week. It is anticipated that the rainfall will improve river levels on Vancouver Island and the South Coast. Some rivers on Vancouver Island have already started to show increased water levels following rain earlier today. The frontal system is also expected to move into the South Interior (Okanagan, Similkameen, Kootenay), bringing some rain to these areas over the next few days as well. The forecast calls for only light rain in the Thompson, Nicola and Cariboo basins, however, and it is anticipated that rivers there will remain below or well below their normal or median levels.

With the onset of winter imminent, and without any large and widespread rainfall across the interior evident in the forecast, it is likely that the south and central interior watersheds will enter winter freeze-up with significantly diminished groundwater and soil water, with depleted lake and reservoir levels, and with very low river levels. In some cases, interior rivers may freeze at a record or near record low level. Depending on snow conditions over the upcoming winter, there is potential for the drought of 2009 to transfer into the spring and summer of 2010. Snow conditions at the end of the winter throughout the south and central interior will need to be above normal to produce near normal water supply next summer. British Columbia is currently being affected by moderate El Niño conditions, which produces a long range outlook for below normal snow packs.

The River Forecast Centre will begin reporting on snowpack conditions in January, 2010.