

## **LOW STREAM FLOW ADVISORY THOMPSON – NICOLA REGION**

### **CONSERVING WATER IS EVERYONE'S RESPONSIBILITY**

#### **CURRENT WATER SUPPLIES**

Rivers in BC's Southern Interior are currently experiencing very low stream flow conditions. The Nicola basin and all its tributaries as well as the tributaries to the South Thompson are at or below record low flows.

#### **Why are we experiencing these low water flows?**

This winter produced a below normal snowpack and we have since then experienced a dry, hot spring and summer. Rainfall across the Thompson-Nicola was only 40-60 per cent of average between April and June, and it has remained well below average through July. Temperatures in this area from late May to mid-July have also been hotter than normal, generally in the 25-33 degree range. The prolonged heat and abundant sunshine has caused rapid evaporation of soil water and surface water, causing river levels to recede quicker than usual.

#### **How low are water flows?**

Rivers in the Nicola basin, including the Nicola River (above Nicola Lake) and the Coldwater River (at Brookmere and Merritt), are currently at or below their extreme low flows of record for this time of year. The flow record for the Nicola River extends back to 1915, indicating the extreme nature of these low flow conditions. These rivers usually experience their lowest flows of the year in late August and early September, at the end of the summer.

Rivers throughout southern portions of the South Thompson basin are also experiencing very low flows. These include the Salmon River at Salmon Arm, the Eagle River at Malakwa, Chase Creek, the Bonaparte River and other South Thompson tributaries.

Significant, prolonged and widespread rainfall is required to ease the severe low flow conditions, but with the expected hot and dry weather in the current forecast for the Thompson-Nicola, river levels are expected to continue to drop into August.

The B.C. government is closely monitoring the situation.

For information on drought and additional resources visit:  
[http://www.env.gov.bc.ca/wsd/public\\_safety/drought\\_info/index.html](http://www.env.gov.bc.ca/wsd/public_safety/drought_info/index.html)

#### **IMPLICATIONS**

The very low water flows we are experiencing are affecting water supply in various regions; lower than normal lake and reservoir levels and reduced groundwater levels are also expected. In some areas, fish and other aquatic organisms are already being affected.

## **DRINKING WATER**

Low water levels can result in warmer water temperatures and an increase in the concentrations of nutrients or contaminants, which can lead to poor water quality. It's critical to ensure that there is an alternate drinking water source available for all communities. If you have an alternate supply tested for water quality now, you will be better prepared if the need arises to use that secondary supply in the future. Plan in advance if disinfection or similar measures are likely to be necessary, and be prepared for more intensive monitoring if your supplies experience low water levels. For information and updates on the Provincial Drinking Water Program, visit: [www.hls.gov.bc.ca/protect](http://www.hls.gov.bc.ca/protect)

## **FISH AND AQUATIC ECOSYSTEMS**

Low water levels in streams can be deadly for fish. When water levels drop in rivers and streams, fish and other aquatic life can be stranded in small pools. Low water flows can also lead to higher water temperatures, which increase stress and deaths in fish and other aquatic species. Low water can also expose physical barriers that prevent fish from reaching spawning grounds and may affect fish that have already been identified by the Species At Risk Act as endangered species.

For information regarding fish habitat protection and the brochure "Complying with the Fisheries Act", visit: [www-heb.pac.dfo-mpo.gc.ca/publications/publications\\_e.htm](http://www-heb.pac.dfo-mpo.gc.ca/publications/publications_e.htm)

## **GROUNDWATER**

Groundwater and surface water are fundamentally interconnected. It is often difficult to separate the two because they "feed" each other. Aquifers are major sources of drinking and irrigation water. They also interact closely with streams,

sometimes discharging water into a stream or lake, and sometimes receiving water from that very stream or lake. It is because of this connection that groundwater must also be conserved in times of low water levels. For more information on groundwater visit: [http://www.env.gov.bc.ca/wsd/plan\\_protect\\_sustain/groundwater/library/faq\\_grdwater.html](http://www.env.gov.bc.ca/wsd/plan_protect_sustain/groundwater/library/faq_grdwater.html)

## **AGRICULTURE**

Many of the sources for irrigation water in British Columbia are surface water supplies that are snowmelt-fed and therefore at risk during low flows. Low flow conditions can limit the water available for irrigation during the growing season for many crops, and during the hottest and driest part of the summer. Without appropriate amounts of water, many crops will be stressed. A single summer's low flows can have long-term impacts on crops that take longer to establish themselves, such as fruit trees and grape vines. This, in turn, has the potential to considerably affect economic prosperity and food supplies of entire regions. To learn about improving irrigation efficiency and different strategies for managing during times of reduced water availability, visit: <http://www.agf.gov.bc.ca/resmgmt/publist/Water.htm#drought>

## **FOREST FIRES**

Local water supplies may be used to fight forest fires, leaving communities to use alternative sources that may not meet provincial drinking water standards. For information on forest fires and reducing the risk to personal property from wild fires, visit: [bcwildfire.ca](http://bcwildfire.ca)

## **WHAT YOU NEED TO DO**

Withdrawal of water for domestic, agricultural and industrial use contributes to low streamflows. Reducing water use and carefully managing vulnerable water supplies will help ensure that there is sufficient water to last throughout the end of summer and autumn.

If you share your water source with other licensees, you are encouraged to work together, conserve and share your water and consider in-stream needs.

Water conservation tips include:

- Check for leaks in infrastructure, pipes and hoses, and encourage water users to do the same
- Implement watering restrictions, and for home owners, promote watering only early in the morning, not during the hottest point of the day, and on gardens only—not driveways, roads or sidewalks.
- For agricultural irrigation, implement an irrigation scheduling program using real-time weather data from [www.farmwest.com](http://www.farmwest.com)
- Improve water system efficiencies when and wherever possible.
- Educate large users and your local community on the supply system and the need for water conservation.
- Implement drought response and water conservation plans.
- Communicate with your customers and community about low water levels and what they can do to reduce water waste.

Visit [www.livingwatersmart.ca](http://www.livingwatersmart.ca) for more conservation tips.

## **NEXT STEPS**

Given the extremely low stream flow conditions in the Nicola and South Thompson water basins, local government and water suppliers should implement water restrictions and examine which stage of these restriction is necessary at this time. They should also determine whether it's necessary to stop filling public fountains and watering public parks, gardens, medians and other similar areas.

The B.C. government and Fisheries and Oceans Canada are identifying the need to issue requests for water conservation and provide low streamflow advisories to local governments, local water suppliers and key stakeholders. If stream flows remain at or below record levels, and if water conservation measures are not effective, restrictions based on priority water licence rights may be imposed. Government may limit the number of, or impose restrictions on, new licences, regulate storage or place conditions on existing licences.

As conditions deteriorate, more extreme emergency measures may be necessary.

## **REGULAR UPDATES**

The status of stream flow and precipitation conditions in the province are provided on the River Forecast Centre website: [www.env.gov.bc.ca/rfc/](http://www.env.gov.bc.ca/rfc/)

Resource information on drought can be found at: [http://www.env.gov.bc.ca/wsd/public\\_safety/drought\\_info/index.html](http://www.env.gov.bc.ca/wsd/public_safety/drought_info/index.html)

If you would like to receive regular updates by email, please send an email to: [Water.Stewardship@gov.bc.ca](mailto:Water.Stewardship@gov.bc.ca) using the subject line: Email updates.

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