



LOW STREAM FLOW ADVISORY KOOTENAY – COLUMBIA REGION

CONSERVING WATER IS EVERYONE'S RESPONSIBILITY

CURRENT WATER SUPPLIES

Rivers in Southeast BC are currently experiencing low or very low stream flow conditions for this time of year. For information on the Basin Map of Hydrologic Drought Levels and the drought classification regions with the Kootenay Columbia watersheds, visit:

<http://bcrcf.env.gov.bc.ca/lowflow/droughtmap.htm>

Why are we experiencing these low water flows?

This winter produced a below normal snowpack throughout much of our region, and we have since experienced a dry, hot spring and summer. Over the past 60 days, the precipitation in the Kootenay and Lower Columbia regions have ranged between below 40% of normal up to 60% of normal.

Temperatures in this area from early April to beginning of August have also been hotter than normal. The 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?

Many of the streams in the Lower Columbia, West Kootenay and East Kootenay watersheds are at record low levels for this time of year and the levels being experienced are normally expected 3 to 6 weeks from now. These streams usually experience their lowest flows of the year in either late summer or during the winter months depending on the geographic region when the demand on the water is less. Significant, prolonged and widespread rainfall is

required to ease these low flow conditions, but with the expected hot and dry weather in the current forecast for the Kootenay Columbia region, we all must prepare in the event that the river levels continue to drop.

For information on Low Streamflow Bulletins and Advisories, visit:

<http://bcrcf.env.gov.bc.ca/lowflow/index.htm>

IMPLICATIONS

The very low water flows we are experiencing are affecting water supply in various regions; this may extend to lower than normal lake and reservoir levels, including reduced groundwater levels. In some areas, fish and other aquatic organisms are already being adversely affected. For long term implications and proactive ways to move forward visit:

<http://cvt.org/newsroom/?view&vars=1&content=Multi-media&WebDocID=3151>

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 is critical to ensure that there is an alternate drinking water source, or contingency plan, 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 on the Provincial Drinking Water Program, visit: <http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-quality/drinking-water-quality/how-drinking-water-is-protected-in-bc>

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 on fish and fish habitat visit: <http://www.env.gov.bc.ca/wld/fishhabitats/>

For information on angling closures visit: <http://www.env.gov.bc.ca/fw/fish/regulations/>

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

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. To learn about improving irrigation efficiency and different strategies for managing during times of reduced water availability, visit:

<http://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/agricultural-land-and-environment/agriculture-water/publications>

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 months. 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 Metering

Water metering is an important tool which can help us become more aware of the amount of water we use and need. Water meters provide that immediate feedback as to whether your conservation measures are working and if more conservation is required. If available for your intake system, the Province strongly encourages everyone to consider installing a water meter or any other device that monitors water usage.

Water conservation tips include:

- Check for leaks in infrastructure, pipes and hoses, and encourage other water users to do the same
- Install meters, pressure gauges and other devices to monitor use and check for system leaks
- 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 sites such as www.farmwest.com or www.farmzone.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 for more conservation tips.

NEXT STEPS

Given the extremely low stream flow conditions in the Lower Columbia, West Kootenay and East Kootenay 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 at what point it will be necessary to stop watering public parks, gardens, medians and other similar areas.

The B.C. government is 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 low streamflow bulletins and advisories in the province are provided on the River Forecast Centre website: <http://bcrcfc.env.gov.bc.ca/>

Resource information on drought can be found at: <http://www.livingwatersmart.ca/drought/>