DROUGHT UPDATE

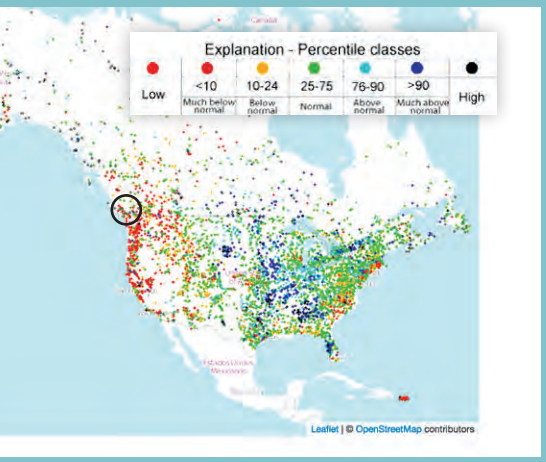
SUMMER/FALL 2015

This is an update on what our region experienced in terms of the drought over the spring and summer, what the response was locally and provincially, what's in store in terms of the long range forecast and predictions for next summer, and how we can prepare and adapt to be more resilient to drought in our region.

www.rdn.bc.ca/drought2015

What Happened:

THE BIG PICTURE



This shows streamflow compared to historical streamflow on Aug 24 2015 in North America

watermonitor.gov/naww/

The red dots indicate the driest conditions, as shown on Vancouver Island and the pacific coast of North America

Unseasonably warm and dry

Environment Canada has reported a deficit in precipitation since the spring, coupled with above average temperatures. For example, in June Nanaimo saw only 6mm of rain compared with the normal 54.2 mm. The summer period (June-July-August) received only 4% of normal seasonal rainfall.

Lack of snowmelt and low stream flows

Snowpack levels that usually contribute to spring freshet (snowmelt) were only a fraction of normal. This, with the dry and warm summer conditions, resulted in many streams in our region being close to or below minimum recorded levels.

Drought ranking: extremely dry

BC River Forecast Centre ranked Vancouver Island as Level 4: **Extremely Dry Conditions** from July 3rd to September 3rd, to communicate the severity and the appropriate level of response to the drought. This indicated that water supply was insufficient to meet socio-economic and ecosystem needs; voluntary conservation, restrictions and regulatory response were needed for a maximum reduction of water use.

BC Wildfire Management Branch ranked southern Vancouver Island at an "extreme fire danger" between June 17th and September 1st. Two wildfires of note occured in our region during that time in Cedar and Coombs.

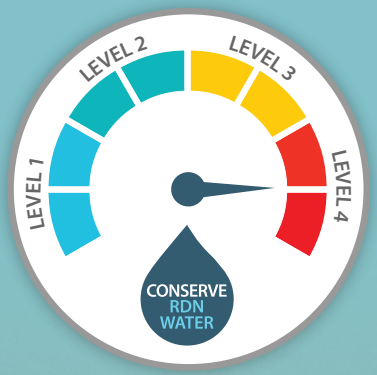
Mt. Arrowsmith in June; no snowpack. >

DRINKING WATER WATERSHED PROTECTION

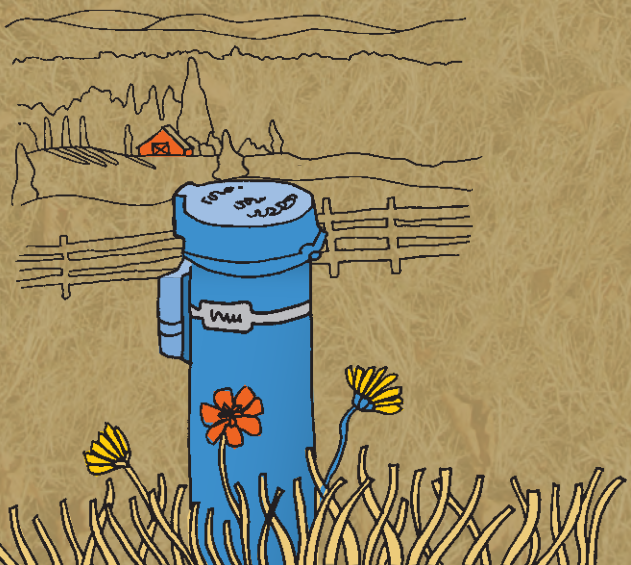
REGIONAL DISTRICT OF NANAIMO

www.dwwp.ca

What was Done:



WE'RE ALL IN THIS TOGETHER



Local Response

Over the summer, **local watering restrictions** were implemented in our region. The restrictions vary per community, due to the different capacities and operational nuances of the various systems. The intent is to limit outdoor water use during the dry summer months, **to ensure essential supply for households and fire-fighting** can be maintained. Generally the restrictions target lawn watering and automatic sprinkler systems. Restrictions helped reduce demand on the stressed water supply by 40% in Parksville and Nanoose, for example.

Private wells tap into the aquifers that underlie our region and these water sources are shared with many users. They are not subject to local water service provider watering restrictions. To ensure that this common resource is preserved, **conservation is strongly encouraged of everyone in the region**. Groundwater levels respond less rapidly to rain events, compared with surface waterbodies and take time to recover from drought or over-use. That is why we must be proactive to protect our groundwater supplies.Many communities in our region rely on groundwater. Over-pumping groundwater, when levels are already lower than usual due to lack of recharge from rain and snowmelt, can actually impact local rivers and the aquatic habitats they provide. **Many streams in our region depend on groundwater contributions to keep water flowing during the dry summer and fall.**

Go to TeamWater Smart.ca for Water Saving Tips

Provincial Response

The BC Drought Response Plan guides actions taken preceding, during and immediately following a drought to reduce impacts. This covers jurisdictions outside of local government control, including industry and agriculture.

- Communications are increased
- Regulatory Controls under the Fish Protection Act and Water Act can be implemented
- Agricultural water users are asked to reduce demand by:
  - irrigation management
  - soil management
  - crop prioritization

All of these actions were taken in our region.

What's in Store:

Long Range Forecast from Environment Canada indicates that **El Nino will be influencing our climate this coming winter**, with another warmer than normal and slightly drier than normal season ahead. This means the drought we experienced this summer could very likely be repeated next summer as part of a longer-term trend.

Back to back winters with little to no snowpack means groundwater recharge and stream flow contributions could be facing a deficit in some areas that rely on snowmelt for the local water balance. This potentially **impacts our drinking water supply** in groundwater dependent areas, water for agriculture, and the viability of fish habitat.

We need to plan ahead for the summer of 2016 which may be a repeat of what we saw this summer.

THE NEW NORMAL

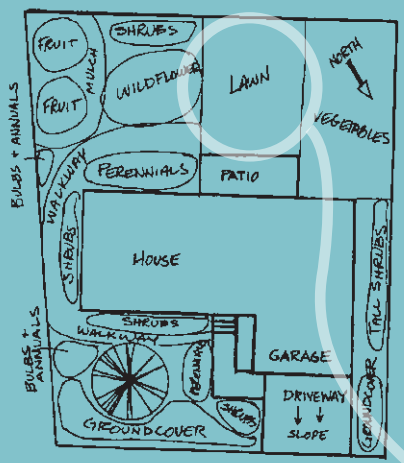
What does a cultural shift to a water smart region look like?

Making Changes Together

A cultural shift towards more efficient and conscious water use habits will help our communities over the long term. There are actions residents can take in our own homes, yards and businesses, and there are actions at the local government policy level.

- **Reconsider** landscaping priorities.
  - choose drought tolerant plants
  - simply let the grass go golden in the summer
- **Value** and steward the ecology of our creeks, rivers, lakes and wetlands.
  - keep streambanks vegetated
  - refrain from chemical use on our landscapes
  - keep run-off on-site where possible
- **Innovate** and take pride in water efficiency measures.
  - rainwater collection cisterns
  - greywater re-use technology
  - soil moisture sensors and drip irrigation
  - efficient appliances
- **Establish** a deep rooted understanding about the connection between our land practices and the health of our water.
  - neighbour to neighbour outreach
  - dialogue in the public forum
  - education for children and adults

Making the Shift:



www.kamloops.ca

- **Monitor** groundwater and surface water sources to better understand conditions in order to improve planning and response. Continue with initiatives already in place:
  - BC Observation Well Network – expansion to add 16 new wells in our region occurred between 2011-2013.
  - Community Watershed Monitoring – partnership with local stewards and the province to monitor water quality in our creeks and streams; 51 sites across the region.
- **Work** to improve regional drought communications.
- **Collaborate** Collaborate with partners to continue to improve water protection.

How we **value water on a day-to-day basis** is something we should maintain **year-round**, not just during a drought. A cultural shift to a leading water smart region is demonstrated by the choices we make in all seasons to protect and conserve our water.

"Water protection is something all of us are part of. By recognizing changes and impacts on our water resources we are in a better position to deal with them. With your help the region will continue to put water first to ensure a long term, sustainable, resource for the future."

– Joe Stanhope, RDN Board Chair

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