CLIMATE SMART

Climate Smart Action Report

Drinking Water

Regional District of Nanaimo

REGIONAL DISTRICT OF NANAIMO

Taking action to protect our drinking water from the impacts of climate change

Drinking water is a precious resource that needs to be conserved and protected.

By working together, the Regional District of Nanaimo and water users (residents, businesses and institutions) can help ensure we have safe, sufficient drinking water now and in the future.

Climate change poses new risks to our drinking water

While population growth, land development and seasonal water scarcity all place pressures on our water resources, climate change is presenting new and urgent challenges to our drinking water.

Climate change on eastern Vancouver Island is expected to result in longer, drier summers, wetter winters and more extreme weather events.

There may be less water available from reservoirs, rivers and aquifers during the warmer months and reduced water quality during the wetter months. Floods, landslides and forest fires may happen more frequently, posing new risks to water infrastructure.

Becoming a Climate Smart water service provider:

To protect our drinking water from the impacts of climate change, the Regional District of Nanaimo is implementing Climate Smart Best Practices for drinking water.

These best practices were developed out of research gathered from water service providers across the region and generally accepted practices for climate-informed water supply planning.

Climate Smart Best Practices will support the Regional District of Nanaimo to:

- Build a more resilient water supply
- Benchmark and report out on the actions we are taking to protect our drinking water from the impacts of climate change

A Climate Smart water service provider:

- Understands how much source water is available now
- Forecasts future demand for drinking water
- Plans and manages for the impacts of climate change including droughts and emergencies
- Communicates its Climate Smart actions to water users

Together, we can ensure safe and sufficient drinking water now and in the future

By working together, water users and water service providers like the Regional District of Nanaimo protect our drinking water from the impacts of climate change.

To ensure we have safe, sufficient drinking water now and in the future, water service providers are following Climate Smart best practices. Best practices for water users include:

- Conserving water during dry periods
- Using drought-tolerant plants and efficient irrigation methods
- Promoting natural infiltration through permeable surfaces and raingardens
- Installing rainwater capture or diversion systems
- Addressing leaks
- Using water-efficient appliances to reduce water use
- Staying informed about the actions the RDN is taking to protect drinking water from the impacts of climate change

Go to teamwatersmart.ca to learn more

Statement from Regional District of Nanaimo

The Regional District of Nanaimo (RDN) supplies drinking water to nine small communities across central Vancouver Island. These systems vary in size, serving anywhere from as few as five residential connections to more than 2,200 residential and commercial connections. Water sources vary between systems and include groundwater wells, surface water, or a combination of both, with each system managed according to its specific source and community needs. Each RDN water system presents unique opportunities and challenges related to water source, infrastructure condition, and community growth potential. To enhance climate resilience, RDN Water Services undertakes both system-specific planning as well as broader regional initiatives that guide sustainable and adaptive water service delivery.

The Regional District of Nanaimo is one of many water service providers within the region implementing Climate Smart Best Practices and developing a Climate Smart Action Report. By working together, we can protect our drinking water from the impacts of climate change.

To learn more about Climate Smart Action across the region go to https://rdn.bc.ca/climate-change-plans-and-data.

REGIONAL DISTRICT OF NANAIMO

This Climate Smart Action Report for drinking water demonstrates the actions the Regional District of Nanaimo is taking to protect our drinking water from the impacts of climate change.

A. Understand Supply

By collecting and assessing data about the current water supply, the Regional District of Nanaimo can ensure there is enough water to meet the future needs of communities, fish, and ecosystems.

	Best Practices and Key Actions	In planning	In progress	Completed / Ongoing	N/A*
A1	Groundwater: Determine the long-term sustainable capacity for supply wells by monitoring how levels change over time.	☐	☐	☑	☐
A2	Groundwater: Detect changing conditions by monitoring groundwater to identify stressors such as seawater moving into coastal aquifers.	☐	☐	☑	☐
A3	Surface water: Collect available data and information on water availability and climate to gain insights into current conditions and set baselines for monitoring trends and forecasting changes.	☐	☐	☑	☐
A4	Surface water: Assess the amount and timing of current and future water availability to determine adequacy of infrastructure to meet future needs.	☐	☐	☑	☐
A5	Surface water: Assess how much storage capacity is available to supplement natural flows.	☐	☐	☑	☐

*Not applicable when a community does not rely on source identified for its drinking water supply; some communities in the RDN source from groundwater, others from surface water, and some use a combination of both.

B. Forecast Demand

By understanding current and historic water use and predicted population growth, Regional District of Nanaimo can forecast how much water will be required to meet future needs.

	Best Practices and Key Actions	In planning	In progress	Completed / Ongoing
B1	Measure water production and consumption to understand how much water is being produced and where it is being used.	☐	☐	☑
B2	Assess historic bulk water production trends to forecast future water needs and support conservation decisions.	☐	☐	☑
B3	Assess current and past customer water consumption to aid in designing targeted conservation measures.	☐	☐	☑
B4	Assess and manage non-revenue water and system loss to control water leakage.	☐	☐	☑
B5	Estimate future changes in the size of the service population by considering land use policies and growth predictions that may impact water demand.	☐	☐	☑
B6	Forecast future demand to help ensure water supplies are adequate to meet future needs.	☐	☐	☑

C. Plan and Manage for Resilience

By planning, exploring alternatives and promoting efficient water use, the Regional District of Nanaimo can be ready to respond to a range of anticipated and unanticipated climate-related events.

	Best Practices and Key Actions	In planning	In progress	Completed / Ongoing
C1	Use adaptive and risk-based planning practices to increase preparedness.	☐	☐	☑
C2	Plan for drought and emergencies by assessing risks and prioritizing actions to mitigate risks.	☐	☐	☑
C3	Explore alternative supply and/or storage options that can provide back up water during emergencies.	☐	☐	☑
C4	Promote water use efficiency by residents and customers to reduce the overall demand for water.	☐	☐	☑

D. Communicate with Residents and Customers

By helping water users learn more about their water system, water users and the Regional District of Nanaimo can work together to protect our drinking water from the impacts of climate change.

	Best Practices and Key Actions	In planning	In progress	Completed / Ongoing
D1	Promote awareness of supply, its value, constraints, and risks for users and decision makers through education and community engagement.	☐	☐	☑
D2	Make easy-to-understand information about water supply status publicly available.	☐	☐	☑

For more information about Best Practices and Key Actions please see:

Climate-Informed Water Supply Planning and Communication Approaches in the Regional District of Nanaimo: Appendix 1: Best Practices for Climate-Informed Water Supply Planning - January 2023