

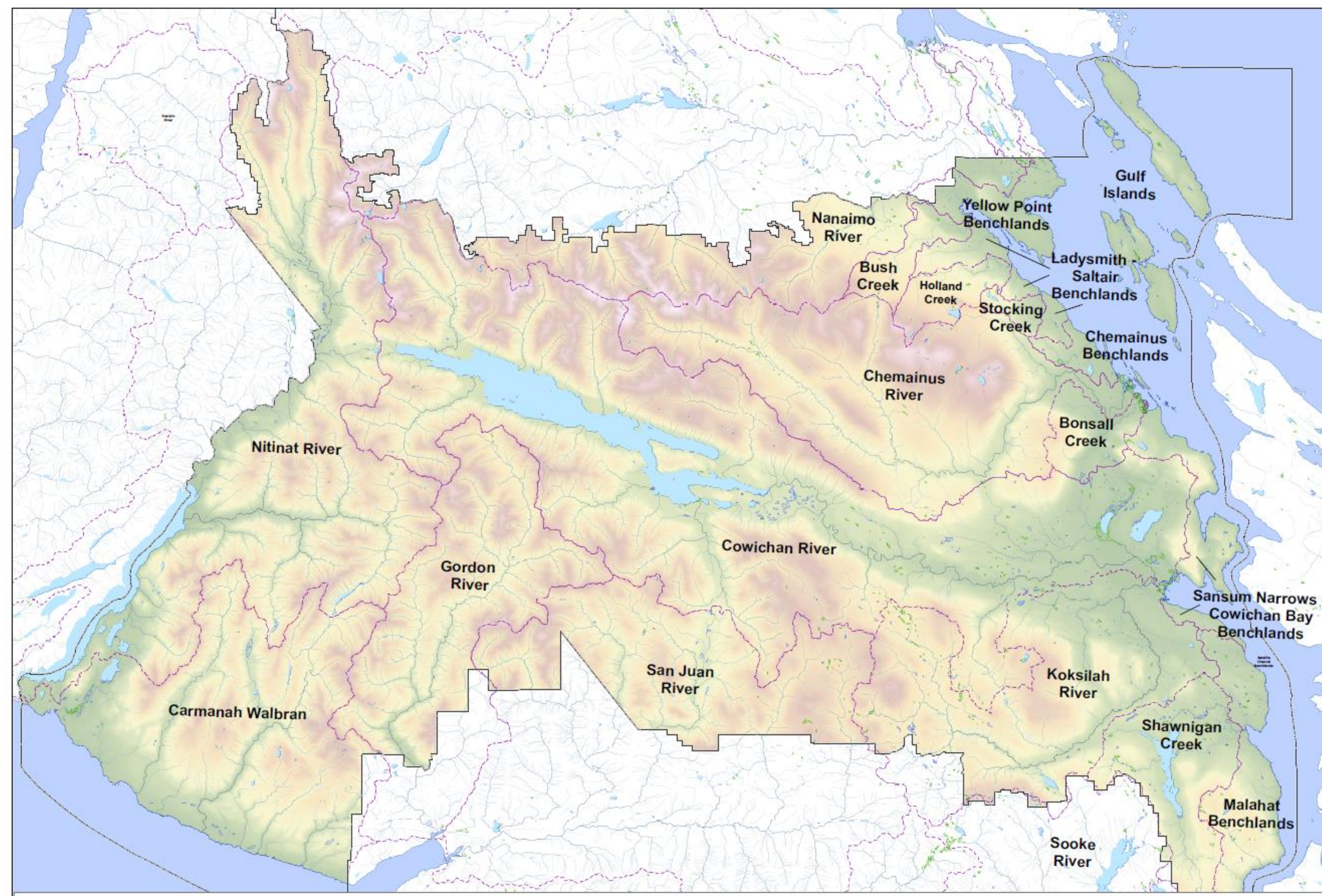


# ***One Water One Region***

## ***STRATEGIES AND ACTIONS TO ACHIEVE A RESILIENT FUTURE***

Cowichan Valley Regional District's Drinking Water  
and Watershed Protection Program 2020 | 2030







# *The issues*

- ✓ Large area, spanning multiple biogeoclimatic regions
- ✓ Limited information available
- ✓ 9 electoral areas, 4 municipalities, 10 first nations
- ✓ 19 watershed groupings
- ✓ Over 70 % of area in forestry designation
- ✓ 45 water systems
- ✓ 2 water plans in place prior to function
  - ✓ Cowichan (97 recommendation)
  - ✓ South Cowichan primary focus groundwater

# *The history - abridged*

- ✓ **Bottom up approach** – providing support to ENGOs for community animation,
- ✓ Creating mechanisms for political support outside of formal structure
- ✓ Focusing on technical work in house, climate projections, flood mapping, infrastructure, bulk water supply planning
- ✓ Needed to bring a formal approach to the table at a certain point to move from “projects” to formal “program”
- ✓ **CHALLENGE** – to re brand CVRD role from support to “doer”

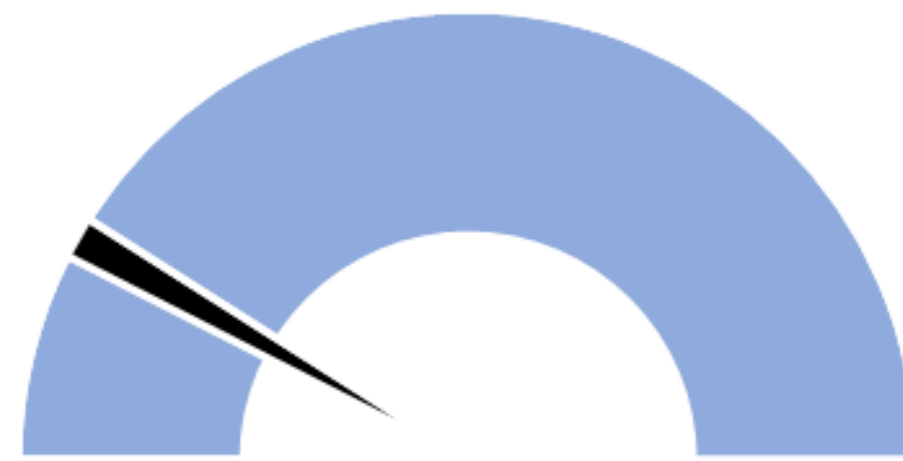
# *The Consultation Process*

- ✓ Public consultation
- ✓ Provincial Government consultation
- ✓ First Nations consultation\*
- ✓ Stewardship groups
- ✓ Private water purveyors
- ✓ CVRD organizational units
- ✓ Local Government technical staff

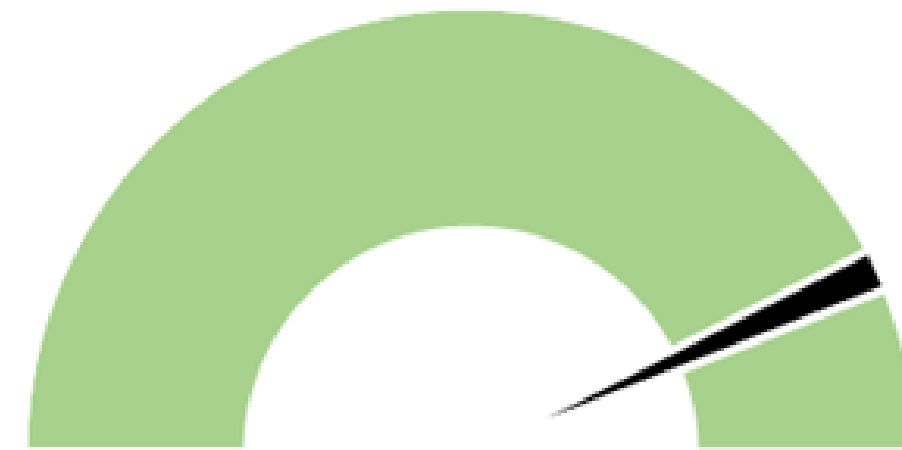
# Outcomes - Focus

Years 1 to 5

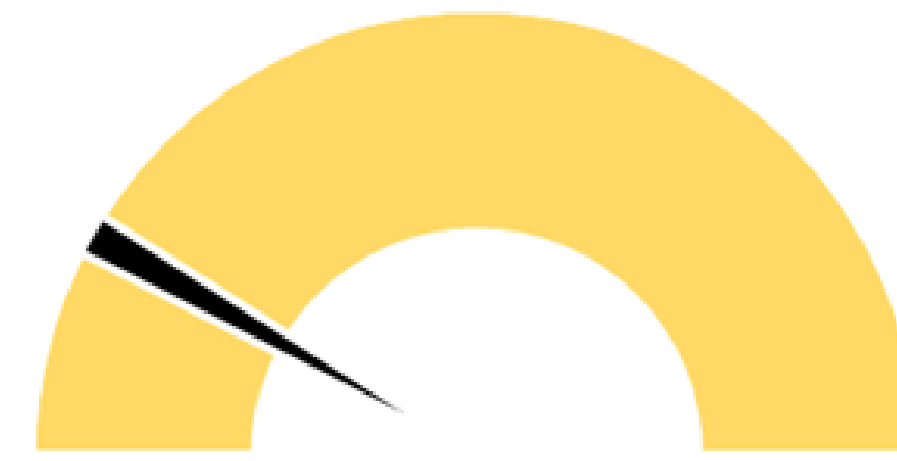
Where we should focus our efforts



Communication & Outreach

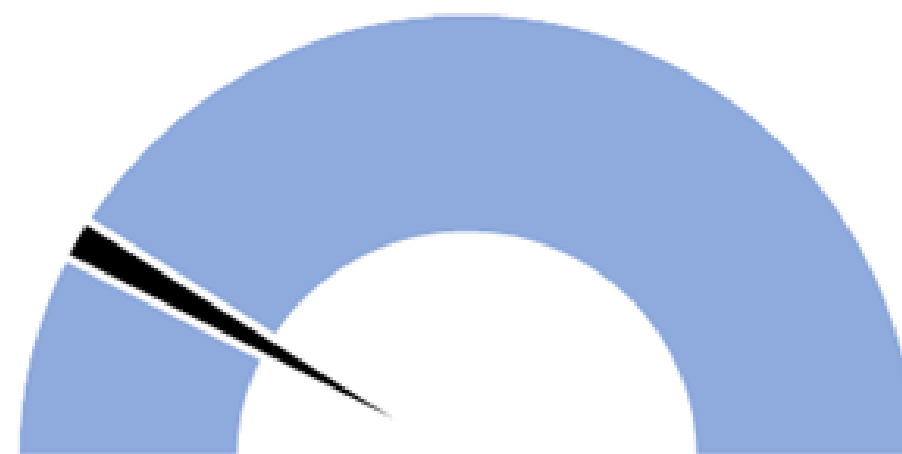


Data, Information & Knowledge

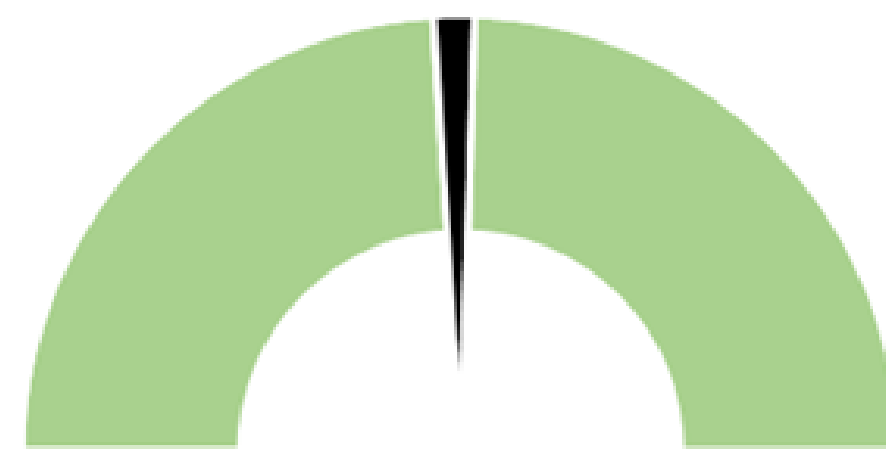


Planning & Advocacy

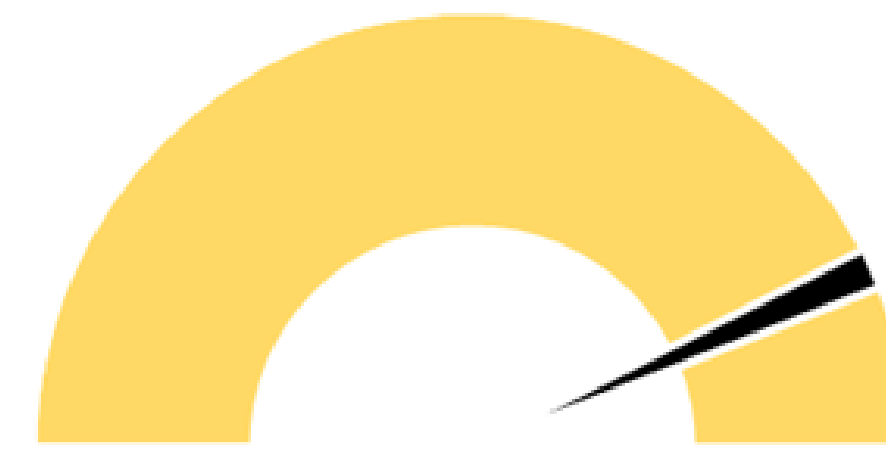
Years 6 to 10



Communication & Outreach



Data, Information & Knowledge



Planning & Advocacy





# INTEGRATION

## AND ALIGNMENT

This Strategy has not been developed in a vacuum; instead, it was informed by a number of relevant, parallel CVRD initiatives, some of which have been underway for a number of years. As implementation commences, this Strategy will strive to support and integrate with this current work. In many cases, it will help operationalize commitments made under these processes.

### **Watershed Planning**

Much work by CVRD and partners has already been completed to develop watershed plans and other important information products for several sub-regions already known to face supply constraints or other risks.

### **New Normal Cowichan and Climate Adaptation Strategy**

A multi-phased project is underway to act on climate adaptation.

### **Official Community Plans**

CVRD is harmonizing existing electoral area Official Community Plans into a single, regional plan and is also modernizing that plan to address trends such as population growth, an evolving economy and a changing climate. Other local municipal partners are also in the process of updating their OCP's.

### **Liquid Waste Management Plans**

In collaboration with the Province and other partners, these plans guide collection, treatment and disposal of sewage and protect the environment from polluted runoff.

### **Hydrometric Monitoring and Water Quality Monitoring Strategies**

In anticipation of this Strategy, work has already commenced on technical planning around hydrometric and water quality monitoring.

### **First Nations Communities**

Many First Nations are in the process of updating their Comprehensive Community Plans or Land Codes. Many of these communities also face the impacts of declining water resources, drinking water quality and impacts to traditional and cultural practices related to water

### **Watershed Risk Assessment Framework**

A dynamic risk model was developed by the CVRD to look at multiple pressures and impacts across the region.



# *Outcomes - how we will spend funds*

*The Programs funds will be used to support the programs objectives by:*

- *Funding community organizations to take on some of the necessary work where appropriate*
- *Use of consultants and specialized services under CVRD purchasing policy guidelines*
- *Partnerships with academic organizations, provincial ministries etc.*
- *Strategic Partnerships and initiatives in support of the DWWP objectives by discretion of the Board (e.g. Cowichan Watershed Board)*
- *In house funding for staff and programs*
  - *? Should the funding be parcel based or value?*
  - *Referendum = assess value, \$750,000 or 0.04505/1000 net taxable value*



# GOALS

## GOALS | OBJECTIVES | PROGRAM AREAS | ACTIONS

The Cowichan Valley Regional District's Strategic Plan identifies and sets out the vision and mission of the organization. That plan identified the Protection of Water Resources as a key strategic focus area with a Goal of working in partnership with other stakeholders to better understand and protect the region's water resources and promote sustainable water use.

This 2020 strategy and its supporting program move the region firmly on that path with a renewed goal and a clear action plan.

### ONE GOAL

#### HEALTHY WATERSHEDS AND AQUIFERS

*Recognizing that our personal wellbeing, our communities, our ecosystems and our water resources are all interconnected.*

This goal recognizes the linkages between human needs and the needs of aquatic and terrestrial ecosystems. It also sees groundwater and surface as one, interconnected whole – One Water.

### 6 OBJECTIVES

- Safe source water for domestic supply;
- Resilient watersheds, aquifers and aquatic ecosystems;
- Protection of social and cultural values and enjoyment of recreational amenities and services derived from our watersheds;
- Preparedness for climate change effects on the region's water resources;
- Strong partnerships working together to ensure healthy watersheds; and,
- Efficient use of water.

### 3 PROGRAM AREAS

#### LEARN WATERSHED SCIENCE AND INFORMATION

Collect existing and new information, analyze to create new knowledge and science; create useful tools, analysis and supporting materials and products such as maps, reports and online information systems.

#### ACT WATERCENTRIC PLANNING

Use science and knowledge to inform policy, land use decisions, and operational activities that affect drinking water and watersheds.

#### SHARE AND COLLABORATE WATERSHED STEWARDSHIP AND OUTREACH

Work directly with the public and organizations to help residents understand the benefits of water stewardship and how they can contribute.

### 14 PRIORITY ACTION AREAS

Improve climate and water monitoring networks

- Improve data management systems
- Characterize surface and groundwater quantity
- Characterize surface and groundwater quality
- Assess ecological health
- Develop water budgets and other products
- Update risk assessments
- Ensure stable long term monitoring and reporting

- Develop and inform policy frameworks
- Inform planning decision making
- Inform operational decision making

- Education and communication
- Support strategic partnerships
- Support watershed restoration

### 4 GUIDING PRINCIPLES

#### PARTNERSHIP BASED

we will achieve better results if we work with other organizations and local community groups committed to watershed stewardship and protection.

#### ACTION ORIENTED

Program Areas identified in the Strategy focus on informing and improving future policy, planning and operational decisions specific to drinking water and watershed protection.

#### ADAPTIVE MANAGEMENT AND CONTINUOUS IMPROVEMENT

Program Areas and initiatives may be revised and adapted in response to new information and changing conditions (e.g., climate change).

#### PERFORMANCE STANDARDS

the Program will adhere to strict performance requirements in the design, execution and reporting of the work to ensure consistency and that quality standards are met, especially those related to water science and information acquisition.



# *Priorities in years 1 and 2*

- **program staffing**
- implement the **surface water quality monitoring** strategy
- develop a **groundwater monitoring** strategy
- develop a **data management** strategy
- develop a **hydrometric** monitoring strategy and early implementation
- work with stewardship groups and other partners for field collection of data
- Refine information for identified high **risk** watersheds and aquifers
- identify **gaps** in the current state of knowledge about these risks
- support the region's **Official Community Planning** and modernization process
- establish a **Technical Advisory Committee**
  
- **\*\*\* Cowichan water supply separated re weir**





## PROGRAM AREA 1

# WATERSHED SCIENCE AND INFORMATION

### ACTION

#### Improve Climate and Water Monitoring Systems

Attaining sufficient, high quality, and statistically defensible data on water resources in the region is essential to success of the Program. Climate monitoring capacity (e.g., precipitation, temperature, etc.) will be developed in partnership with other key stakeholders to provide improved information to a scale and scope appropriate to inform regional planning.

With respect to surface water, this will focus on attaining better information on a range of metrics including water quality, levels and flow. With respect to groundwater, improving information on the region's 58 known aquifers is a key priority.



### ACTION

#### Improve Data Management Systems

No matter how robust water resource monitoring might be, the efforts will be useless if results are not readily accessible for analysis, or if the data are questionable. CVRD will work with the Province and other agencies to improve systems for compiling, storing and accessing data collected through the Program.

Where provincial platforms are not available, robust internal data management systems will be created and managed by CVRD. It is also important that, while existing senior government data management systems will be utilized wherever practical, the main role of the Program Area is tailored to making data current and accessible for relevant recipients and audiences within the region.



## ACTION

### Characterize the Health of the Region's Watersheds and Identify Risks

Characterization of the region's watersheds involves understanding both the resiliency of ecosystems and their effectiveness in providing ecological services to communities.

Understanding the sources of drinking water allows us to implement actions to better protect those resources, such as preserving critical groundwater recharge zones, riparian areas or establishing wellhead protection zones.

Characterization efforts will be organized under interrelated themes in order to develop an understanding of the health and function of the region's watersheds and our impacts on them.

### CHARACTERIZE WATER QUANTITY

CVRD will progressively develop better understanding of groundwater and surface water availability for communities, drinking water systems and ecosystem function.

### CHARACTERIZE WATER QUALITY

CVRD will identify priority waterways and aquifers where water quality problems are occurring that may threaten aquatic ecosystem health, ecosystem services and particularly drinking water.

### ASSESS ECOLOGICAL HEALTH

Ecological Health will be assessed using key ecological parameters such as Benthic Invertebrate (CABIN) Assessments in parallel with provincial and other regional monitoring efforts. This action area will be developed in later stages of the programs maturity and as resources allow,

#### Risk assessment

Using a risk-based approach, effort will initially focus on priority watersheds (i.e., those facing known water supply constraints or under significant development pressure). This will be informed by an assessment of the state of current knowledge. The objective is to identify which subregions and watersheds require additional data collection versus ones where there is already enough information to support land use decisions with reasonable confidence.

## ACTION

### Develop Water Budgets and other supporting information

Water budgets are one critical tool to assess a watershed's ability to provide water to the community and the environment over time. It should account for all uses - both natural and human and gives us a clear indication of our natural limits.

Once budgets or thresholds are set, partners can work together to determine which agencies should take action before they are triggered or exceeded, and what action is required. It

will not always be easy to prescribe upfront the most appropriate solution for a particular watershed. In some cases, it will be necessary to establish a multi-jurisdictional process to determine the best path forward (e.g., watershed management planning, regional growth planning or different infrastructure approaches).

The ultimate goal is to inform land use planning in the face of growth, changing land use activities and changing hydrology (i.e., climate change).

## ACTION

### Stable, Long Term Monitoring and Reporting

You do not manage what you do not measure. Long term monitoring as well as more focused localized effects monitoring is a critical component of the Program and will be used to establish targets, monitor changes and evaluate the success of planning or policy instruments.

Reporting of results and trends is a critical component to ensure that the information can be used in an effective and timely manner to drive policy changes and planning strategies. If you don't measure, you don't monitor, and if you don't monitor you do not know if your actions are effective. This Action is a fundamental component of the Program.

The degree of effort that will be required to do this effectively should not be discounted.





## PROGRAM AREA 2

# WATERCENTRIC PLANNING

### ACTION

#### Develop Coordinated Policy Frameworks

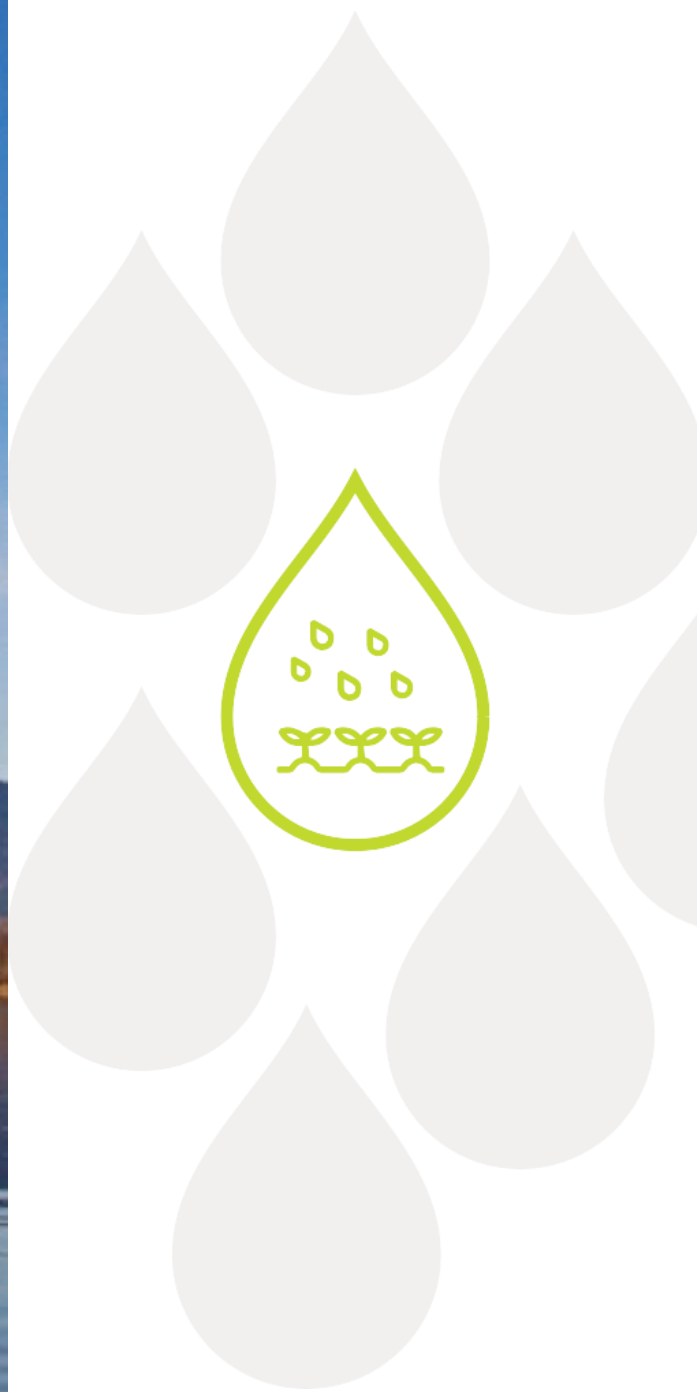
Planning of all kinds, particularly land use and resource planning, is key to protecting watersheds and drinking water. The Program will develop a multi stakeholder coordinated planning framework that allows and supports the alignment of multiple levels of government to coordinate water planning policies and programs. This will be accomplished by discussions with the provincial government, local First Nations communities as well as the proposed Technical Advisory Committee. The Program will also support policy and operational work of other agencies as they relate to the CVRD.

### ACTION

#### Inform Planning and Decision Making

Use continuously improving knowledge about availability, quality, risk, and sustainability best practices to support planning decisions. Land use planning mechanisms used by CVRD and its partners include Regional Growth Strategies, Official Community Plans, Comprehensive Community Plans, and development permitting for Electoral Areas, among others. The Program will also support other CVRD planning efforts such as environmental planning, liquid waste master planning and bulk water supply planning.

At a regional scale, water management plans are a promising option for promoting the goals of this Strategy. Plans may be developed for specific watersheds on a priority basis according to risks to ecological, public health and community values, recognizing that such planning can be resource intensive.





## PROGRAM AREA 3

This Program Area will promote awareness of watershed and aquifer protection by providing easily accessible, compelling and useful information to the public and partners.

### ACTION

#### Inform Planning and Decision Making

Use continuously improving knowledge about availability, quality, risk, and sustainability best practices to support planning decisions. Land use planning mechanisms used by CVRD and its partners include Regional Growth Strategies, Official Community Plans, Comprehensive Community Plans, and development permitting for Electoral Areas, among others. The Program will also support other CVRD planning efforts such as environmental planning, liquid waste master planning and bulk water supply planning.

At a regional scale, water management plans are a promising option for promoting the goals of this Strategy. Plans may be developed for specific watersheds on a priority basis according to risks to ecological, public health and community values, recognizing that such planning can be resource intensive

### ACTION

#### Inform Operational Decision Making

In addition to supporting land use and other strategic planning, the Program will also assist other CVRD operational areas by providing information, public outreach and other support.

#### Education and Communication

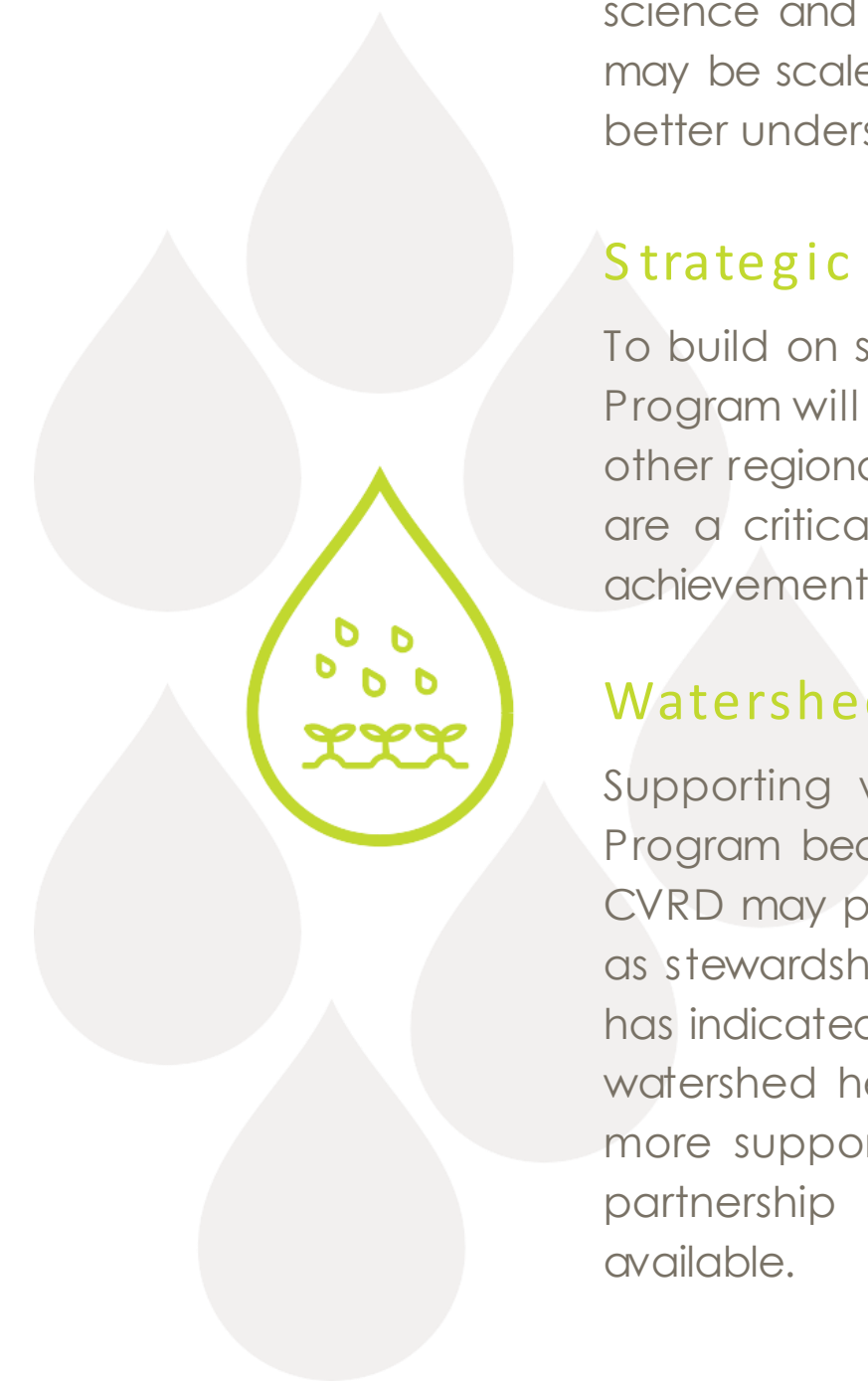
Broad scale communication efforts of this kind can be very resource intensive. However, investment in this area is expected to be relatively modest, particularly during the earliest days of implementation. This is necessary to ensure that there are sufficient resources for other critical projects under the science and planning themes. However, it is recognized that outreach effort may be scaled up in the future as the character of watersheds and aquifers is better understood and as the Program matures.

#### Strategic Partnerships

To build on successful existing programs, create synergies and avoid duplication, the Program will coordinate this work with local governments, water service providers and other regional districts. Partnerships with local environmental and stewardship groups are a critical ingredient to the success of this Program, building on past shared achievements with public engagement and advocacy.

#### Watershed Restoration

Supporting watershed restoration work is not likely to be a major focus of the Program because of the significant financial costs and other challenges. However, CVRD may provide basic support to restoration activities of other organizations such as stewardship groups in targeted locations where the water science Program Area has indicated that restoration is an appropriate solution and likely to improve overall watershed health. In the more distant future, the Program may evolve to provide more support for such activities (i.e., a more involved funding role) based on a partnership model, risk-based approach and assuming necessary resources are available.



<sup>3</sup> For example, this may include providing letters of support for grant applications, playing a coordinating function across groups, providing information, or potentially providing seed money to leverage additional funding.



*Questions?*