REGIONAL DISTRICT OF NANAIMO

MINUTES OF THE DRINKING WATER AND WATERSHED PROTECTION TECHINCAL ADVISORY & BOARD STEERING COMMITTEE MEETING

Thursday, April 25, 2019
12:30 P.M.
Board Chambers

In Attendance:	R. Alexander	Chair
	V. Craig	Director, Area B
	S. McLean	Director, Area H
	B. Geselbracht	Director, City of Nanaimo
	A. Fiddick	Environment Community Representative
	P. Jorgenson	Forest Industry Representative
	P. Lapcevic	BC Ministry of Forests, Lands & Natural Resource Operations
	L. Magee	Island Health
	H. Rueggeberg	General Public Representative (South)
	W. Shulba	Islands Trust Representative
	B. Weir	Municipal Representative (Town of Qualicum Beach)
	G. Wendling	Hydrogeologist Representative
	C. Cole	General Public Representative (North)
	M. Squire	City of Nanaimo
	R. Barlak	BC Ministry of Environment
Regrets:	O. Brandes	Academic Community Representative (POLIS)
	L. Cake	Water Purveyors (Coastal Water Suppliers Association)
	K. Epps	Forest Industry Representative
	A. Gilchrist	Academic Community Representative (VIU)
	N. Leone	Department of Fisheries and Oceans
	K. Miller	Cowichan Valley Regional District
	B. Silenieks	Municipal Representative (City of Parksville)
	F. Spears	Municipal Representative (District of Lantzville)
	K. Fagervik	Ministry of Transportation & Infrastructure
Also in Attendance:	J. Pisani	Regional District of Nanaimo
	M. Walters	Regional District of Nanaimo
	C. Brugge	Regional District of Nanaimo
	L. Fegan	Regional District of Nanaimo
	M. Harstone	Compass Resource Management
	R. Mersereau	Econics

CALL TO ORDER

The Chair called the meeting to order and respectfully acknowledged the Coast Salish Nations on whose traditional territory the meeting took place.

APPROVAL OF THE AGENDA

It was moved and seconded that the agenda be approved as presented.

CARRIED UNANIMOUSLY

ADOPTION OF MINUTES

Drinking Water and Watershed Protection Technical Advisory Committee Meeting - February 14, 2019

It was moved and seconded that the minutes of the Drinking Water and Watershed Protection Technical Advisory Committee meeting held February 14, 2019 be adopted.

CARRIED UNANIMOUSLY

REPORTS/PRESENTATIONS

This meeting was run as an interactive idea-generation session to gather input for the DWWP Action Plan update.

The below reports/presentations were discussed:

- Welcome from DWWP Board Steering Committee
- Meeting overview
- DWWP TAC Roundtable Updates
- Framing the Context on Current and Future Water Management
- Idea Generation - Action Plan Goals and Objectives
- Idea Generation - Action Plan Activities and Initiatives
- Next steps & upcoming meetings

ADJOURNMENT

It was moved and seconded that the meeting be adjourned.

CARRIED UNANIMOUSLY

TIME: 4:45 PM

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CHAIR


Drinking Water & Watershed Protection
Technical Advisory Committee & Board
Steering Committee - April 25, 2019
REGIONAL DISTRICT OF NANAIMO
1 -3
Introduction
4
Framing the Current Context
5
Idea Generation: Goals & Objectives
6
Idea Generation: Activities & Initiatives
7
Next Steps

Welcome from DWWP Board Steering Committee

Drinking Water and Watershed Protection Action Plan Update

Project Goal

To update the Drinking Water and Watershed Protection Action Plan to reflect current objectives, emerging areas of focus, updated priorities and required resources for a refreshed program mandate for the next decade and beyond.

Project Objectives

- Engage the Board, public, key stakeholders and First Nations.
- Ensure effective linkages with related existing RDN programs & plans.
- Acknowledge opportunities under the BC Water Sustainability Act.
- Integrate the learnings from the first decade of program implementation.
- Include current understandings and best practices in the updated Plan.

The Action Plan Update Process

We are here:

Project Stage	Timeline (2019)	Focus
Start Up	Jan – Mar	Develop project charter; engage key partners; summarize and communicate current understanding, linkages and status.
Visioning and Idea Generation	Mar – May	Facilitate sessions with Board members, First Nations, TAC, inter-departmental group and administer public engagement platform to gather input.
Compilation		Compile ideas from idea generation stage into menu for possible inclusion in Action Plan.
Decision-making	May – Jun	Facilitate processes to select and prioritize actions, develop indicators for success, feedback mechanisms for inclusion in the Plan.
Drafting Plan	Jul - Oct	Write draft Action Plan based on outcomes of internal and external input.
Finalization of Plan	Nov - Dec	Final Action Plan to CoW in November for adoption in December.
Implementation	2020- 2030 +	Put the plan into action with the needed resources, staff and partnerships.

- ✓ Established Board Steering Committee
- ✓ Developed Project Charter
- ✓ Launched Public Engagement Platform
- ✓ Hosted Engagement Session at Water Symposium
- ✓ Feedback session with Interdepartmental Working Group

On our way to...

"Structured Decision-making"

compass

econics

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Implementation	2020- 2030 +	Put the plan into action with the needed resources, staff and partnerships.

Roles in the Project

Board Steering Committee: to provide situational leadership throughout the project, and report to the RDN Committee of the Whole and Board on the project as required.

Technical Advisory Committee: to identify opportunities and best practices in terms of regional drinking water and watershed protection strategies, activities, partnerships, resources; to provide advice through update process and make connections back to partner agencies.

DWWP Technical Advisory Committee Roundtable Updates

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Framing the Current Context

What has changed in the last 10 years? What have we learned?

- Water Region Characterization
- Water Infrastructure
- Climate Change
- DISCUSSION

Water Region Characterization

- Big Qualicum
- Little Qualicum
- French Creek
- Englishman River
- Nanoose to S. Wellington
- Nanaimo River
- Gabriola Island

Communities:

- Area H, Qualicum First Nation

Water supply:

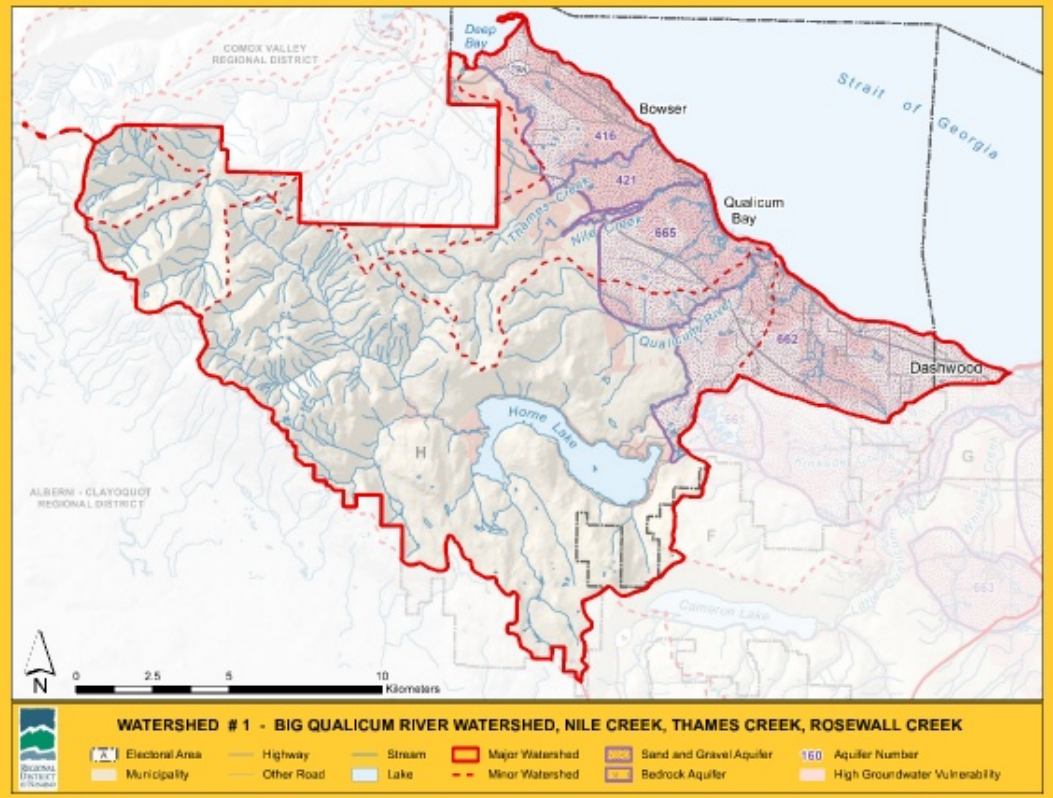
- Groundwater
- Improvement Districts (3)
- Private Wells

Aquifers:

- High yielding quadra sands
- Trend: Stable to increasing water levels; low stress

Watercourses:

- Several small creeks, one river, one large mid-elevation lake (Horne Lake)
- Water quality trend – stable, meeting guidelines. (Except Annie Creek)



Communities:

- Areas G, F, C

Water supply:

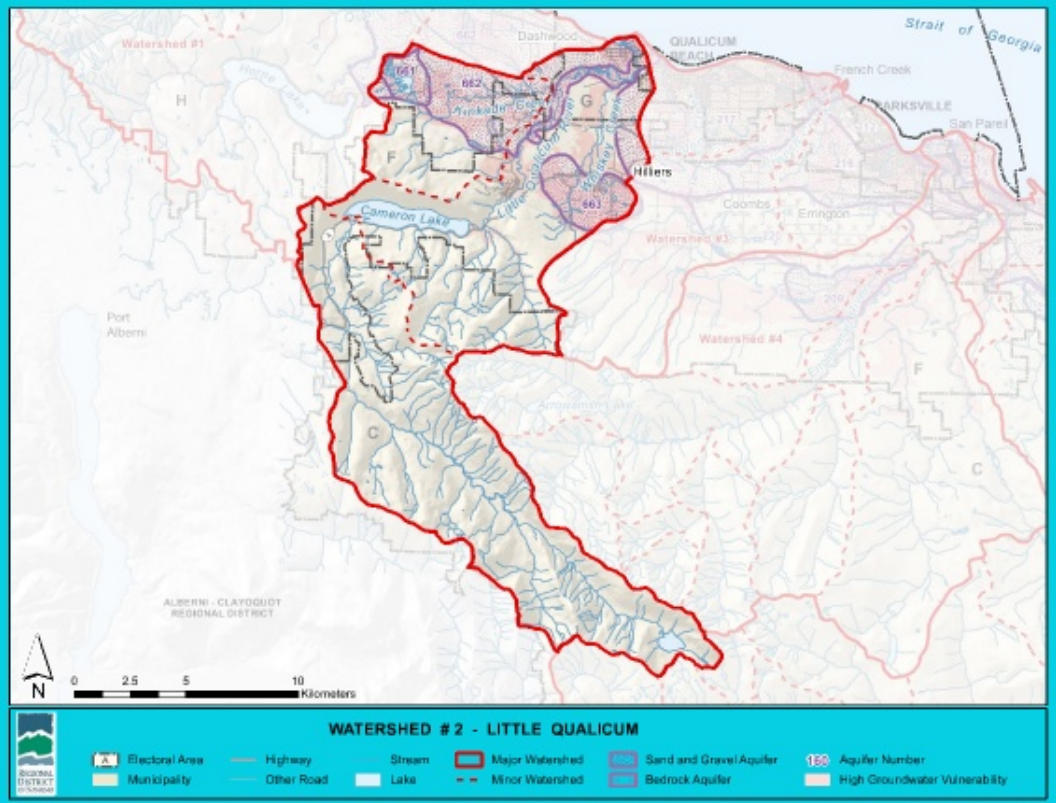
- Groundwater
- Private wells
- 1 Improvement District - Little Qualicum Waterworks
- 3 RDN Water Service Areas - Melrose, Westurne, Whiskey Creek

Aquifers:

- Moderate to high yielding Quadra Sands
- Trend: Stable, moderate stress

Watercourses:

- Main river LQ flows off Mt. Arrowsmith; tributaries from rural areas. Fish habitat.
- Trend: Generally good, some temp. exceedances, increasing turbidity



Communities:
Town of Qualicum Beach, Area F, Area G, City of Parksville

Water Supply:

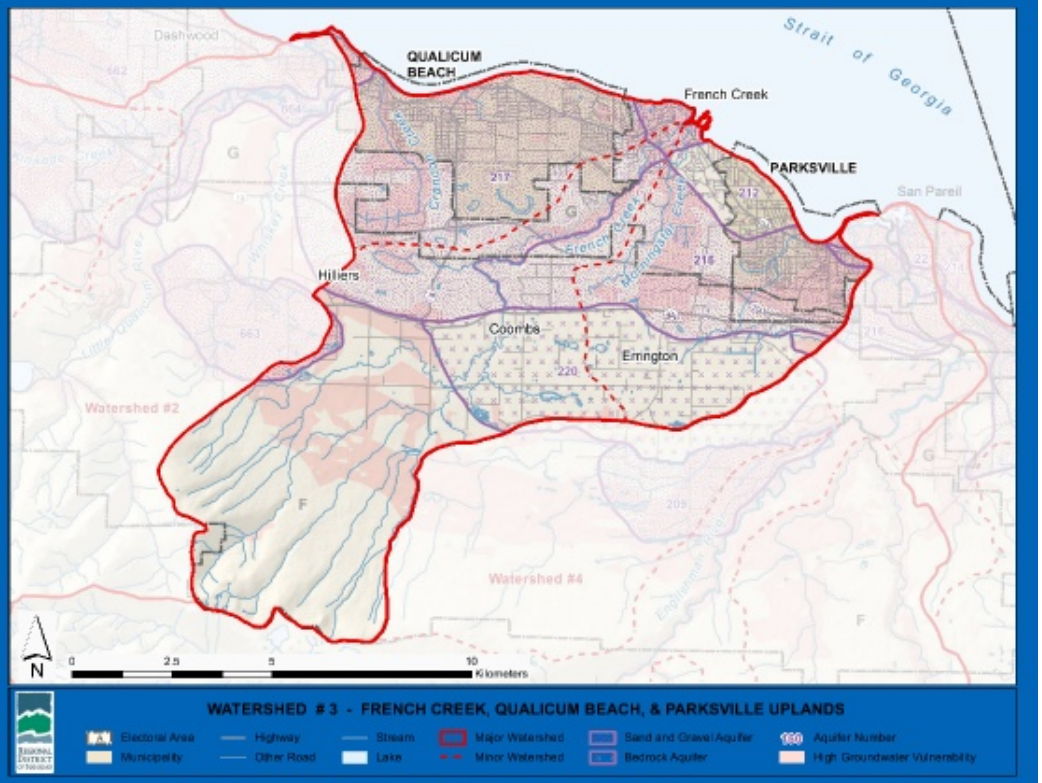
- Groundwater
- Muncipal + RDN + Epcor
- Private wells and small systems
- Note City of Parksville also has Englishman River water as part of their community supply.

Aquifers:

- Bedrock in Coombs, Errington
- Quadra sands in Qualicum, Parksville
- Trend: Variable to Declining levels

Watercourses

- Several small creeks; no upland storage lakes. Hamilton Marsh is significant water feature.
- Water Quality Trend: declining on French showing impacts from upstream agriculture and rural road drainage
- Low flows in summer



Communities:
Areas G, F,C

Water Supply:

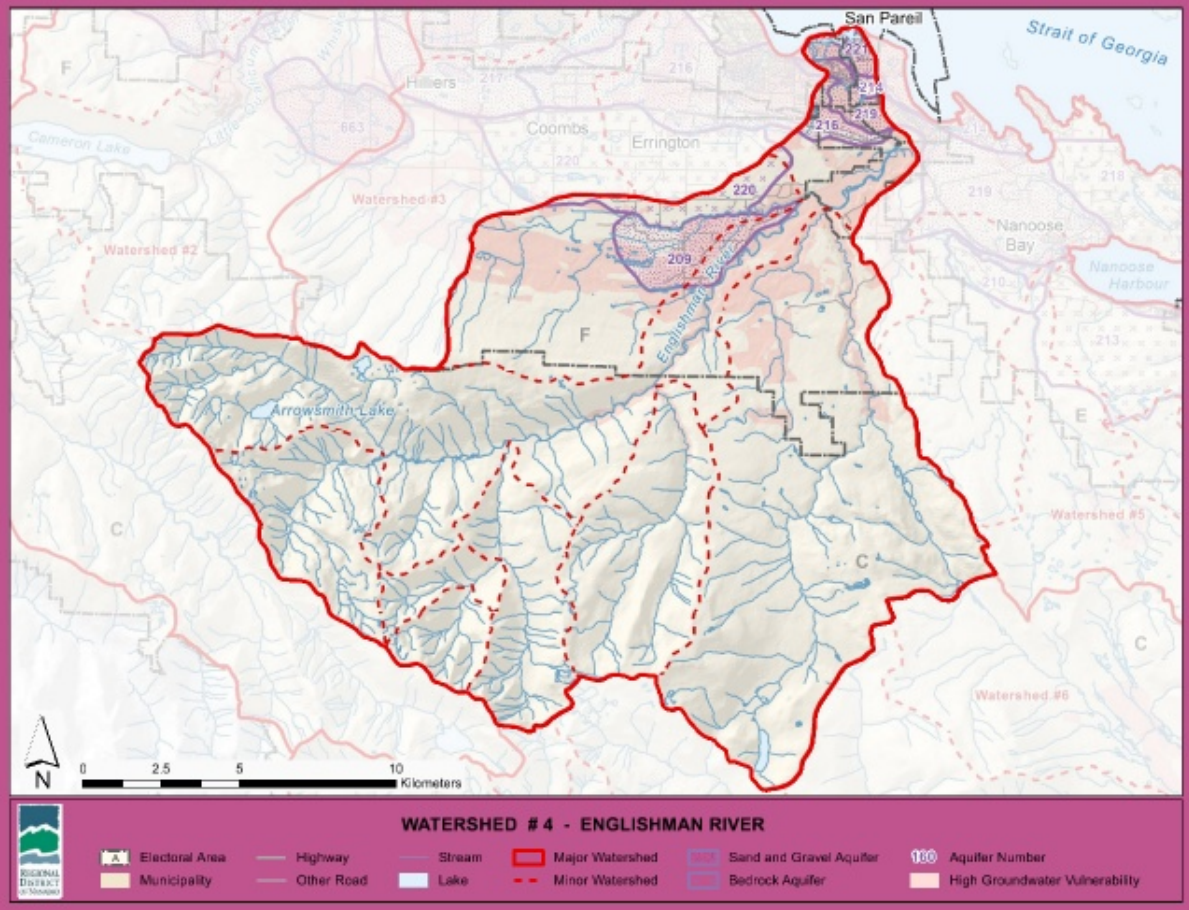
- River water for Parksville & Nanoose Bay (ERWS)
- Private wells
- RDN Water Service areas - San Pareil, Rivers Edge

Aquifers:

- "Stacked" bedrock and sand and gravel aquifers
- Trend: Declining level

Watercourses:

- Englishman River with many head waters streams and small rural tributaries
- Dam at Arrowsmith Lake.
- Water quality trend: improving but still issues in lower reaches
- Low flows in summer



Communities:

- Area E, C, Nanoose First Nation, District of Lantzville, City of Nanaimo, Snuneymuxw First Nation, Area A (South Wellington)

Water Supply:

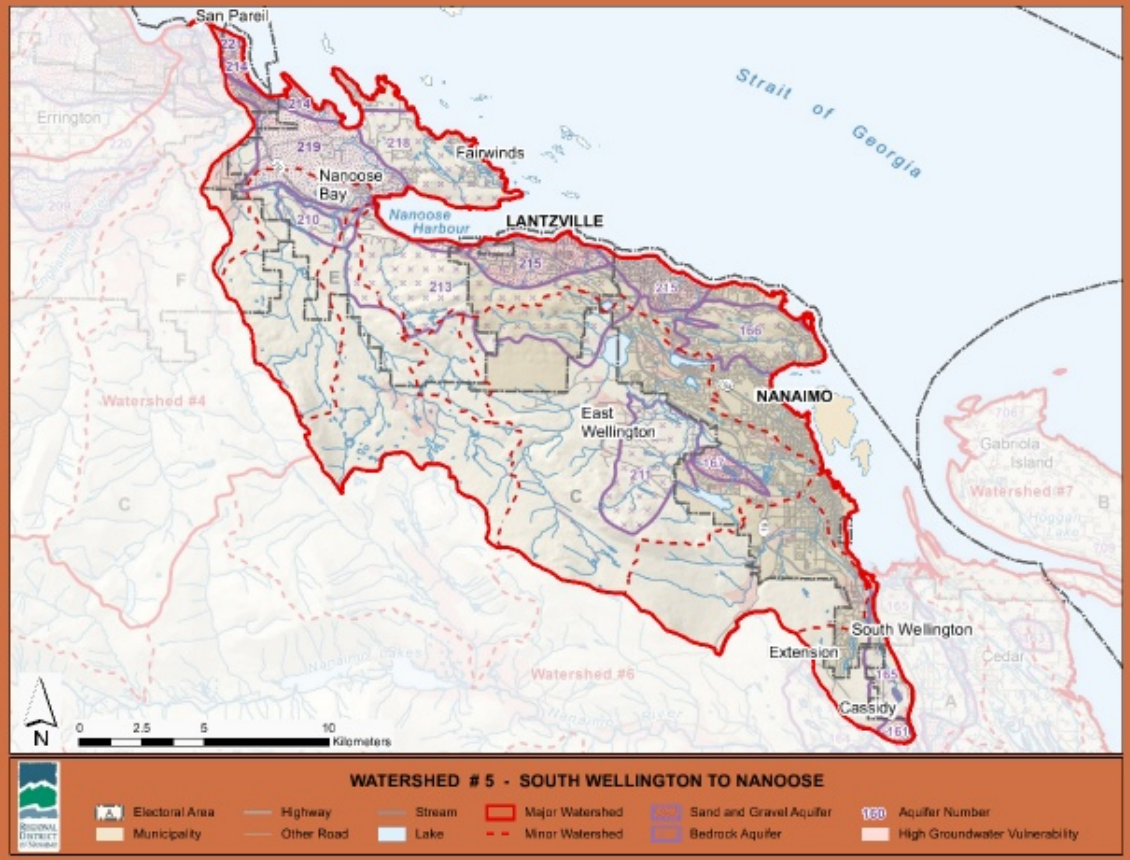
- RDN Water Service area Nanoose Bay Peninsula - groundwater +Englishman River water
- Lantzville - groundwater
- City of Nanaimo - water from WR6 (Nanaimo R)

Aquifers:

- Bedrock & sand and gravel
- Trend: Some declining, others stable

Watercourses:

- Many small creeks; largest is Millstone River
- A few mid elevation lakes.
- Water quality trends: Generally stable, some variability. Improvement seen on Departure Creek, but needed on Cat Stream for example.
- Low flows in summer



Nanoose to S. Wellington

Communities:

- Area C, A

Water Supply:

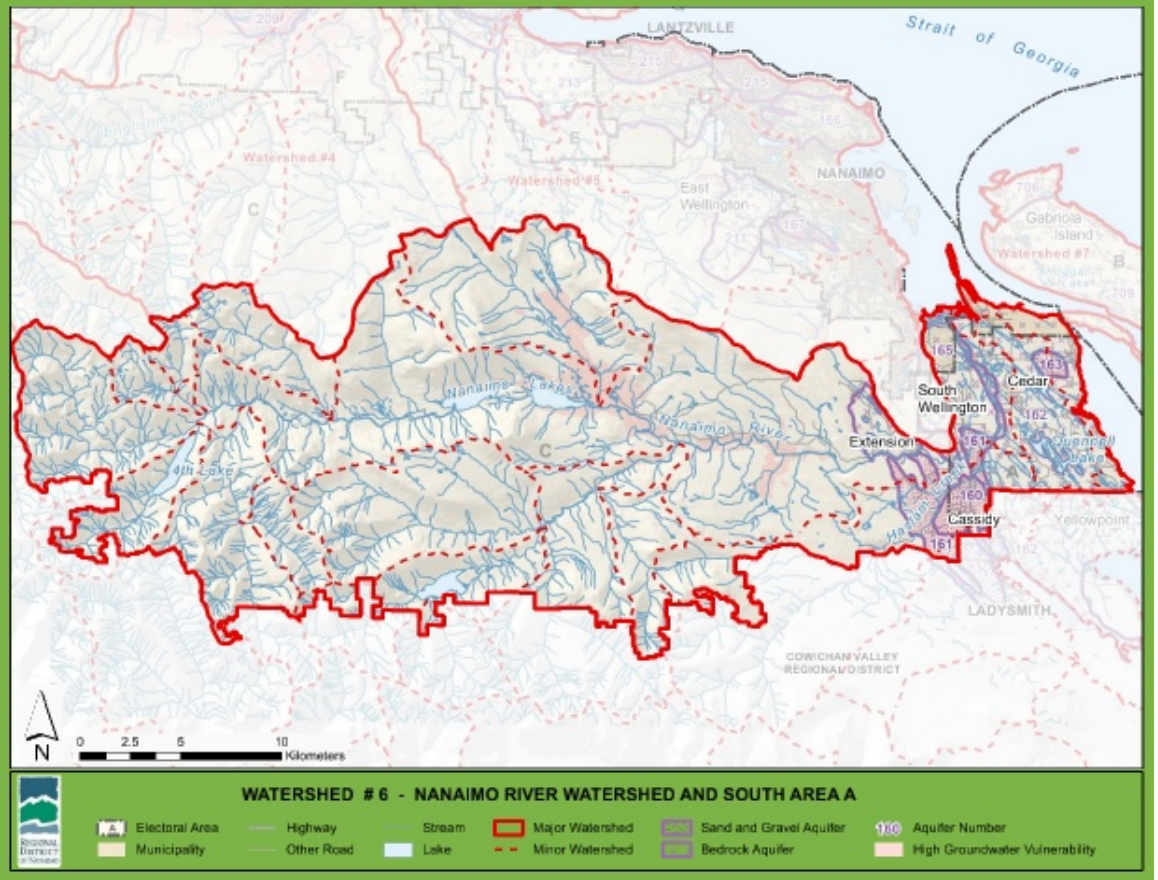
- River is source water for City of Nanaimo
- Private wells
- North Cedar Improvement District - groundwater
- Harmac Pulp Mill - river water and groundwater for operations

Aquifers:

- Sand and gravel (Cassidy) - high yield, high vulnerability
- Bedrock (Yellowpoint) - low yield
- Trends: Variable. Cassidy - stable. Yellowpoint - declining.

Watercourses:

- 6 water quality monitoring sites
- Nanaimo R many headwater streams; some rural creeks and tributaries
- Several in the headwaters and low lands
- Water quality trends: Generally stable. Some temperature increases and DO decreases to watch.

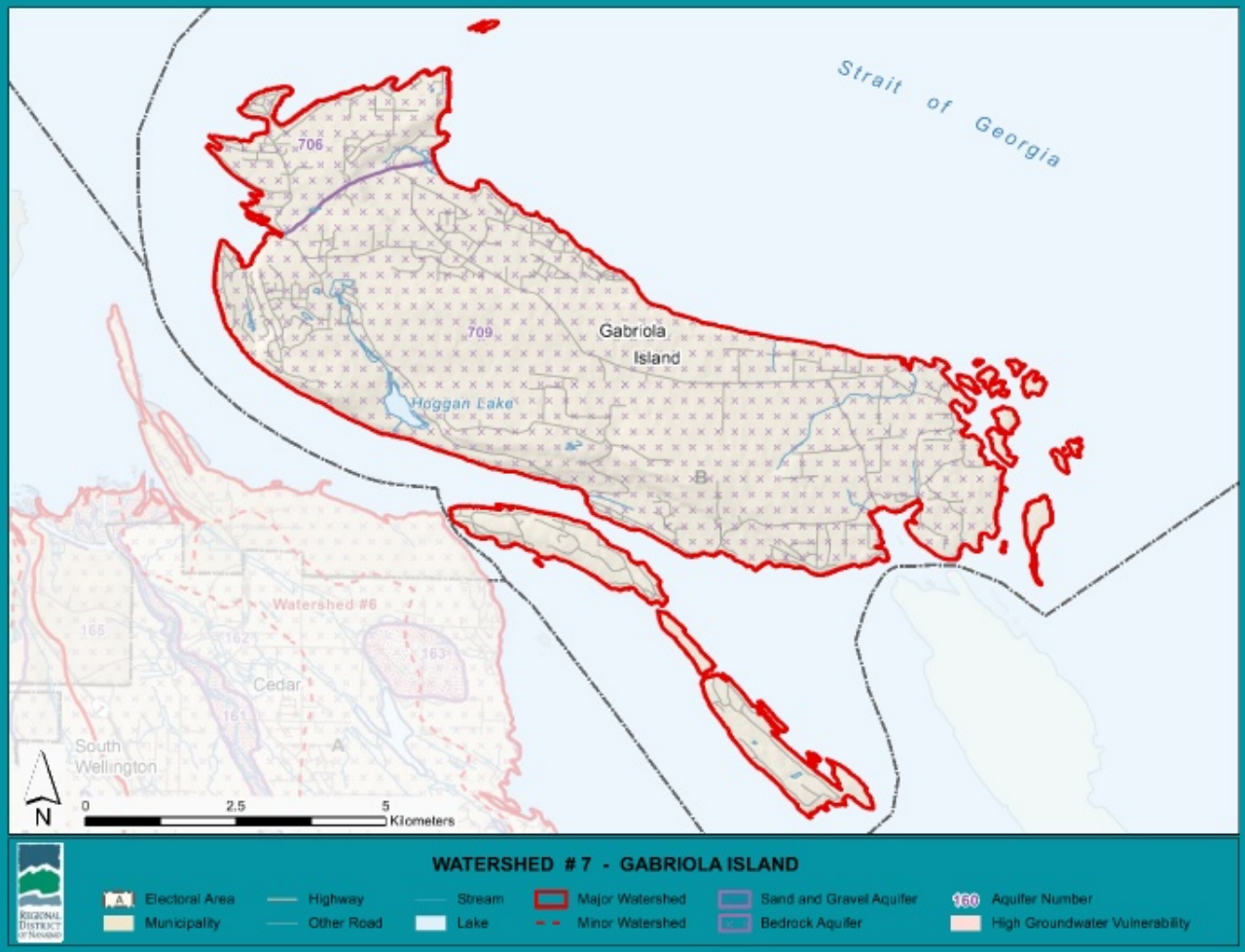


Community: Area B

Water Supply:
- Groundwater
- Private wells
- Rainwater capture

Aquifers:
- Bedrock - generally low yielding
- Trend: stable to declining

Watercourses:
- Several small (sometime ephemeral) creeks, Hoggan Lake, Coats Marsh
- Mallett Creek - coho, wq monitoring
- Water quality trend: high turbidity
- Low flows in summer



Stressors, Issues, Opportunities

- Rural road drainage causing erosion in creeks, water quality issues, exacerbating flooding.
- Impervious surfaces changing hydrology, interrupting groundwater recharge
- Some aquifers showing stress and declining levels
- Low flows in creeks stressing fish habitat
- Loss of riparian buffer in some agricultural and forestry areas, outside of RDN jurisdiction
- Planning issues are hard to overcome: existing zoning for development that doesn't consider water availability or stress.
- Opportunity for shared stewardship with First Nations.

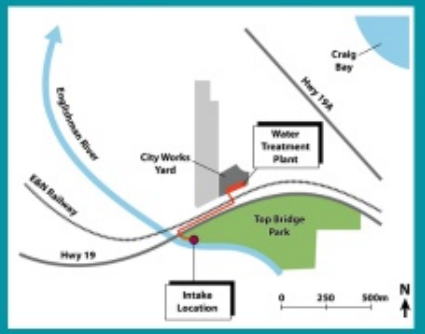
Water Infrastructure

in the past 10 years.....

City of Nanaimo has commissioned a new water filtration plant (April 2016)

District of Lantzville & City of Nanaimo ratify water agreement to provision water connections in upper Lantzville (2014)

City of Parksville and Nanoose Bay (RDN) build new water intake and treatment plant for Englishman River Water Service, supplementary year-round water supply (2019)



Water Use Trends

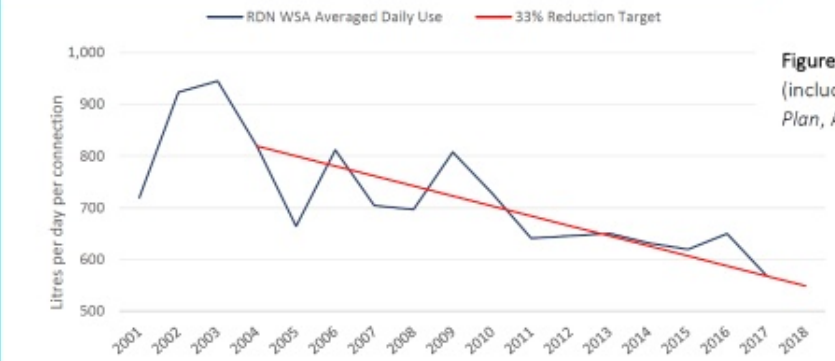


Figure 1: Annualized daily water use (average volume per single-family residential connection per day), across all RDN water service areas, relative to the thirty-three percent reduction target set in *Innovative Options and Opportunities for Sustainable Water Use* (HB Lanarc 2008).

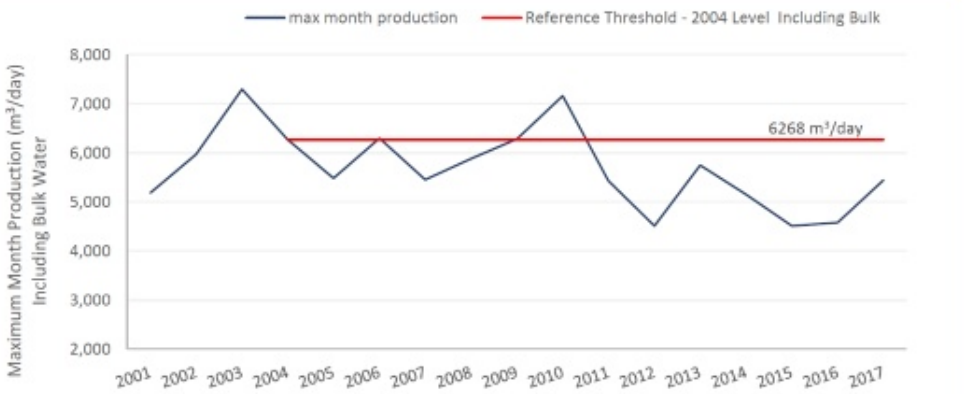
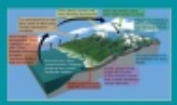


Figure 2: Maximum month production each year based on cumulative RDN water service area production (including Bulk water supply). The horizontal red line indicates the Target 2 reference (*Water Conservation Plan*, Aquavic 2013) to maintain maximum month production at or below the 2004 levels (6268 m^3/day).

CLIMATE CHANGE

Projections	Impacts
Hotter, longer, drier summers	• More than doubling # of >25 degree days; greater evaporation • Summer rain decrease 17% and dry spells lengthened by 20% • Increasing irrigation demand + fire flow demand + environmental water deficit
Increase in intense Fall precip	• Extreme rain events more likely - flooding, landslide , water contamination risk
Less snowpack at elevation	• Warmer winter temps mean more precip. will fall as rain; decrease snow storage by 85% by the 2050s • Impacts streamflow in shoulder months - ecosystem and community water



Current Climate

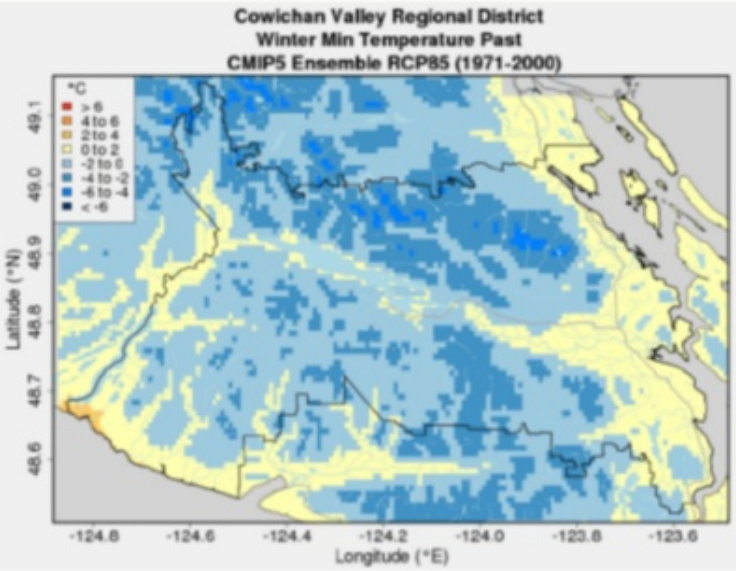


Figure 6: Winter Average Nighttime Low Temperature – Past

2050s Forecast Climate

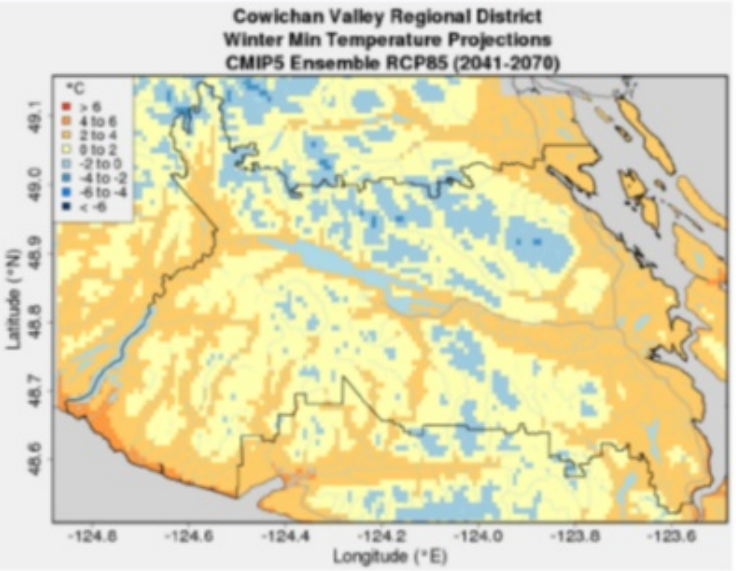
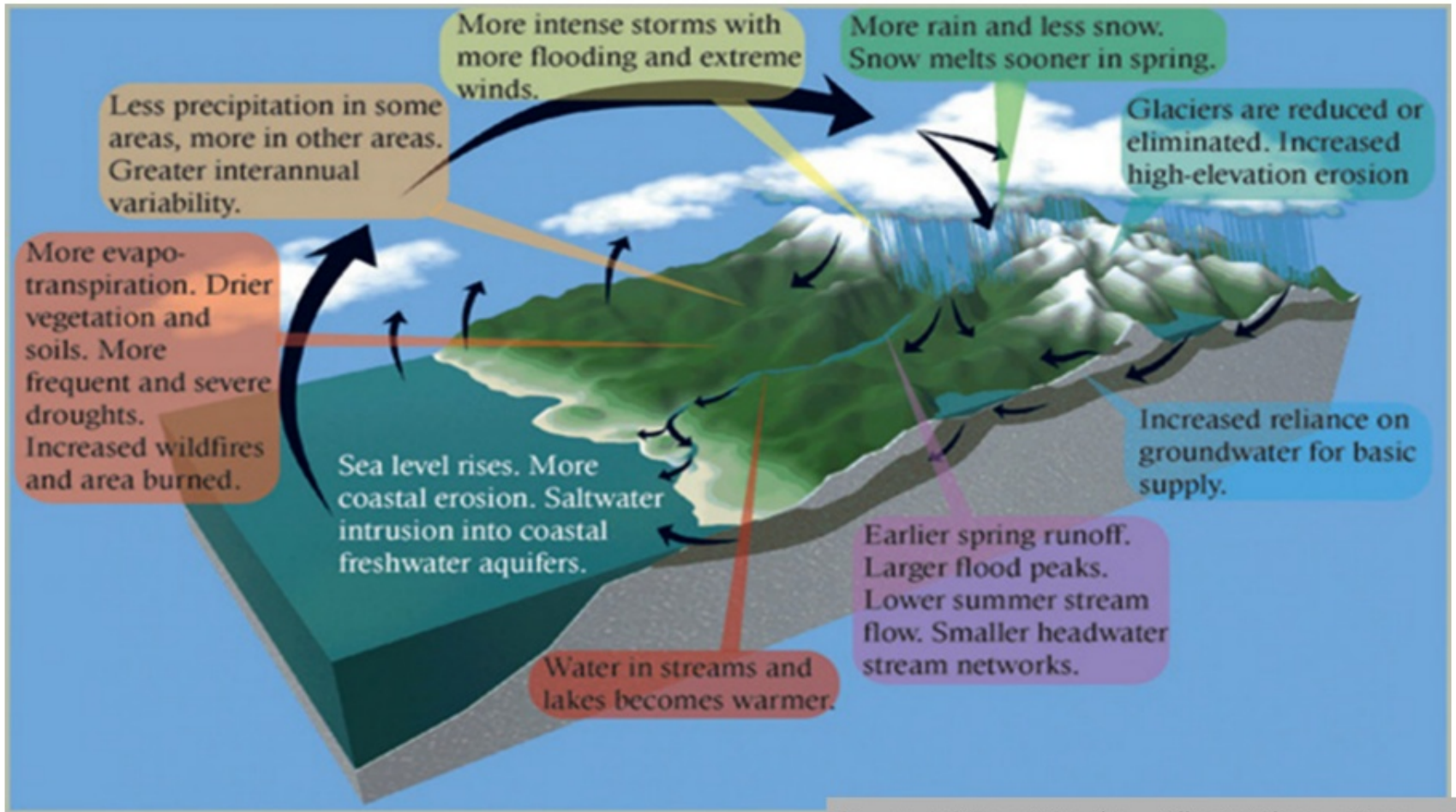


Figure 7: Winter Average Nighttime Low Temperature – Future (2050s)

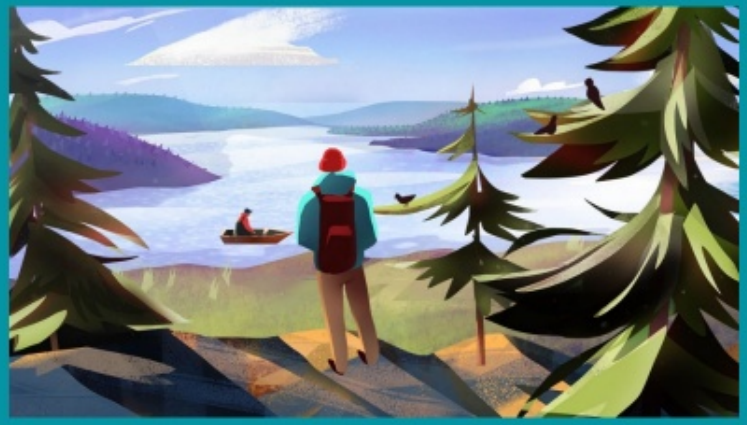
Yellow/Orange = above Freezing
Blue = Below Freezing

Source: CVRD 2017, Climate Projections for the Cowichan Valley Regional District



Source: US Forest Service – Climate Change Resource Center

Any additional context on anticipated issues, threats or trends related to water resources (stream flows, aquifers, aquatic ecosystems) in the future and/or in relation to climate change effects?



5

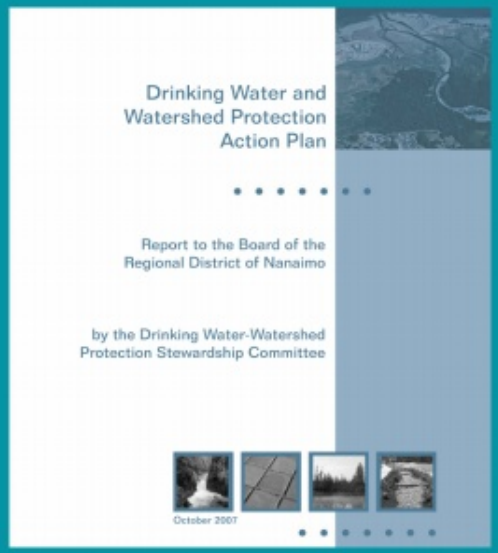
Goals & Objectives of the Plan

Idea Generation

Existing

Proposed

Discussion



Goals as articulated in the existing plan...

+ Goals
from other
RDN plans

The original Action Plan (2007) was guided by these core purposes:

- **Increasing water efficiency** in communities to avoid the costs of expanding water supply infrastructure;
- **Tracking local water resources** to ensure adequate water supply, now and in the future, through data collection and monitoring;
- **Enabling better water management and land use decisions**, to protect property and ecological values through water policy advocacy & planning support, and water education & outreach.

Program 1 - Public Awareness and Involvement

GOAL: To promote awareness and stewardship of the watersheds and drinking water resources in the region.

OBJECTIVES:

- to **improve public awareness** of where their water comes from both surface and groundwater sources – and why it is important to protect watersheds

- to **change public water consumption patterns** in the region to reduce / stop wasting water

- to **influence land use practices** to prevent wasting and contaminating water resources

Program 2 – Water Resources Inventory and Monitoring

GOAL: To improve information about the Regions' water resources in terms of both quality and quantity, in support of better land use decisions and public understanding.

OBJECTIVES:

- To **compile and map existing information** on water resources in the Region in collaboration with MOE, VIHA, NRC, other organizations involved in data gathering and mapping

- To **improve the stream monitoring systems** for measurement of water flows, levels and temperatures.

- To **improve the groundwater monitoring system** for determining the extent of aquifers and measuring water levels and quality.

- To **make information** about the Region's water resources **readily available and understandable** to decision makers (for use in P3-7) and the public (P1).

Program 3 – Land Planning and Development

GOAL: To use the information gathered through Program 2 to protect the Region's watersheds and water resources in land use planning and development decisions

OBJECTIVES

- To **protect drinking water** through the RGS, OCP policies and designations, and zoning bylaws
- To ensure that new development provides **proof of adequate and sustainable, good quality drinking water**.
- To **ensure that new development minimizes impacts** on surface and groundwater resources.
- To **prioritize** and develop **long term management** for watersheds.

Program 4 – Watershed Management Planning

GOAL: To prioritize and protect watersheds in the Region according to their ecological and drinking water values.

OBJECTIVES

To make efficient use of limited staff and funding resources by **setting up a system for prioritizing watersheds for planning purposes**.

- To undertake watershed management planning on a priority basis over the next 10 years.

- To **involve all stakeholders** with an interest in any particular watershed in the planning of that watershed.

- To **incorporate the results** of watershed plans **into land and resource decisions**.

Program 5 –Water Use Management

GOAL: To promote efficient water use in all sectors of the Region.

OBJECTIVES

To **encourage the efficient and sustainable operation of water service systems** in the Region.

- To **promote water pricing that reflects the value** of water management and promotes efficient water use.

- To s**upport the use of alternative water sources** such as greywater and rainwater harvesting where feasible and **to reduce regulatory barriers** to their appropriate use.

Program 6 – Water Quality Management

GOAL: To protect the quality of water at source –whether surface or groundwater

OBJECTIVES

- To **gain a better understanding of the status** of drinking water quality in the region.
- To **identify and help to manage the risks of contamination** to drinking water sources.
- To i**nfluence human activities** – residential, commercial and industrial activities, agriculture, forestry, recreation and tourism – **to protect watersheds and prevent contamination** of water sources.
- To **improve the management of water quality in private wells** in the Region.

Program 7 – Climate Change

OBJECTIVES:

- To **assess and adapt to the potential impacts** of climate change on water sources and supplies in the Region
- To **promote actions that will reduce** the Region's contribution to **climate change**.

REGIONAL DISTRICT OF NANAIMO

GOALS FROM OTHER RDN PLANS

Parks

To assist in protecting watersheds & important habitats as part of the RDN's broader land use planning mandate

Liquid Waste

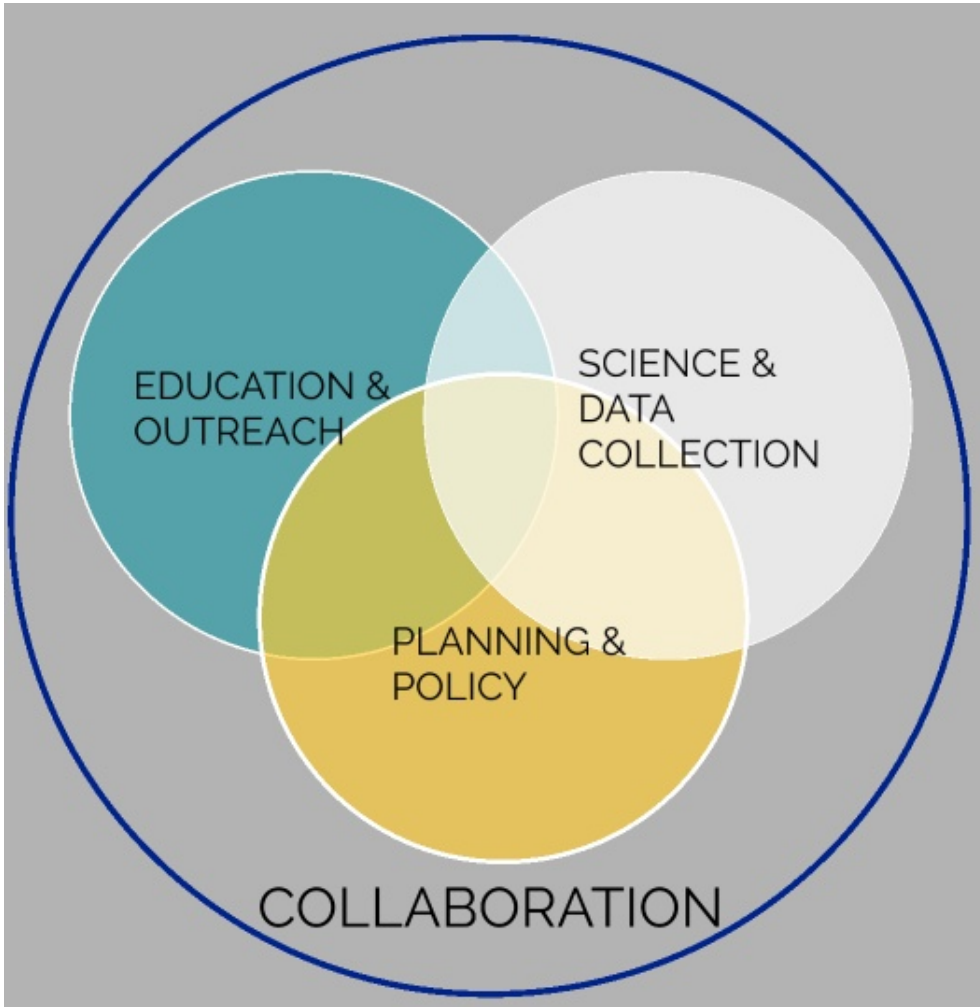
1. Use of rain as a resource
2. Promote the maintenance of hydrologic function
3. Protect the quality of water

Regional Growth

- Protect and enhance the environment and avoid ecological damage related to human activity.
- Protect and strengthen the region's rural economy and lifestyle.
- Provide efficient, cost-effective services and infrastructure
- Protect and enhance the capacity of the region to produce and process food.

Emergency

To provide public education regarding effective water usage coupled with future projections of water supplies and demands from urbanization and industry to offset the potential for water supply issues



THEMATIC AREAS OF THE PROGRAM

EDUCATION & OUTREACH

Proposed Goals:

To promote awareness and stewardship of the watersheds and drinking water resources in the region. *(Existing)*

To engage with and enable all communities within the region - rural and urban - to participate in stewardship and conservation of our shared water resources. *(Proposed Additional)*

To encourage preparedness and resilience to climate change and extreme weather events such as floods and droughts *(Proposed, additional).*

SCIENCE & MONITORING

Proposed Goals:

To enhance the resolution of reliable, long-term data and information about the status of the Region's water resources in terms of both quality and quantity. *(Existing, revised)*.

To identify the risks to water quality and availability in the Region and identify ways to minimize, manage or eliminate those risks. *(Proposed additional)*

To make data and information about the Region's water resources readily available and understandable to decision-makers and the public. *(Existing, objective, revised)*.

To use local water knowledge, water data and science in support of better land use decisions, infrastructure planning and public understanding. *(Existing, revised)*.

Proposed Goals:

To integrate land use planning and water management to support water sustainability, climate resilience and preservation / restoration of watershed health in the Region. *(Proposed additional)*

To identify and advocate for policy actions that will enable efficient water use, water quality protection and maintenance or restoration of watershed function. *(Proposed additional)*

To work with all stakeholders with an interest in any particular watershed in planning efforts that effect that watershed. *(Existing, objective)*

Proposed Goals:

To collaborate with partners across jurisdictions, sectors, departments and geographic areas to implement water initiatives and policies that foster long-term health of ecosystems and communities. *(Proposed, additional)*

To serve as a connector by providing a unifying and inclusive hub for drinking water and watershed related activities, communications and resources amongst partners in the Region. *(Proposed, additional)*

DRINKING WATER & WATERSHED PROTECTION

Do the proposed goals align with the current context? What's missing?

6

Activities & Initiatives

Idea Generation

Brainstorm Ideas

Discuss Existing / Proposed

DWWP in the past 10 years...

+ Added 62 **surface water quality monitoring** sites & collected 8 years of data with 13 stewardship grops

+ Added 16 provincial **observation wells** plus 32 volunteer observation wells

+ Phase 1 **Water Budget Analysis** completed - VI and Gabriola

+ Geological Survey of Canada **Aquifer Characterization** (Deep Bay to Nanoose) completed

+ Aquifer **reviews in support of OCP Updates**

+ Provided 1040 **rebates** (rainwater, soil, wellhead, water quality testing)

+ Established **regional watering restrictions framework**

+ Offered over 650 e**ducational workshops, field trips, displays, classroom visits, home visits** etc.

+ 26 **wetlands mapped**

+ **added data to Provincial networks**

+ **funded stream stewardship & restoration**

+ **reported on** water quality & groundwater level **trends**

BRAINSTORM:

What new activities would support the goals and objectives?

Be bold! Think in terms of now or for future (within next 10 years).


Existing Actions with proposed direction for discussion

Education / Outreach

Science

Action Plan Program	Action Plan Action	Status	Direction for Plan Update (2020-2030)
1 - Public Awareness and Involvement KEEP	1A: The WaterSmart Program	Ongoing	KEEP
	1B: Coordinated Information and Education Resources	Ongoing	KEEP
	1C: Demonstration Projects	Partial	? DEPENDS ?
	ID: Support for Volunteers and Non-profit Organizations	Ongoing	KEEP
2- Water Resources Inventory and Monitoring KEEP	2A: Compilation and Mapping of Existing Data	Ongoing	KEEP
	2B: Additional or New Data Collection	Ongoing	KEEP

Existing Actions with proposed direction for discussion

Science

Planning / Policy

Action Plan Program	Action Plan Action	Status	Direction for Plan Update (2020-2030)
	2C: Water Quality Monitoring	Ongoing	KEEP
	2D: Data Response Systems	Partially Underway	KEEP, REVISE
3- Land Planning and Development REVISE	3A: Land Development (Engineering) Standards	Not Initiated	? DEPENDS ?
	3B: Development Application Review	Ongoing	KEEP
	3C: Development Charges	Not Initiated	DROP
	3D: Planning Tools	Ongoing	KEEP
4 - Watershed Management Planning ? DEPENDS ?	4A: Watershed Prioritization	Partial	? DEPENDS ?
	4B: Watershed Management Planning	Not as Described	REVISE
	4C: Support Local Food Production	Partial	KEEP, REVISE

Existing Actions with proposed direction for discussion

Outreach / Policy

Science

Action Plan Program	Action Plan Action	Status	Direction for Plan Update (2020-2030)
5- Water Use Management KEEP	5A: Water Conservation Plans	Ongoing	KEEP, REVISE
	5B: Cooperation among Community Water Supply Systems	Ongoing	KEEP
	5C: Rainwater and Greywater Use	Ongoing	KEEP, REVISE
	5D: Incentive Programs	Ongoing	KEEP
	5E: Water Use Regulation	Ongoing	REVISE
6- Water Quality Management REVISE	6A: Contaminant Management	Partial	REVISE
	6B: Agriculture and Forestry	Partial	REVISE
	6C: Private Water Well Safety	Ongoing	KEEP
	6D: On Site Sewage Disposal	Ongoing	DROP
7- Climate Change REVISE	7A: Follow the Science	Partial	KEEP, REVISE
	7B: Land and Water Use Adaptation		
	7C: Assessing Local Hydro-climatic Balance		

Source: based on RDN (2018a)

DISCUSS:

What activities from the first Action Plan should be maintained, revised, removed?

How to revise, build off of, integrate better?

Demonstration Projects

Data response systems

Land development / Engineering standards

Planning tools

Watershed Prioritization

Watershed Management Planning

Agriculture & forestry

Climate change

Contaminant management

Water use regulation

Rainwater & greywater use

Next Steps in the DWWP Action Plan Update Project...

Project Stage	Timeline (2019)	Focus
Start Up	Jan – Mar	Develop project charter; engage key partners; summarize and communicate current understanding, linkages and status.
Visioning and Idea Generation	Mar – May	Facilitate sessions with Board members, First Nations, TAC, inter-departmental group and administer public engagement platform to gather input.
Compilation		Compile ideas from idea generation stage into menu for possible inclusion in Action Plan.
Decision-making	May – Jun	Facilitate processes to select and prioritize actions, develop indicators for success, feedback mechanisms for inclusion in the Plan.
Drafting Plan	Jul - Oct	Write draft Action Plan based on outcomes of internal and external input.
Finalization of Plan	Nov - Dec	Final Action Plan to CoW in November for adoption in December.
Implementation	2020- 2030 +	Put the plan into action with the needed resources, staff and partnerships.

REGIONAL DISTRICT OF NANAIMO

Structured Decision-Making

In March, Compass and Econics were hired to support the DWWP Action Plan updating process, which includes facilitating structured decision making workshops to assess and prioritize actions (i.e., regional drinking water and watershed protection strategies) to be included in our updated Action Plan.

Over to Michael Harstone for a few words on structured decision making (SDM)...

compass

econics

Drinking Water and Watershed Protection Action Plan Update

https://flic.kr/p/bdyUYa

Regional District of Nanaimo

BSC / TAC Meeting

April 25, 2019

Michael Harstone, Compass Resource Management
Rebecca Mersereau, Econics

compass econics

What is SDM?

An organized framework for helping people, especially **groups**, identify creative options and make informed, **defensible** and **transparent** choices

SDM is…

Based in the decision sciences

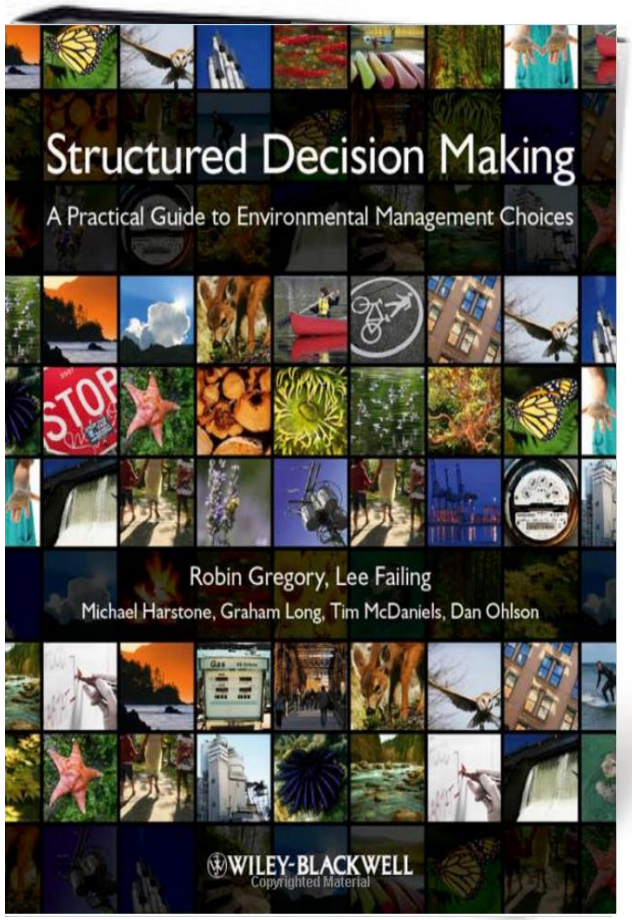
- A set of core steps
- A set of structuring tools

Adapted for the real world

- Practical, scalable and iterative
- Helps avoid “decision traps”

Recognized best practices

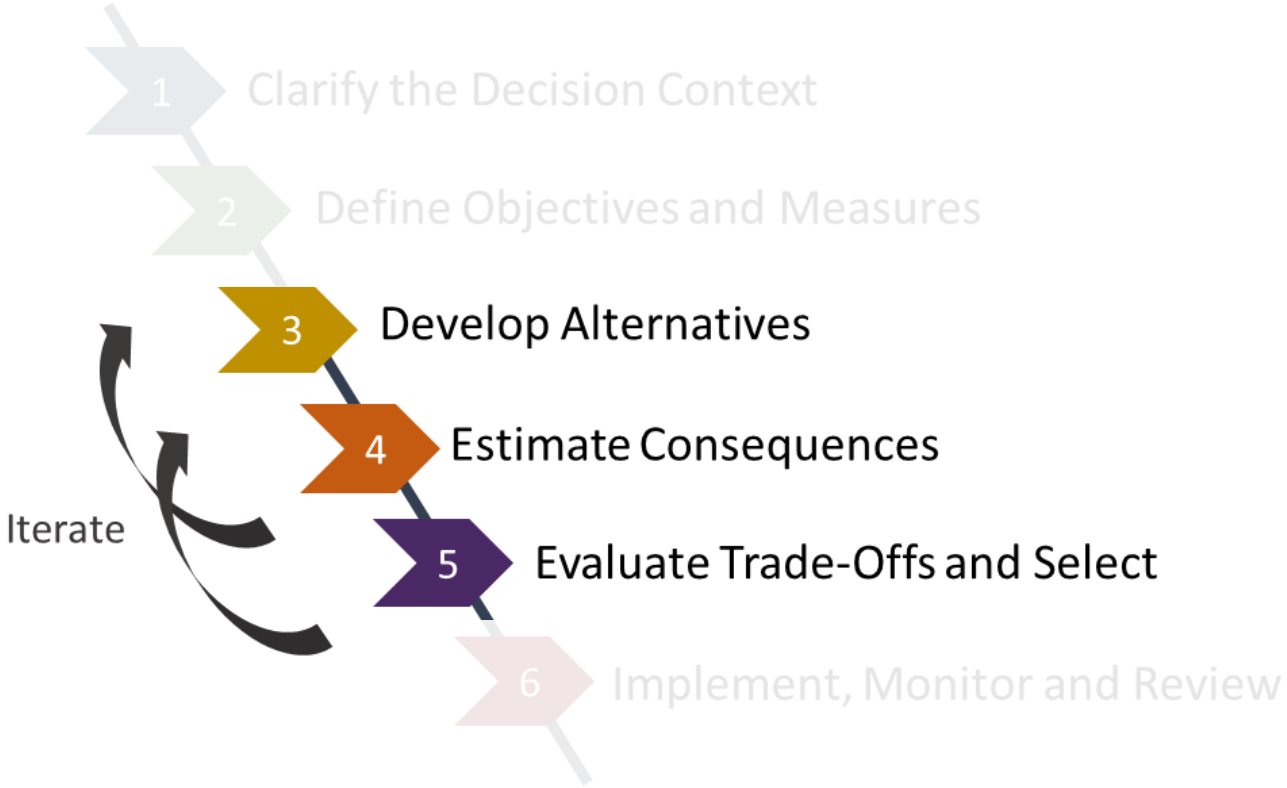
- Analysis and deliberation
- Facts and values



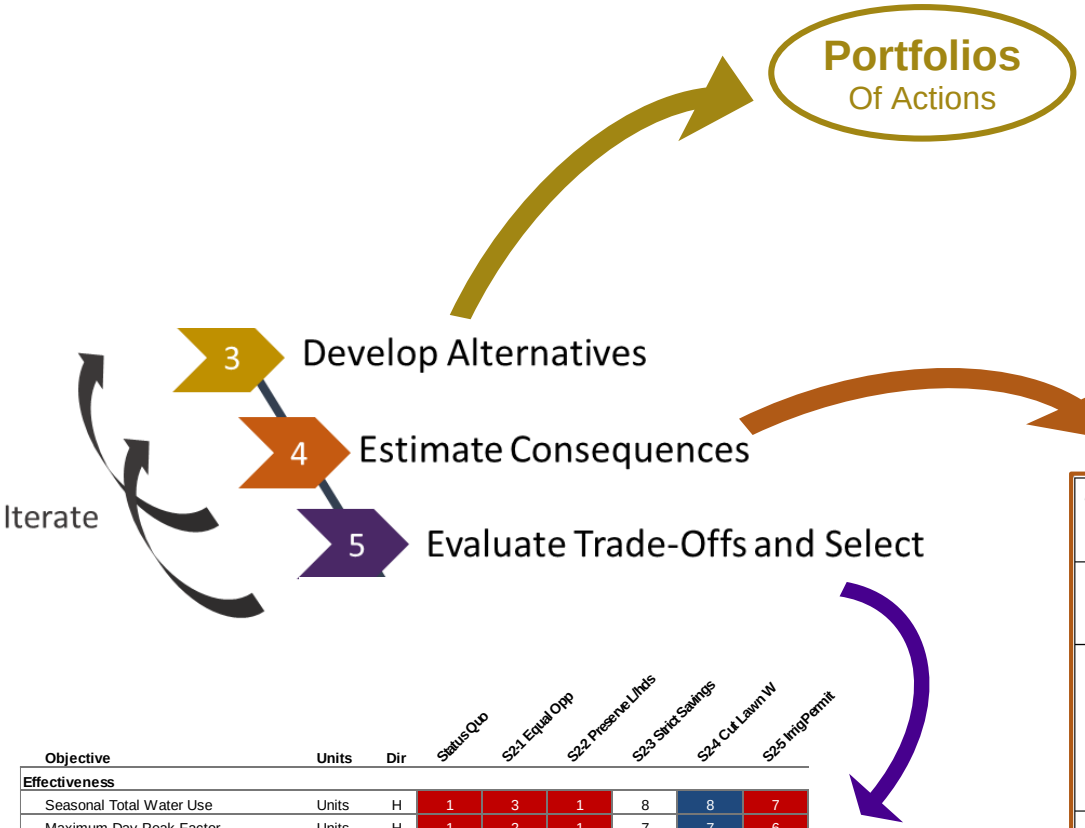
Steps of SDM

"A formalization of common sense for decision problems which are too complex for informal use of common sense"

Ralph Keeney



Applying SDM to the DWWP

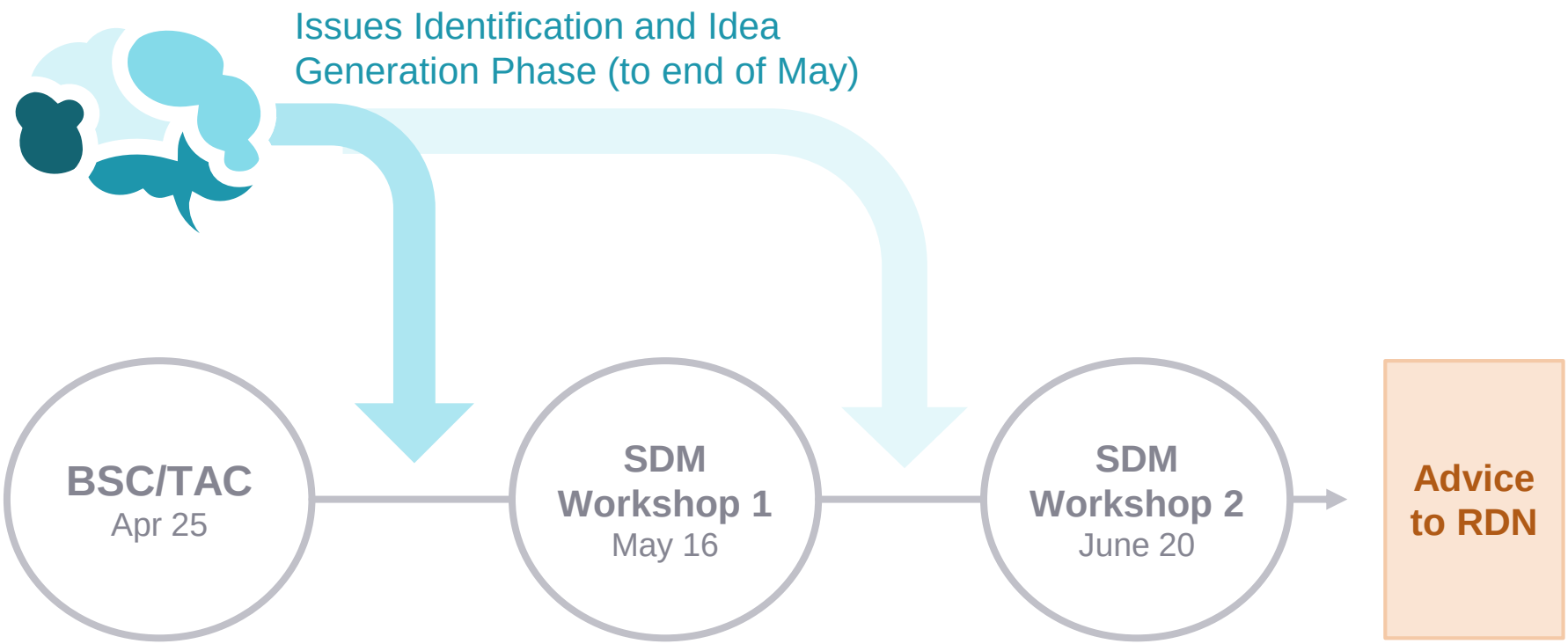


Performance Measures

Objective	Units	Dir	Status Quo	S2.1 Equal Opp	S2.2 Preserve Lhds	S2.3 Strict Savings	S2.4 Cut Lawn W	S2.5 IrrigPermit
Effectiveness								
Seasonal Total Water Use	Units	H	1	3	1	8	8	7
Maximum Day Peak Factor	Units	H	1	2	1	7	7	6
Financial								
Setup Costs to Govt	Units	H	10	6	6	4	4	3
Ongoing Costs to MV	Units	H	5	4	6	2	3	4
Ongoing Costs to Local Authorities	Units	H	5	4	6	3	4	2
Costs to Businesses / Livelihoods	Units	H	5	3	6	2	2	5
Environment								
Impacts to Environment	Units	H	5	5	5	4	4	5
Fairness								
Distr Impacts - Business Sectors	Units	H	7	7	9	3	5	6
Distr Impacts - Residential Households	Units	H	9	9	7	6	7	5
Social								
Inconvenience impacts to public	Units	H	5	5	4	1	4	3
Implementation								
Ease of Implementation / Enforceability	Units	H	6	5	5	8	8	6

Area	Performance Measures	Unit	Dir	Portfolios		
				1 Status Quo	2	3
Effectiveness	Seasonal Total Water Use	1-10	H			
	Maximum Day Peak Factor	1-10	H			
Financial	Upfront Costs (RDN)	1-10	H			
	Ongoing Costs (RDN)	1-10	H			
	Ongoing Costs to Other Govts	1-10	H			
	Costs to Businesses / Livelihoods	1-10	H			
Environ	Impacts to Environ	1-10	H			
Fairness	Distribution of Impacts Across Business Sectors	1-10	H			
	Distribution of Impacts across Residential Households	1-10	H			
Social	Impacts on convenience for Public	1-10	H			
Implementation	Ease of Implementation / Enforceability	1-10	H			

Applying SDM to the DWWP

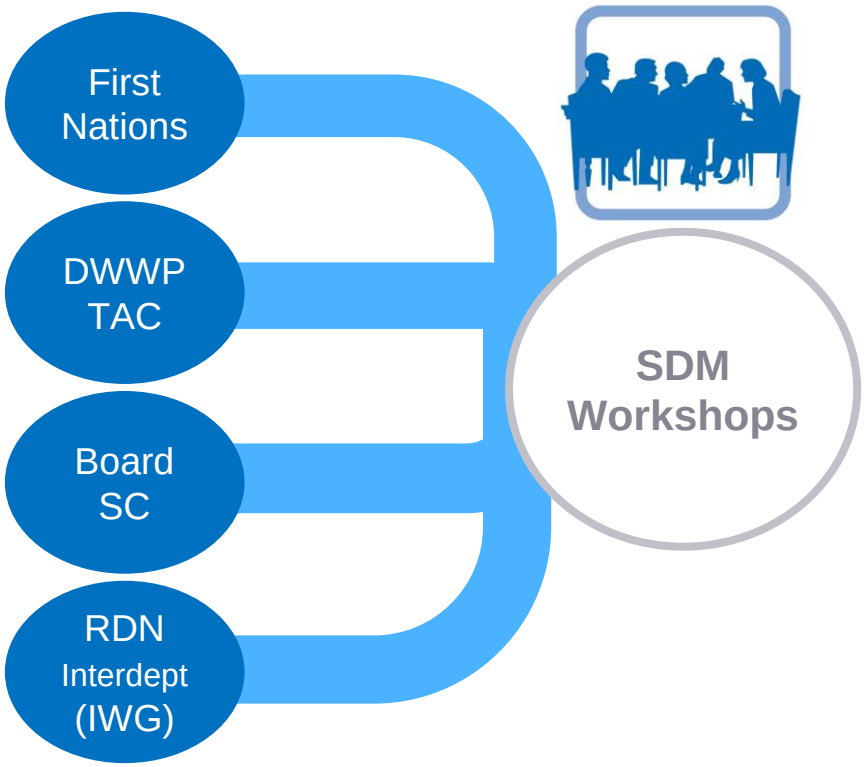


- Context / Key Issues
- Goals / Objectives
- Brainstorm Actions
- Review past Actions

- Review prelim evaluation criteria
- Review & assess draft portfolios
- Propose new portfolios

- Review & assess new portfolios
- Identify preferred portfolio(s) and/or revisions
- Resources, progress indicators, partnerships, etc.
- Other recommendations

Participation at SDM Workshops



Primary role of SDM workshop participants is to provide input on:

- Issues Identification
- Key stressors and trends
- Draft Goal and Objectives
- Ideas generation for actions
- Assess draft portfolios
- Aim to reach agreement on a preferred portfolio
- Other recommendations (as needed)

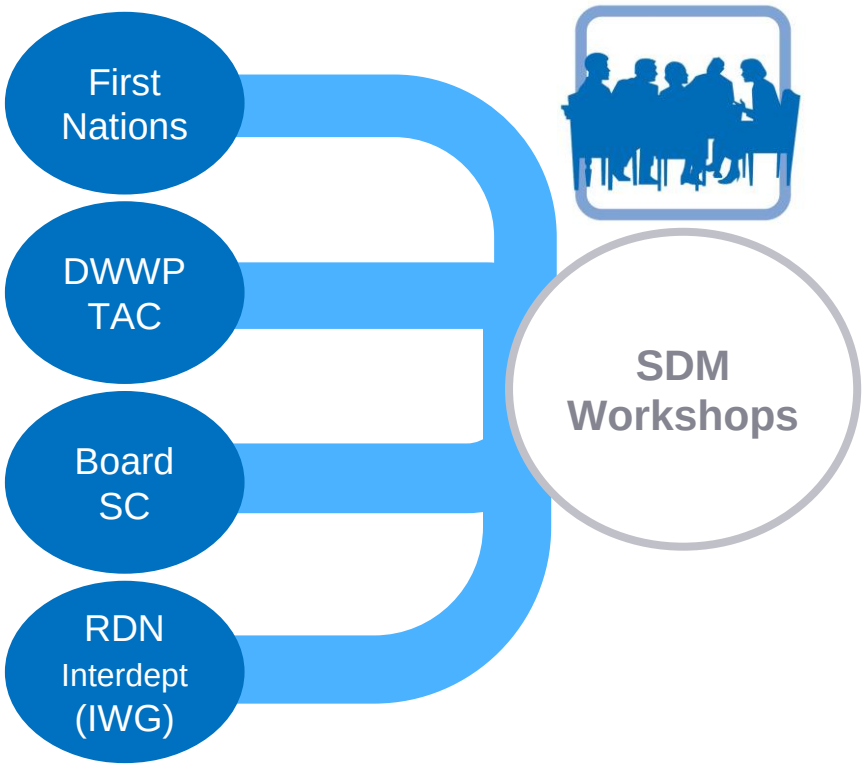
Note: First Nations participation is pending; may be in another format based on their preference, but inputs will be included in the process

THANK YOU FOR YOUR PARTICIPATION!

REGIONAL DISTRICT OF NANAIMO


Drinking Water & Watershed Protection
Technical Advisory Committee & Board
Steering Committee - April 25, 2019
REGIONAL DISTRICT OF NANAIMO
1 -3
Introduction
4
Framing the Current Context
5
Idea Generation: Goals & Objectives
6
Idea Generation: Activities & Initiatives
7
Next Steps

Participation at SDM Workshops



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