



# Drinking Water & Watershed Protection

April 28th, 2021 // Technical Advisory Committee Meeting

**AGENDA**

**ROUNDTABLE**

**REPORTS**

**PROJECT UPDATE  
PRESENTATIONS**



# AGENDA

Approval of the agenda

Adoption of minutes

- Minutes from Feb. 25, 2021

Roundtable Updates

Reports

Project Update Presentations

New Business

Adjournment



REGIONAL  
DISTRICT  
OF NANAIMO



# ROUNDTABLE UPDATES

All committee members

RDN  
Staffing  
Updates





## Randy's Retiring!

Let's show him our appreciation for Chairing this committee and providing his steady leadership to our dept. over the past 8 years - we'll miss you Randy!





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### Congrats Capri!

Now our PFT  
Stewardship  
Coordinator

### Farewell Sarah!

Moving on to a new  
job for the Province  
in Smithers, BC

### Welcome (TBA)!

Our new PFT  
Outreach  
Coordinator,  
starting May 10th



# REPORTS

**Updated TAC  
Terms of  
Reference**

**WaterSmart  
Outreach  
Review &  
Redesign**



# DWWP Technical Advisory Committee - Terms of Reference Update

- Based on input & feedback received during the 2018-2019 Action Plan update process
- Endorsed by the Board on March 23, 2021.
- Format and language consistent with other RDN Committees; previous omissions rectified.
- Reduced Academic Membership to 1 member (VIU) & Forestry Industry Membership to 1 member (Mosaic).
- Cowichan Valley RD not an official member but invited as guest / observer.

## NEW:

- 1 member - Professional Hydrologist
- 1 member - Agricultural Community (at-large)
- 3 members - Indigenous Community Representatives

Appoint new members  
by next meeting in  
Sept.

Application process for  
at-large members to  
take place in Oct.

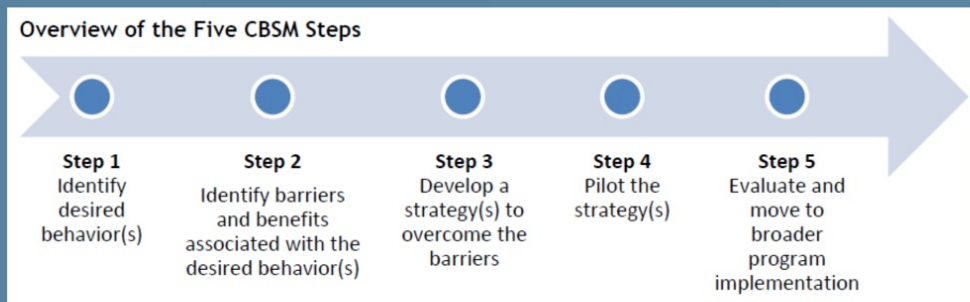
# WaterSmart Outreach Programs Review - Implementing Behaviour Change Practices



Community-Based Social Marketing (CBSM) Project to evaluate how RDN's Team WaterSmart outreach programs align with behaviour change principles and best practices, as well as recommend strategies to improve impact, equity, and uptake.

Behaviour change strategies include identifying and overcoming barriers, direct and personal contact, developing community norms, and behaviour change tools. This includes commitments, prompts, vivid and effective communication, feedback, incentives, and social diffusion.

Project has concluded with delivery of capacity-building training, program matrix for ongoing program tracking and recommendation report, including outreach during a pandemic and sample survey.



## Goal is to bridge the Intention-Action Gap!



# WaterSmart Outreach Programs Review - Recommendations

- Evaluated Team WaterSmart online and print resources, Water Saver Contest and yard signs, Irrigation Check-up Service, workshops and presentations, water stewardship incentive programs and provided program specific recommendations.
- 14 overarching program-wide recommendations related to integrating behaviour change into all outreach programs, surveying residents to determine barriers/motivators and awareness/attitude, breaking down barriers and leveraging motivators, commitment strategies, reminders, and social norm development.
- The consultant review identified several behaviour change approaches are already being effectively integrated in our current initiatives. By adopting recommendations, Team WaterSmart can extend outreach initiatives to foster social norms and generate behaviour change.



<p><b>Watersaver Contest / Watershed Friendly Yard Campaign</b></p> <p>A draw entry form that asks outreach booth attendees how they conserve water at home and encourages taking a water saver sign to place on their lawn to showcase their efforts. A draw is also held at the end of the season for a rain barrel giveaway.</p> <ul style="list-style-type: none"> <li>✓ Removes cost barrier to obtaining a rain barrel for the prize winner.</li> <li>✓ Obtains written commitment via the draw entry form.             <ul style="list-style-type: none"> <li>✓ Establishes public commitment and social norm when lawn sign is installed.</li> </ul> </li> </ul>	<p><b>Barrier Removal Strategies</b></p> <ul style="list-style-type: none"> <li>• Personalized interactions at outreach booth focused on addressing/overcoming barriers and promoting motivators related to water-smart gardening practices.</li> <li>• Rain barrel purchase incentive or rebate</li> <li>• Rain barrel installation support, incentive, or rebate (support including lawn sign installation)</li> </ul> <p><b>Commitment / Reminder Strategies</b></p> <ul style="list-style-type: none"> <li>• Seek verbal, written, public commitments at the outreach booth after successfully removing and breaking down barriers to action as presented by visitors</li> <li>• Add "I am WaterSmart" messaging to lawn signs to help reinforce peoples' perceptions of themselves as being water conscious through a public commitment</li> </ul> <p><b>Social Norm Development</b></p> <ul style="list-style-type: none"> <li>• Add "I am WaterSmart" messaging to signs to demonstrate to neighbours that people are water conscious.</li> </ul>
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- Potential pilot programs:
- Master steward community champion program
  - Waterdrop or blue stream social norm development campaign



# PROJECT UPDATES

PRESENTATIONS

**Awareness &  
Stewardship**

**Information  
& Science**

**Policy &  
Planning  
Support**



**Water to  
Earth Month  
Wrap-up**

**DWWP  
Video Series**



# **Awareness & Stewardship**

**School  
Curriculum  
Modules**

**Seedfunding  
Applications**



# Water to Earth Month 2021

- 5th annual celebration occurring between World Water Day (March 22) and Earth Day (April 22)
- 20+ activities to engage the community in learning about our local water resources and encourage water stewardship practices across the region
- Participants able to win 1 of 3 prize packs for submitting a completed Activity Passport



Prize Pack	Description
Rain Barrel Prize Pack (x2)	Rain Barrel + Native Plants/Seeds + WaterSaver Sign
Zero Waste Prize Pack	RDN Zero Waste Kit + Native Plants/Seeds + Beeswax Wraps



# Water to Earth Month 2021 - Engagement

## Water to Earth Month Interactive Webpage (GetInvolved)

- 1.7k visits to the Team WaterSmart GetInvolved Page
- 62 passports downloaded
- 3 passports submitted so far
- Radio, print and digital advertisements

Webinars	Registered	Attended
Rainwater Harvesting	41	13
Regenerative Landscaping	30	7
Efficient Irrigation	30	9
Wetlands	20	7

Trivia	Participants
Kahoot!	2
Instagram (RDNanaimo)	129



# DWWP Educational Video Series




The DWWP video series will be used as an **engagement tool**, to be viewed online and through social media, to:

- Raise awareness around the Drinking Water & Watershed Protection program in the region.
- Inform residents and business owners in the region about key messages to do with water conservation, watershed health, and protection of water resources.
- Capture the visual beauty and emotional appeal of water in our region.
- Showcase real people working in water and water stewardship.
- Inspire people to understand why they should care and engage.

We will create 6 educational short videos, 2 –3 minutes in length, with **themes** including:

- What is a watershed; the source of your drinking water; water connects us; water challenges; water science and stewardship; and the water sustainable future.

## Project timeline:

- >> March – April: Draft scripts revised and edited 
- >> May: Scripts finalized and filming schedule developed
- >> June – August: Filming, video production and sample video, video clips and social media plan
- >> September: Video review and final editing, delivery for River's Day 2021



# School Curriculum Connected Freshwater Stewardship Modules

- Primary K-3 & Intermediate 4-7
- SD68 & SD69
- Input from Indigenous Learning Coordinators
- PowerPoint slide decks with accompanying activities
- Materials / kits for sign-out
- Linkages to DWWP multimedia - video series, interactive watershed map
- Extensions for streamside activities, self-guided field trips, guest speakers etc.

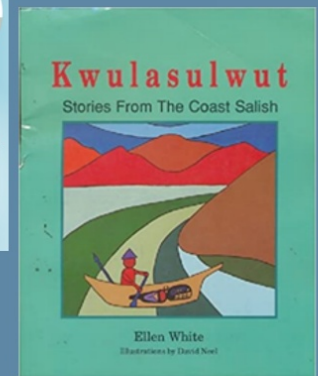


**PART 4: How water connects us**  
Slides 40 – 41  
45 Minutes

<b>Materials Needed</b>	<ul style="list-style-type: none"><li>• Paper cup, 1 per group, plan for 4 students per group.</li><li>• String, ~4 metres per group cut into 4 equal lengths.</li><li>• Jug of water</li><li>• Chalk</li></ul> <p><b>BOOK – borrow from RDN library prior to the class? Kwulasulwut</b> by Ellen White</p>
<b>Introduction</b>	<p>a. Prepare the game pieces prior to starting this activity. This activity is done in groups of 4, either one group at a time or multiple groups at once. Poke 4 small holes near the top of each paper cup, around the Tie a large knot at the end of each string and thread the string through each hole in the cup, with the knots on the inside of the cup. See pic at slide 41.</p> <p>b. Start with a class discussion about how we need each other, and the everything in our natural world is important and connected. For exa</p>



On track to roll-out in September...



# Stewardship Seed Funding

## As of 2020:

19 Projects have been supported.

Little Qualicum to Holden Creek.

Total of \$28,716.93.

All completed through collaborative partnerships, i.e., 2019 MVIHES Estuary Water Quality Sampling.

## 2021 so far:

One project allocated funding to-date: Departure Creek off-channel to side-channel.

Partners & Volunteers: *Departure Bay Neighbourhood Association, City of Nanaimo, Snuneymuxw First Nation, Departure Creek Streamkeepers, Nanaimo and Area Land Trust, & Departure Bay Ecoschool.*

Additional Funding Sources: *Pacific Salmon Foundation, CoN, SFN, DBNA, & NALT.*

## 2021 potential projects:

French Creek Estuary monitoring.

Dudley Creek / French Creek enhancement.

Chase River / Cat Stream enhancement / monitoring.





**Public  
Benchmark  
Survey**

**Wetland  
Monitoring  
Citizen  
Science**

**CWMN Surface  
Water Quality  
Data Results**

**Groundwater  
Data Mgmt  
System  
Development**



**Information &  
Science**

# Freshwater Perspectives - Public Benchmark Survey



- Awareness of / involvement in the DWWP program
- Awareness of drinking water source
- Habits, behaviours and actions to do with water use and conservation
- Habits, behaviours and actions to do with water quality protection
- Perspectives on watershed management and ecosystem health
- Perspectives on status of water resources in the region
- Priorities for freshwater initiatives and stewardship
- Others as agreed upon in further project scoping discussions

RFSQ received 4 submissions

Completing procurement process with top ranked firm: Ipsos

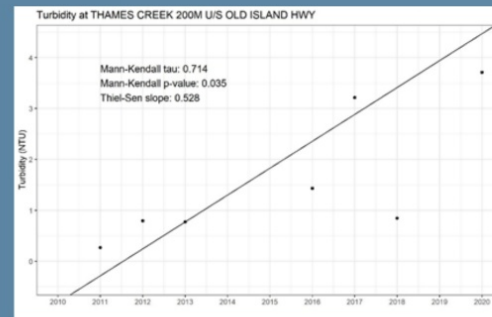
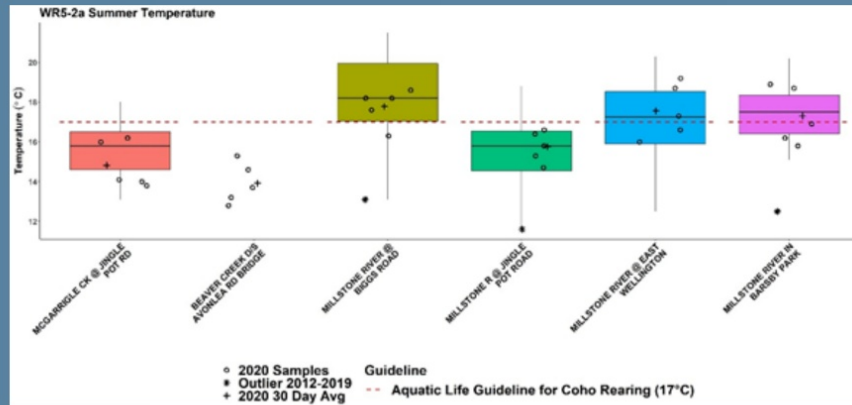
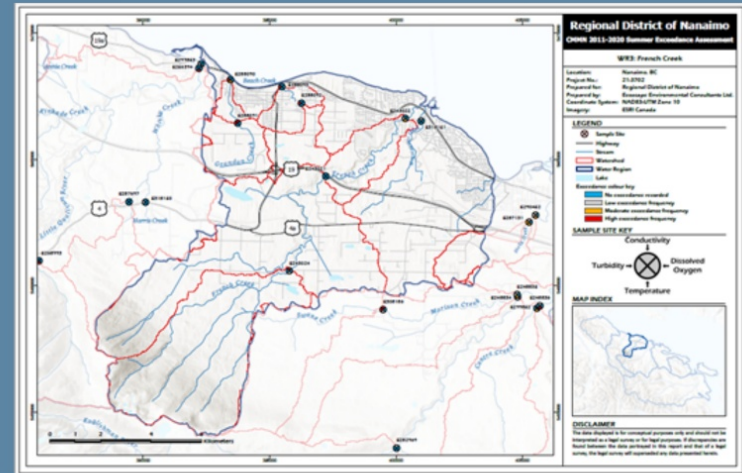
Proposed workplan received includes:

- collaborative questionnaire design (May/June)
- mixed telephone / online survey sampling (July)
  - target 800 telephone surveys - approx. split 300 Nanaimo, 100 LV/PV/TQB each, 200 Electoral Areas combined
  - estimate online sample size of 500; to boost EA participation invitation postcards will be mailed out to a random distribution evenly spread across the 7 EAs
- projected sample size 1,300
- analysis, reporting & presentation - broken down by municipality, EA, demographic, watershed, water source etc. (September)



# Upcoming CWMN Surface Water Quality Results Session

- Wed. May 5, 2021, 10am – noon on Zoom.
- Presenting:
  - Summary of data collected in 2020
  - Trend analysis completed for 2011 – 2020 data.
- Data graphing, review and analysis completed by Ecoscape Environmental Ltd.



Final report from Ecoscape will be sent to TAC & volunteers Monday May 3rd

# Wetland Monitoring Continuation w/ Citizen Science Approach

Priority sites will be monitored by volunteers trained and accompanied by a MABRRI staff person to continue data collection in 2021.

Volunteer groups were oriented to the project earlier this month and just completed their first of four seasonal site visits --- Arrowsmith Ground Water Alliance & Quennell Lake Watershed Stewardship Society.

**MABRRI**  
Mount Arrowsmith Biosphere Reserve Research Institute

**VANCOUVER ISLAND UNIVERSITY**

### Wetland Monitoring Datasheet

Wetland Name			
Observer(s) Names			
Date			
Weather (circle)	Clear	Partly Cloudy	Overcast
	Light Rain	Heavy Rain	Snow/Sleet
	Other		
<b>Hydrology</b>			
Percentage	Open Water	% of Full Pool with Open Water	Notes
5%			
5% - 25%			
26% - 50%			
51% - 75%			
76% - 100%			
Water Distribution (circle)	Central	Notes:	
	Patches/Diffused		
Dries seasonally? (circle one)	Yes	Notes:	
	No		
	Unknown		
Algal mat presence (circle one)	High	Low	None
Emergent Vegetation	Yes	No	
<b>Water Quality</b>			
Water Sample 1:	Zone 10	mE	mN
Clarity (circle one)	Very Turbid	Turbid	Clear
	Yellow-Brown	Green-Brown	Blue-Green
	Green-Brown	Turbid	Colourless
Water Temp	°C	Notes:	
pH			
Water Sample 2:	Zone 10	mE	mN
Clarity (circle one)	Very Turbid	Turbid	Clear
	Yellow-Brown	Green-Brown	Blue-Green
	Green-Brown	Turbid	Colourless
Water Temp	°C	Notes:	
pH			
<b>Preliminary Surrounding Vegetation Observations</b>			
Note all species found (dominant, rare, invasive, etc.)			



<b>Photo Point Monitoring</b>			
Point #			
Did you find the exact point?	Yes	No	
How was the point marked?			
GPS Location (UTM)	Zone 10	mE	mN
Photo 1 Direction (use compass)		Photo 2 Direction (use compass)	
Notes:			
Point #			
Did you find the exact point?	Yes	No	
How was the point marked?			
GPS Location (UTM)	Zone 10	mE	mN
Photo 1 Direction (use compass)		Photo 2 Direction (use compass)	
Notes:			
<b>Instrumentation Download</b>			
Piezometer #1			
Water Reference Level	Time Logger is Relunched		
Piezometer #2			
Water Level Reference 1	Time Logger is Relunched		

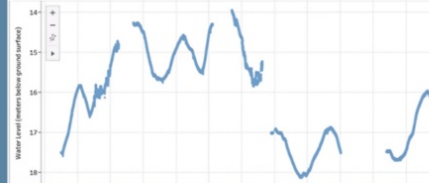
# Groundwater Data Management System Development

Advancing the DWWP Data Management Plan recommendations (Golder, 2016) with a three tiered approach. Working with GW Solutions to develop this system...

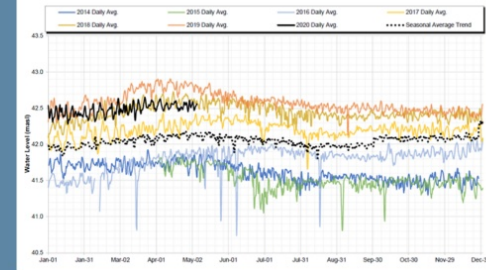
1. Data storage & processing via creation of a database.



2. Data visualization.



3. Data analysis & sharing.



- \* Initiate project in May 2021
- \* Complete by end of October 2021





# Policy & Planning Support

Rainwater  
Management  
Projects

French  
Creek Phase  
3 Water  
Budget

Water  
Sustainability Act  
Objectives  
Webinar



# Water Sustainability Act (WSA) Objectives

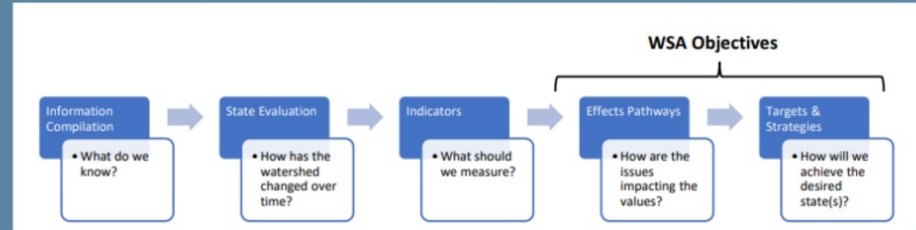
UBCM and Ministry of Environment and Climate Change Strategy hosted a webinar on March 31, 2021.

They shared information about the **proposed policy development process for WSA Objectives and potential roles & opportunities for local government participation**. The broad vision for WSA Objectives is that they sustain aquatic ecosystem and human health values.

## WHAT COULD WSA OBJECTIVES LOOK LIKE?

An approved set of WSA Objectives would likely specify, at a minimum:

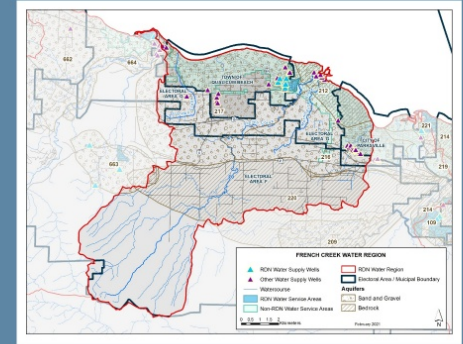
- The objectives/values to be sustained,
- The extent of the specified applicable area (e.g., watershed),
- The provincial legislation to which the WSA Objectives apply,
- Targets and strategies for implementation of the objectives, and
- How decisions under the applicable legislation are affected by the WSA Objectives.



## Key Points:

- WSA Objectives can be designed to apply across a range of Provincial resource management decisions and local gov. planning processes, in addition to decisions under the WSA.
- Can be collaborative, Province-led, or supportive of another initiative or agreement.
- Intended to have space in the process for implementing UNDRIP, including Indigenous knowledge and meaningful engagement of Indigenous communities.
- Can be developed as a regulation or a policy.
- Development would involve a technical & watershed advisory group who would identify values, building a conceptual model, selection of indicators, monitoring & adaptive management.

# FRENCH CREEK WATER REGION - WATER BUDGET PHASE 3



RDN Board has approved up to \$150,000 of Electoral Area G Community Works Funds be allocated to this projects, recognizing that there will need to be other funding partners as well.

No other updates since last meeting, but wanted to keep it on the committee's radar.

- Project scoping pushed to May / June - *will be reaching out to some committee members directly on this.*
- Procurement targeted for July / August
- Kick-off September 2021
- Completion by December 2022





# Rainwater Management Projects

More detailed update to be given May 18th to the RDN Rainwater Working Group.

1. Watershed Performance Targets for Rainwater Management - French Creek Water Region
  - Received \$10K Infrastructure Planning Grant from Province
  - Engaged Northwest Hydraulics Consultants (NHC)
  - Data compilation complete
  - Model selected and being built
2. Regional Rainwater Management Strategy Development
  - Posted RFSQ; closed April 20th with 4 submissions
  - Internal review will take place next week
  - Aim to start project in June



# THANK YOU!

Next meeting September 29, 2021

