



Drinking Water & Watershed Protection

September 10, 2019 // Technical Advisory Committee Meeting + Board Steering Committee

AGENDA

REPORTS and
DISCUSSION

PRESENTATIONS

LOOKING AHEAD

AGENDA

Approval of the agenda

Adoption of minutes

- Summary of DWWP Action Plan Update Structured Decision-Making Workshops
- Minutes from April 25 2019

Presentations

Unfinished Business

Reports

New Business

Adjournment



PRESENTATIONS FROM STAFF

Fourth quarter updates

AREA F WATER
STUDY

AREA E PHASE 3
WATER BUDGET

WETLAND
RESEARCH

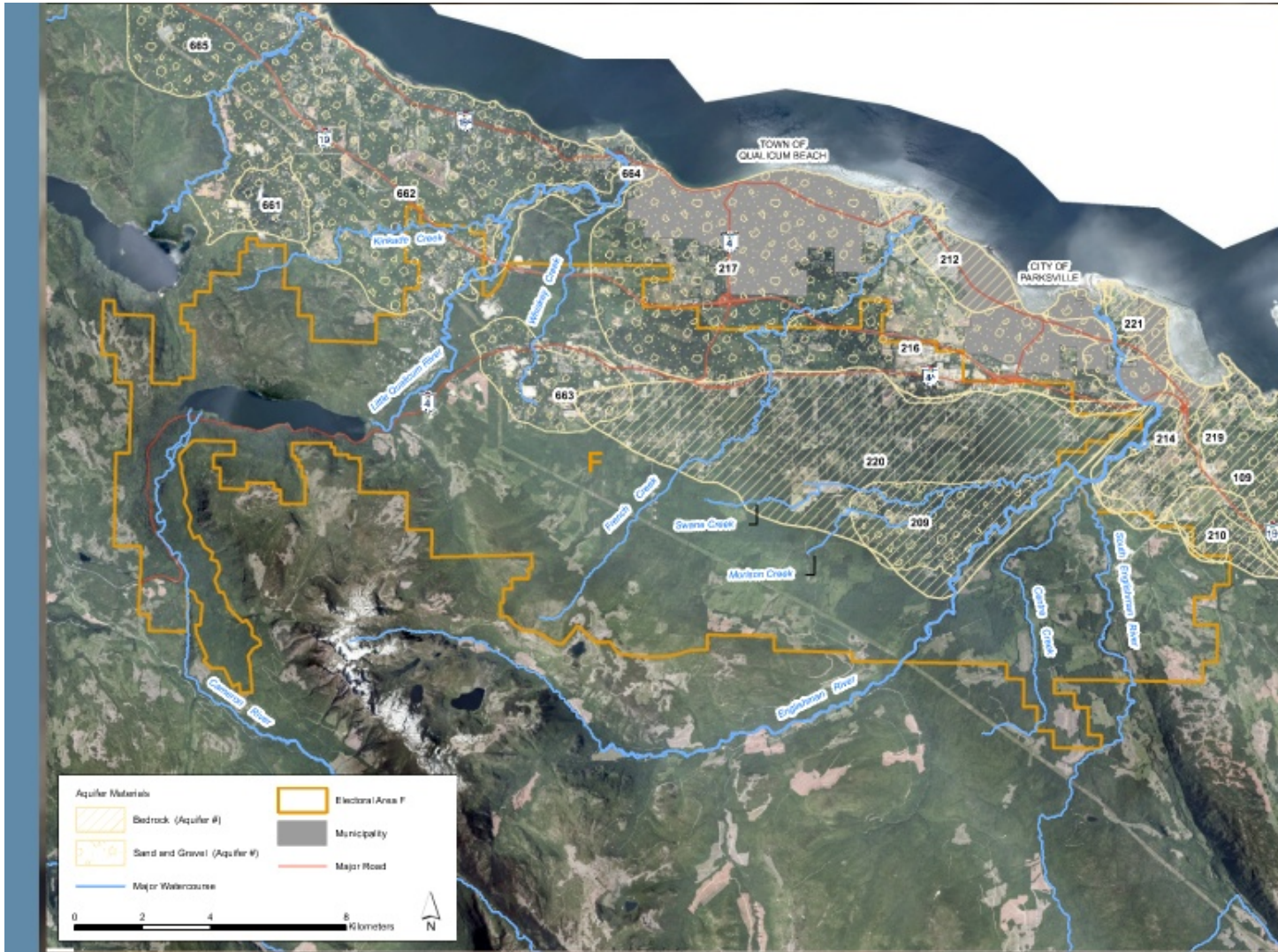
MONITORING
PROGRAMS

REBATES

TEAM WATERSMART
ACTIVITIES

**AREA F
OFFICIAL
COMMUNITY
PLAN WATER
STUDY**





Water Quality +
Quantity
Characterization

WATER QUALITY + QUANTITY RISK CHARACTERIZATION

CONSULTING HYDROGEOLOGISTS: GW SOLUTIONS

- Data compilation ✓
- Water quality exceedance analysis ✓
- Spatial and temporal evolution of water quality
- Land uses and water quality links
- Analysis of surface water flow, groundwater levels and precipitation
- Identification of water quantity concerns
- Outline best practices, mitigation measures and policy recommendations for OCP
- Submit maps and report

TIMELINE



Draft completed early December, finalized in January in time with OCP public engagement

AREA E (NANOOSE) PHASE 3 WATER BUDGET



CONSULTING HYDROGEOLOGISTS: GOLDER

Objective: to develop and calibrate a numerical water budget model to run scenarios to understand impacts of changes to climate, water demand and land cover

Additional scope supported by the Province:




Refinement of mapping and classification of Aquifers #219 and #1098

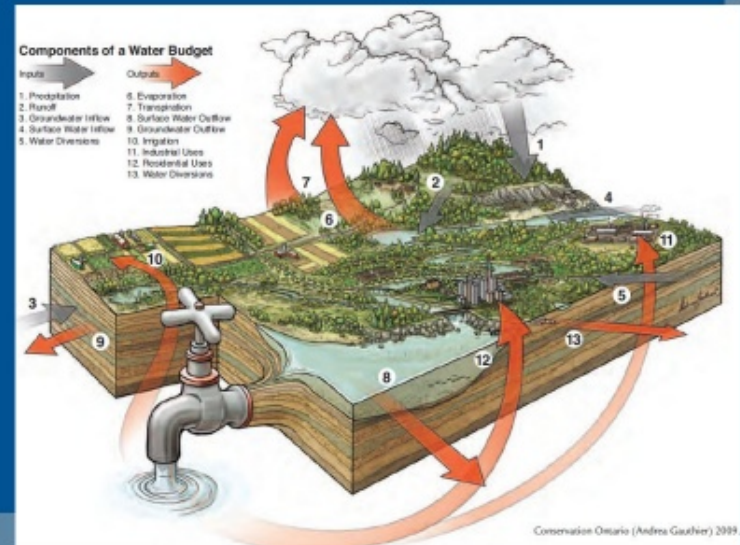
Update aquifer boundaries and descriptions

Funded through the ENV 2019/2020
Groundwater Science Program



TIMELINE

- Data Compilation, Extraction, Processing 
- Model Development 
- Model Calibration and Sensitivity Analysis  **WE ARE HERE**
- Milestone Meeting END OF SEPT
- Water Budget Analysis and Scenarios OCTOBER
- Draft Report NOVEMBER
- Final Report DECEMBER



WETLAND MAPPING & MONITORING PARTNERSHIP WITH VIU & MABRRI

Year 4 out of 5 -- 2019 Objectives



Wetland
inventory

Priority
sites

Long-term
monitoring
instrumentation

Wetland
policy
Literature
Review

Wetland Inventory

Ongoing - mapping, groundtruthing & wetland classification, this year in Englishman River and Gabriola Water Regions.

- Access from 11 private property owners on Gabriola granted to do reconnaissance and mapping
- Still awaiting access to private forest lands in Englishman River Water Region for two+ wetlands identified for groundtruthing



Priority Sites

Through GIS analysis the following parameters were used to prioritize the sites, including:

Proximity to:

- observation wells (provincial or volunteer);
- climate station(s);
- hydrometric station(s);
- fish streams; and
- community water supplies (points of diversion and BC wells).

Six priority sites were selected for seasonal visits, ongoing monitoring 3-4 times per year to record notable seasonal variation.



Long-term monitoring instrumentation

One out of the 6 priority sites was selected for instrumentation for continuous data collection of water levels and temperature.

This will be piloted and potentially expanded to other priority locations if successful.

Cost analysis for different instrumentation options was completed and HOBO loggers were selected.

Instrumentation will take place this fall with assistance of professor Jerome Lesseman



Wetland Policy Literature Review

Draft submitted for review last Friday.

Document is meant to summarize key policy tools and best practices from across Canada, and provide recommendations on application in the Regional District of Nanaimo setting.

Wetlands Ecosystem Services, Policy &
Best Practices: A Literature Review

Prepared for:
Regional District of Nanaimo's Drinking Water and Wastewater Protection Program

Prepared by:
Maud Amersbach-Bishop's Ecosystem Research Institute



WATER MONITORING PROGRAM UPDATE

Surface Water Quality

- The Community Watershed Monitoring Network
- 2018-2019 2019-2020
- 2019-2020 2020-2021
- Water Quality
 - Water Quality
 - Water Quality
 - Water Quality
- Water Quality
 - Water Quality
 - Water Quality
 - Water Quality



www.cwrn.ca



The Community Watershed Monitoring Network in 2019

- 2019 Addressing gaps in the network
 - 2019 Addressing gaps in the network
 - 2019 Addressing gaps in the network
 - 2019 Addressing gaps in the network
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 - 2019 Addressing gaps in the network



www.cwrn.ca

CWRN 2019: Biomonitoring

- 2019-2020 2020-2021
- 2019-2020 2020-2021
- 2019-2020 2020-2021
- 2019-2020 2020-2021

www.cwrn.ca

Surface Water Quantity

- 2019-2020 2020-2021
- 2019-2020 2020-2021
- 2019-2020 2020-2021
- 2019-2020 2020-2021



www.cwrn.ca

Groundwater Quantity

The Volunteer Observation Well Network

- 2019-2020 2020-2021
- 2019-2020 2020-2021
- 2019-2020 2020-2021
- 2019-2020 2020-2021



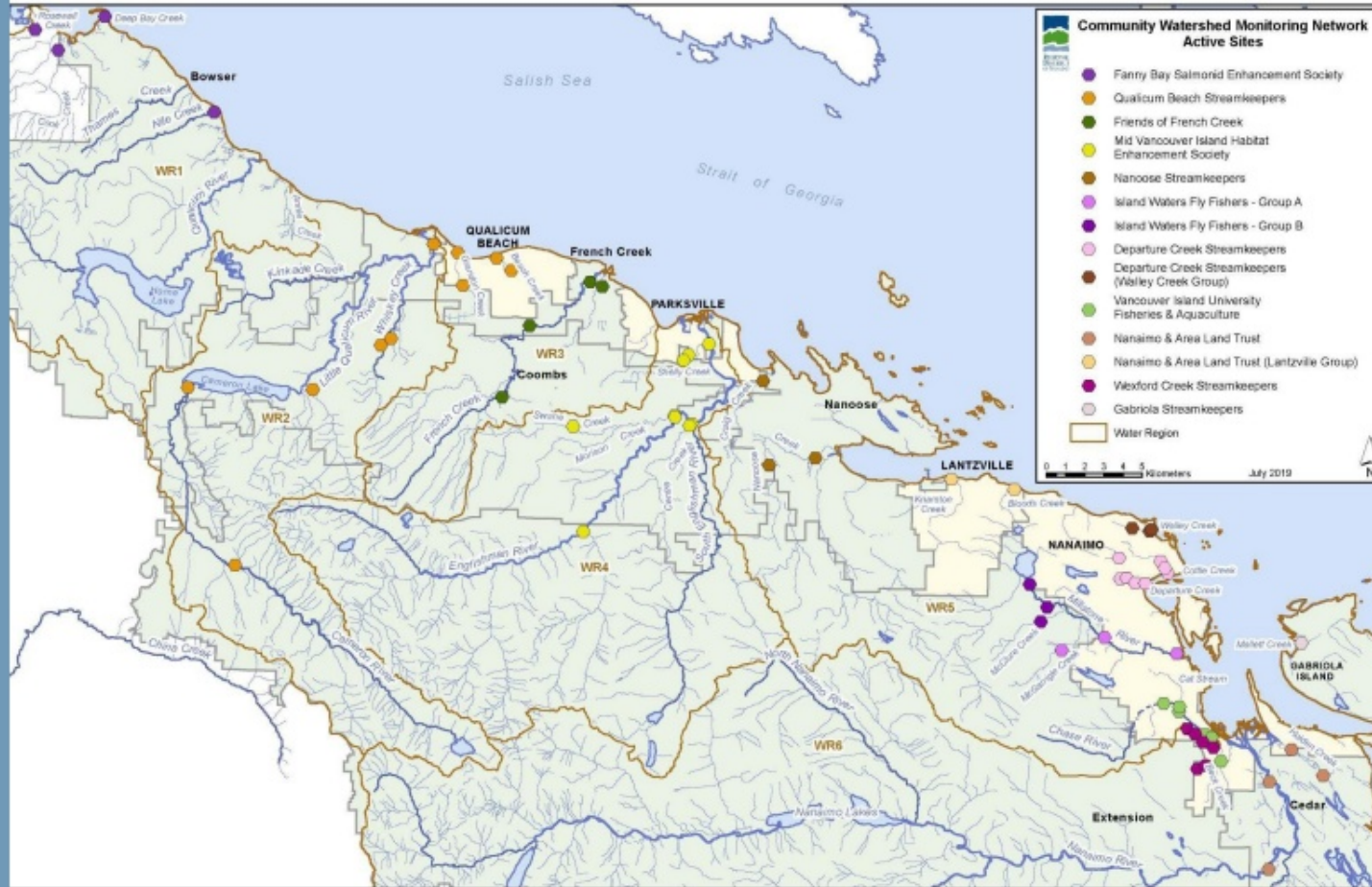
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Surface Water Quality

- The Community Watershed Monitoring Network
- 2018 Trend analysis
 - CWMN data 2011 – 2017
 - Three analyses:
 - Sites of concern,
 - Changes over time,
 - Watershed characteristics & land uses.
 - Report recommendations:
 - Additional lab analysis,
 - Biomonitoring,
 - Riparian planting,
 - Targeted public education.



July 10, 2019 Little Qualicum River at Intake



The Community Watershed Monitoring Network in 2019

- 2019 Additional Lab Analysis:
 - Total Phosphorous:
 - Sites with >20% agricultural land use
 - Monthly samples May – Sept
 - 12 sites
 - Chloride:
 - Sites with >0.002m/m² road density or adjacent stormwater outfall
 - 5 in 30 low flow
 - 9 sites

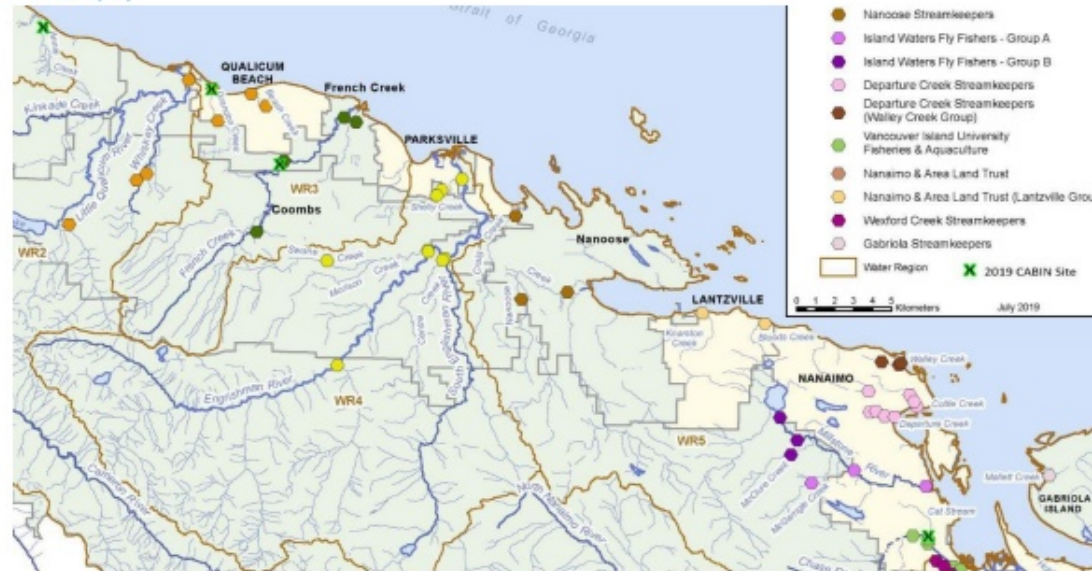


May 24, 2019 T-P sampling (L to R): Alana & Rosie ENV, Gord QBSS



CWMN 2019: Biomonitoring

- CABIN methodology
 - Indicator of watershed health
 - Assess effectiveness of restoration efforts
 - 4 sites (X)
- eDNA
 - University of Guelph STREAM pilot
 - Similar collection method
 - Results later this year



Surface Water Quantity

- 2 lake level sites
 - Holden and Quennell Lakes
- Hydrometric Stations
 - Morningstar and Walley Creeks



June 13, 2019 Holden Lake site



July 31, 2019 Morningstar Creek hydrometric station

Groundwater Quantity

The Volunteer Observation Well Network

- 27 groundwater level sites
- Plus 3 Area E sites
- 2019 maintenance and removals
 - Updating logger housing
 - Removing one logger (straddles two aquifers)
- Addition of 4 barologgers



June 17, 2016 Northwind site





Water Stewardship Rebates

- RDN offers rebates to promote water stewardship through alternative water sources, watersmart gardening, and ground water protection
- Rainwater Harvesting, Irrigation Upgrades & Soil Improvements, Wellhead Upgrades, and Well Water Testing
- 3 step process to apply: Pre-approval Application, Work Completed, Claim Application

www.rdn.bc.ca

Rainwater Harvesting Rebate

- Rebate of up to \$750 for a minimum of 1000 imperial gallon cistern and other eligible costs
- Rebate is now closed for Area B, still open for all other Areas/Muni's
- Claim submission deadline by December 13th 2019

Total Allocated	Total Issued	# Applications	# Issued
\$20,250	\$11,127	27	15

Area A	Area B	Area C	Area E	Area F	Area G	Area H	Nan	Lantz	Parks	QB
3	8	1	2	4	1	1	5	2	0	0

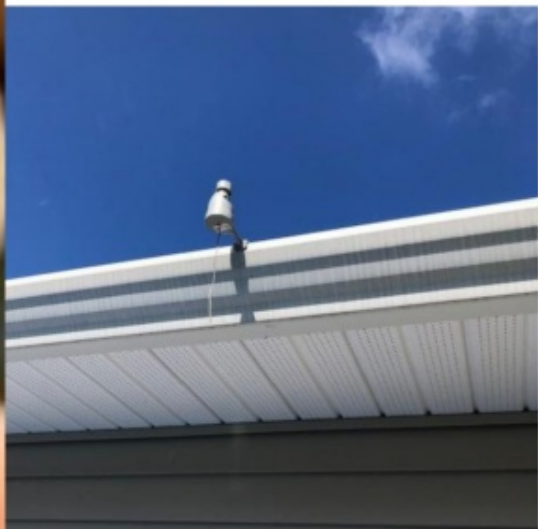


Irrigation Upgrades & Soil Improvements Rebate

- Rebate of up to \$675 for irrigation upgrades and/or the addition of compost, top soil, or mulch
- Rebate is still open and accepting applications
- Claim submission deadline of December 13th 2019

Total Allocated	Total Issued	# Applications	# Issued
\$9,125	\$5,637	44	34

Area A	Area B	Area C	Area E	Area F	Area G	Area H	Nan	Lantz	Parks	QB
2	1	1	1	0	10	2	22	0	3	2



Wellhead Upgrades Rebate

- Rebate of up to \$650 for secure well cap, well casing stick-up and surface seal upgrades. \$500 for well closure.
- Closed for Area B, open for all other Area's/Muni's
- Claim submission deadline is December 13th, 2019

Total Allocated	Total Issued	# Applications	# Issued
\$4,550	\$2,818	9	7

Area A	Area B	Area C	Area E	Area F	Area G	Area H	Nan	Lantz	Parks	QB
0	6	2	0	0	0	0	0	1	0	0



Well Water Testing Rebate

- Voucher for 50% off of a full spectrum analysis from an accredited lab
- Rebate still open and accepting applications for 2019



Total Issued	# Applications	# Issued
\$5,775	63	58

Area A	Area B	Area C	Area E	Area F	Area G	Area H	Nan	Lantz	Parks	QB
7	20	12	6	6	5	1	0	6	0	0

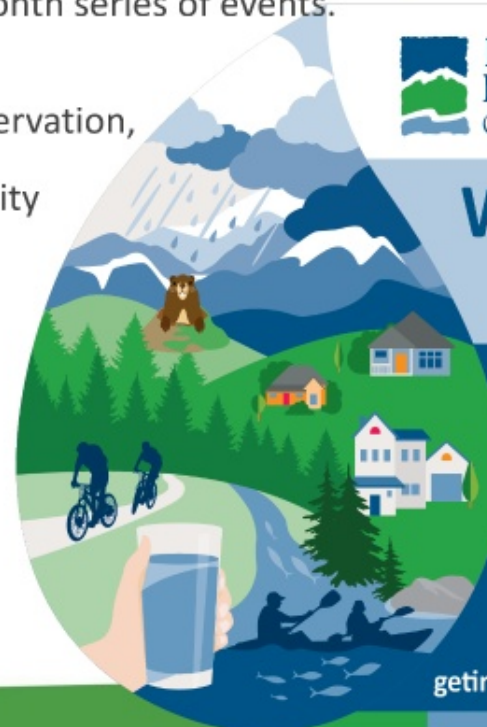
TEAM WATERSMART UPDATE



2019 Water to Earth Month



- 3rd Annual Water to Earth Month series of events.
- Aims to promote water conservation, environmental education, RDN programs, and community stewardship.
- Over 10 individual events over a 1 month period.
- Many partners throughout the regional district.



is celebrating
2019

**Water to Earth
Month** MARCH 16
- APRIL 27

*Activities and events
to celebrate both
World Water Day
and Earth Day!*

Get Involved RDN!

getinvolved.rdn.ca/team-watersmart

www.rdn.bc.ca

Events

- Over 20 community events attended annually
- Engage with residents and communities
- Offer expertise and educational material
- Promote conservation and awareness through kid's activities, native plant giveaways, surveys, contests and more!

City of Nanaimo Public Works Day	Family Fishing Day	Qualicum Beach Day	Cedar Farmers Market
Lighthouse Country Fall Fair	Bowser Summer Market	Rivers Never Sleeps	Gabriola Ocean's Day
Parksville Canada Day	VIU Sustainability Fair	Nanaimo Earth Day	Coombs Fair
Second Sunday Market	Islands Trust Well Owner Workshop	Coombs Fair	Gabriola Farmer's Market
Errington Farmers Market	QB Farmer's Market	Lantzville Mine Town Day	+ more!



Social Media Campaigns

WaterSmart Word of the Week (10 weeks)

- Rain Garden
- Watershed
- Riparian

#WaterWiseWednesday (Ongoing)

- Short showers
- Toilet water displacement
- Long lawns

Other

- Event promotions (Facebook and Twitter)
- Real time event posting (Instagram)
- Contest winner announcements (Facebook and Twitter)



TEAM WATERSMART WORD OF THE WEEK:

URBAN RUN-OFF

Our urban environment is covered by hard and impermeable surfaces such as roads, driveways and parking lots. When it rains, these surfaces facilitate the movement of water towards our storm drains.

Unfortunately, the majority of storm drains lead straight into our ocean or local creeks and streams!

Trash, food, animal waste, motor oil, industrial pollutants, fertilizers and pesticides are all contaminants that get taken along for the ride and compromise the quality of the water. These substances are harmful to our fish, wildlife and precious water resources.





**TEAM WATERSMART
WORD OF THE WEEK:**

STREAM BANK EROSION

Stream bank erosion occurs where streams begin cutting deeper and wider channels as a consequence of increased peak flows or the removal of local protective vegetation within the riparian zone.

Stream bank erosion can cause many problems for streams, wildlife and residents such as an increase in stream sediment and turbidity,

habitat destruction, channel widening and damage to infrastructure.

Increased sedimentation and turbidity within a stream causes significant problems for salmon spawning habitat. Coho salmon do however love a nice undercut bank to hide from predators!



2019 Irrigation Checks

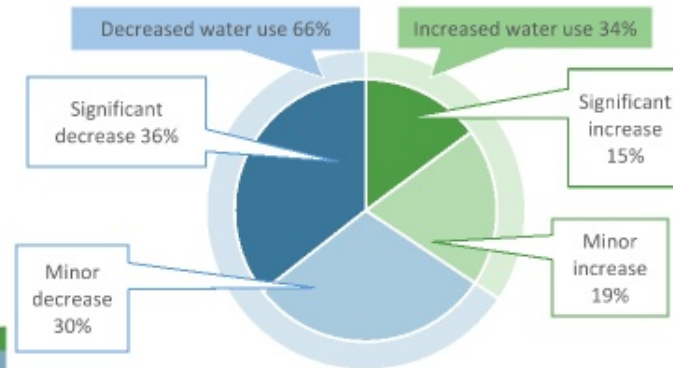
- Over 20 irrigation checks performed on high water user's homes within Regional District

Nanaimo (4), Qualicum Beach (5), Parksville (6),
Nanoose Bay (4), Lantzville (2)

- Educate homeowners on conservation

Table : Water Conservation Outcomes following TWS-ICS (2011-2018)

Observed Change	Total Volume Associated (m ³)	Average Volume per Year (m ³)
Overall volume saved	4927.7	704.0



2019 Spring and Fall Watershed Field Trips

Spring 2019

- 1 trip for SD68, 1 trip for SD69

Fall 2019

- 3 trips for SD68, 3 trips for SD69

- Fun and educational
- Work collaboratively with partners



2019 Workshops

WellSMART Workshops

- Free education on groundwater protection through proper well maintenance and operation
- Partnership with FLNRO and Island Health
- 3 workshops: Oct 8th in Area B, Oct 15th in Area E, and Oct 29th in Area C

Nanoose Gardening Club WaterSmart Workshop

- November 1st: Presentation on waterwise gardening and conservation tips that aid or restore watershed function in a changing climate

Pacific Gardens Wetlands Workshop

- November 16th: Wetland themed presentation by RDN, NALT & Alder Environmental at Pacific Gardens Co-housing in Nanaimo
- Wetland native planting supported by RDN



Thank you!



**MoH Guide:
Rainwater
for Potable
Use in BC**

REPORTS

FOR DISCUSSION

Draft RDN DWWP Action Plan 2.0

Draft document for review from Ministry of Health



HISTORY

KEY
POINTS

COMMENTS?

HISTORY

The Regional District of Nanaimo originally brought this topic to UBCM in 2016, and again in 2017 and 2018 under the premise that:

- small water systems would benefit from utilizing rainwater as an alternate / additional source to reduce demand and stress on traditional water sources such as groundwater or surface water.
- and, a comprehensive, research-based framework to guide rainwater source approvals would improve the prospect of rainwater being used as a safe alternative drinking water source for small water systems in BC.



Resolution on Rainwater as a Potable Water Source

February 5, 2018 • Featured, General Interest, News, Reports • ANCC, objectives, potable, Province, rainwater, resolution, treatment, VISA, water • Water Smart

The Regional District of Nanaimo Board has forwarded a resolution regarding Rainwater as a Potable Water Source to the Association of Vancouver Island and Coastal Communities (AVICC) for consideration at their 2018 AGM and convention in April.

If the resolution is adopted at the AVICC convention, then it is forwarded to the Union of BC Municipalities convention in September.

The resolution urges the Province via the Ministry of Health to develop **rainwater-specific**:

- treatment objectives and standards
- source characterization protocols
- infrastructure requirements

... for small water systems in BC that are regulated under the Drinking Water Protection Act. Small water systems purvey water to the public, for example community centres, restaurants, mobile home parks etc. The need for this resolution comes from the fact that many small water systems that operate under the Act exist in water-stressed locations and would benefit from utilizing rainwater as an alternate / additional source of water to protect and reduce demand on traditional water sources, namely groundwater.

Because rainwater is a non-traditional water source, however, the risks are largely unknown. The quality is inherently variable as collection surfaces and environmental conditions differ from place to place. **There are currently no provincial rainwater treatment objectives or standards for characterizing rainwater as a drinking water**

KEY POINTS

Draft Guidance Document for Drinking Water Officers regarding Treatment of Rainwater Harvested for Potable Use in BC

- characterizes harvested rainwater as a type of surface water as defined in the Drinking Water Protection Regulation
- key document references are the BC Surface Water Treatment Objectives & the CSA Rainwater Standard
- rainwater harvested for use as potable water in any drinking water supply system must be disinfected and filtration is recommended (i.e. dual treatment)
- recommends min. 4-log reduction of Giardia and Cryptosporidium, <1 NTU in turbidity and no detectable E.Coli, Fecal or Total Coliforms
- 3 stage risk assessment process
- specific sampling parameters and frequencies may be established by the DWO based on the risk assessment
- Detailed design considerations

Comments to MoH accepted until Oct. 31st 2019.

Does this help rural drinking water systems provide rainwater as a safe alternative potable water source?

Does it cover all the concerns? Does it offer enough flexibility?

Is it too onerous / should it be supplemented with grant fund availability?








Updating the Action Plan


Our vision is for healthy, safe and resilient water resources in the region, enabled through strong partnerships.

Our mission is to provide regional leadership at the watershed scale through coordination of water management, land-use planning and community outreach to support drinking water sustainability, climate adaptation, and healthy watershed ecosystems.

Project Start up  Jan - March

Issue Identification and Idea Generation  April - May

Compilation and Prioritization  May - June "Structured Decision Making Workshops"

Drafting the Plan  WE ARE HERE

Finalizing the Plan *November CoW; Dec Board Adoption*

REVIEW
DRAFT
ACTIONS

DISCUSS
IMPLEMENTATION
STRATEGY

CONSIDER
FUNDING LEVELS
& OPTIONS

REVIEW
PROGRESS
INDICATORS

**WATER-
CENTRIC
PLANNING &
POLICY
SUPPORT**



ACTIONS BY THEME

**WATER
AWARENESS &
STEWARDSHIP**

**WATER
INFORMATION
& SCIENCE**

Water Awareness and Stewardship

Objective:

To increase awareness and stewardship of watersheds and drinking water resources across the region.

DISCUSS: Are these actions complete, clear, consistent with the engagement, & impactful?

Theme	Action	Continuing Sub-Actions (*with enhancements)	New Sub-Actions	Key Implementation Partners (not exhaustive)
WATER AWARENESS AND STEWARDSHIP	5.1.1 Enhance Water Awareness Through Community-Based Team WaterSmart Outreach	<ul style="list-style-type: none"> Tours Community events Curriculum-connected school materials* Irrigation Check-ups Workshops 	<ul style="list-style-type: none"> Market Research Community-based Social Marketing Multi-media engagement Interpretive signage and demonstration sites Youth water leadership projects 	<ul style="list-style-type: none"> Municipalities RDN Parks Mosaic Forest Mgmt. Stewardship groups School Districts
	5.1.2 Incentivize Sustainable Water Stewardship Practices (Rebates)	<ul style="list-style-type: none"> All current rebates 	<ul style="list-style-type: none"> Explore new rebate options 	N/A
	5.1.3 Create Team WaterSmart Campaigns to Target Strategic Sectors	N/A	<ul style="list-style-type: none"> Agricultural water stewardship Commercial, Institutional, Industrial water stewardship 	<ul style="list-style-type: none"> Min. of Ag. BC Climate Action Initiative Municipalities
	5.1.4 Provide Support for Stewardship and Restoration Activities	<ul style="list-style-type: none"> Seed funding for restoration* Tool lending library 	<ul style="list-style-type: none"> - Networking opportunities for water stewardship organizations 	<ul style="list-style-type: none"> Stewardship groups
	5.1.5 Coordinate with Water Service Providers	<ul style="list-style-type: none"> Support small water systems 	<ul style="list-style-type: none"> Support regional water conservation plans 	<ul style="list-style-type: none"> RDN Utilities Municipalities Improvement Districts Island Health
	5.1.6 Participate in and Coordinate Advisory Committees to Enhance Regional Capacity	<ul style="list-style-type: none"> Technical Advisory Committee coordination Participation in existing watershed roundtables 	<ul style="list-style-type: none"> Participate in new roundtables and committees that emerge as needed 	<ul style="list-style-type: none"> Various

Water Information and Science

Objective:

To support high quality and reliable long-term data collection, analysis, and science that generates information required to understand the region's water resources.

DISCUSS: Are these actions complete, clear, consistent with the engagement, & impactful?

Theme	Action	Continuing Sub-Actions (*with enhancements)	New Sub-Actions	Key Implementation Partners (not exhaustive)
WATER INFORMATION AND SCIENCE	5.2.1 Maintain Robust Regional Water Monitoring Networks	<ul style="list-style-type: none"> Community Watershed Monitoring Network Volunteer Observation Well Network Hydrometric and Climate Monitoring Partnerships Data Management Framework Implementation* 	<ul style="list-style-type: none"> Explore potential for biological monitoring (i.e. benthic invertebrates) to complement water quality chemistry data Explore long-term wetland monitoring and mapping options 	Min. of ENV / FLNR Stewardship groups VIU RDN IT & GIS
	5.2.2 Analyze and Interpret Data to Generate Richer Understanding of the Region's Water	<ul style="list-style-type: none"> Water Budget Modelling Trend Analysis Watershed / Aquifer Prioritization 	<ul style="list-style-type: none"> Rainwater Management Modelling Quantifying Natural Assets and Ecosystem Services Supporting enhanced snowpack modelling 	Consulting Professionals Municipalities Min. of ENV / FLNR Min. of TRAN VIU
	5.2.3 Communicate Water Information to Decision Makers	<ul style="list-style-type: none"> GIS Water Map* Publications* 	<ul style="list-style-type: none"> Data visualization through dynamic graphs Informing updates to provincial mapping and characterization 	RDN IT & GIS RDN Planning Min. of ENV / FLNR
	5.2.4 Develop Targets to Maintain High-functioning Watersheds	N/A	<ul style="list-style-type: none"> Watershed performance targets and standards to mitigate the impacts of land development 	Consulting Professionals Municipalities Min. of ENV / FLNR Min. of TRAN RDN Planning

Water-Centric Planning and Policy Support

Objective:

To better integrate water management and land-use planning through the adoption of policies, plans, and practices that recognize water-related constraints.

To identify and advocate for internal and external regulations and policies that will enable efficient water use, water quality protection and maintenance or restoration of watershed function.

DISCUSS: Are these actions complete, clear, consistent with the engagement, & impactful?

Theme	Action	Continuing Sub-Actions (*with enhancements)	New Sub-Actions	Key Implementation Partners (not exhaustive)
WATER-CENTRIC PLANNING AND POLICY SUPPORT	5.3.1 Facilitate Integration of Water Information into Planning Processes	<ul style="list-style-type: none">Informing long term plans*Informing current operations*	<ul style="list-style-type: none">Expand integration to RDN parks and emergency services planning processes, and municipalities as well.	RDN Departments Municipalities
	5.3.2 Advance Innovative Policies and Practices to Improve Water Sustainability	<ul style="list-style-type: none">Review and advise on internal policyStrategic external advocacy	<ul style="list-style-type: none">Research to identify best policies and practices in North America	RDN Planning Municipalities Various external agencies

What are implementation priorities in 2020 - 2025?

What should we emphasize and focus early efforts on?

How should we sequence implementation of lower priority actions beyond 2025?

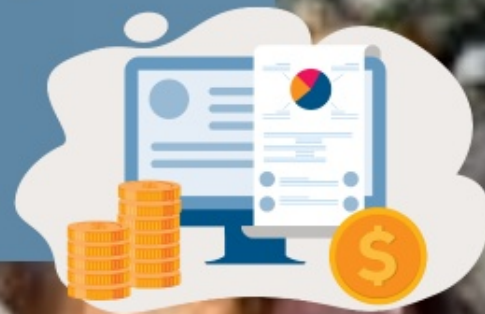
Key considerations we should keep in mind?



Area	Priority	Key Considerations	Timeline
Area 1	Priority 1	Key Considerations	Timeline
Area 1	Priority 2	Key Considerations	Timeline
Area 1	Priority 3	Key Considerations	Timeline
Area 2	Priority 1	Key Considerations	Timeline
Area 2	Priority 2	Key Considerations	Timeline
Area 2	Priority 3	Key Considerations	Timeline
Area 3	Priority 1	Key Considerations	Timeline
Area 3	Priority 2	Key Considerations	Timeline
Area 3	Priority 3	Key Considerations	Timeline

Theme	Action	Continuing Sub-Actions (*with enhancements)	New Sub-Actions	Key Implementation Partners (not exhaustive)
WATER AWARENESS AND STEWARDSHIP	5.1.1 Enhance Water Awareness Through Community-Based Team WaterSmart Outreach	<ul style="list-style-type: none"> Tours Community events Curriculum-connected school materials* Irrigation Check-ups Workshops 	<ul style="list-style-type: none"> Market Research Community-based Social Marketing Multi-media engagement Interpretive signage and demonstration sites Youth water leadership projects 	<ul style="list-style-type: none"> Municipalities RDN Parks Mosaic Forest Mgmt. Stewardship groups School Districts
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	5.1.3 Create Team WaterSmart Campaigns to Target Strategic Sectors	N/A	<ul style="list-style-type: none"> Agricultural water stewardship Commercial, Institutional, Industrial water stewardship 	<ul style="list-style-type: none"> Min. of Ag. BC Climate Action Initiative Municipalities
	5.1.4 Provide Support for Stewardship and Restoration Activities	<ul style="list-style-type: none"> Seed funding for restoration* Tool lending library 	<ul style="list-style-type: none"> Networking opportunities for water stewardship organizations 	<ul style="list-style-type: none"> Stewardship groups
	5.1.5 Coordinate with Water Service Providers	<ul style="list-style-type: none"> Support small water systems 	<ul style="list-style-type: none"> Support regional water conservation plans 	<ul style="list-style-type: none"> RDN Utilities Municipalities Improvement Districts Island Health
	5.1.6 Participate in and Coordinate Advisory Committees to Enhance Regional Capacity	<ul style="list-style-type: none"> Technical Advisory Committee coordination Participation in existing watershed roundtables 	<ul style="list-style-type: none"> Participate in new roundtables and committees that emerge as needed 	<ul style="list-style-type: none"> Various
WATER INFORMATION AND SCIENCE	5.2.1 Maintain Robust Regional Water Monitoring Networks	<ul style="list-style-type: none"> Community Watershed Monitoring Network Volunteer Observation Well Network Hydrometric and Climate Monitoring Partnerships Data Management Framework Implementation* 	<ul style="list-style-type: none"> Explore potential for biological monitoring (i.e. benthic invertebrates) to complement water quality chemistry data Explore long-term wetland monitoring and mapping options 	<ul style="list-style-type: none"> Min. of ENV / FLNR Stewardship groups VIU RDN IT & GIS
	5.2.2 Analyze and Interpret Data to Generate Richer Understanding of the Region's Water	<ul style="list-style-type: none"> Water Budget Modelling Trend Analysis Watershed / Aquifer Prioritization 	<ul style="list-style-type: none"> Rainwater Management Modelling Quantifying Natural Assets and Ecosystem Services Supporting enhanced snowpack modelling 	<ul style="list-style-type: none"> Consulting Professionals Municipalities Min. of ENV / FLNR Min. of TRAN VIU
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	5.2.4 Develop Targets to Maintain High-functioning Watersheds	N/A	<ul style="list-style-type: none"> Watershed performance targets and standards to mitigate the impacts of land development 	<ul style="list-style-type: none"> Consulting Professionals Municipalities Min. of ENV / FLNR Min. of TRAN RDN Planning
WATER-CENTRIC PLANNING AND POLICY SUPPORT	5.3.1 Facilitate Integration of Water Information into Planning Processes	<ul style="list-style-type: none"> Informing long term plans* Informing current operations* 	<ul style="list-style-type: none"> Expand integration to RDN parks and emergency services planning processes, and municipalities as well. 	<ul style="list-style-type: none"> RDN Departments Municipalities
	5.3.2 Advance Innovative Policies and Practices to Improve Water Sustainability	<ul style="list-style-type: none"> Review and advise on internal policy Strategic external advocacy 	<ul style="list-style-type: none"> Research to identify best policies and practices in North America 	<ul style="list-style-type: none"> RDN Planning Municipalities Various external agencies

If we're going to expand our impact and reach, and implement new actions under the updated Plan, what **resourcing levels** are appropriate & supported?



Evaluating success over time

Generally, continued participation of partners is an indicator of success. Progress is also gauged by **if / how our questions evolve over time...**

So, what are currently the key questions DWWP is attempting to address?


Will revisit as the next decade unfolds...



**Progress
Indicators**

Overall
comments on
Draft?

Theme	Progress Indicator 1	Progress Indicator 2	Progress Indicator 3	Progress Indicator 4
Water Awareness and Stewardship	Reduction of metered water use over time	Number of restoration projects completed	Market research survey response indicating improved awareness	Improving trends in groundwater level and surface water quality
Water Information and Science	Number of long-term datasets hosted on open provincial platforms	Completion of numerical water budget models for priority watersheds and aquifers	Continued participation of community volunteers in citizen science efforts	Number of publications communicating water science
Water-centric Planning and Policy Support	Number of planning documents and/or policies updated with water information	Number of planning-related referrals supported by DWWP information or staff	Implementation of innovative water management policies and practices	Successful advocacy with outside agencies



**Anything else you
would like to discuss
regarding the draft?**

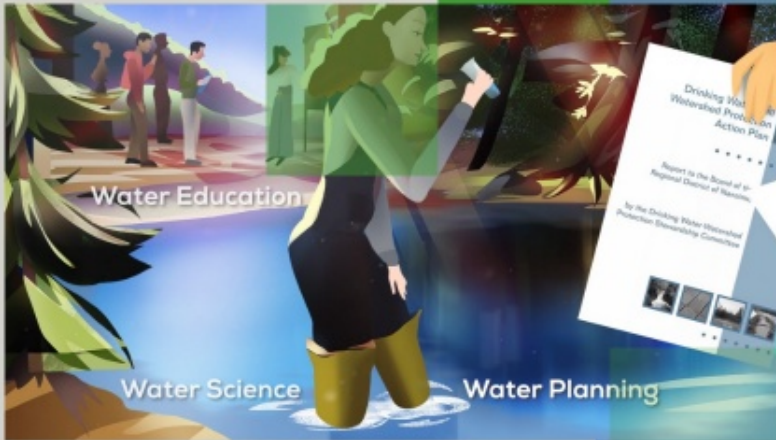
Structure
Tone
Other content



COMING UP IN...

2019

2020



2019

Summarize water quality monitoring results for the year

Initiate update to RDN Water Conservation Plan

Finalize Budget for 2020

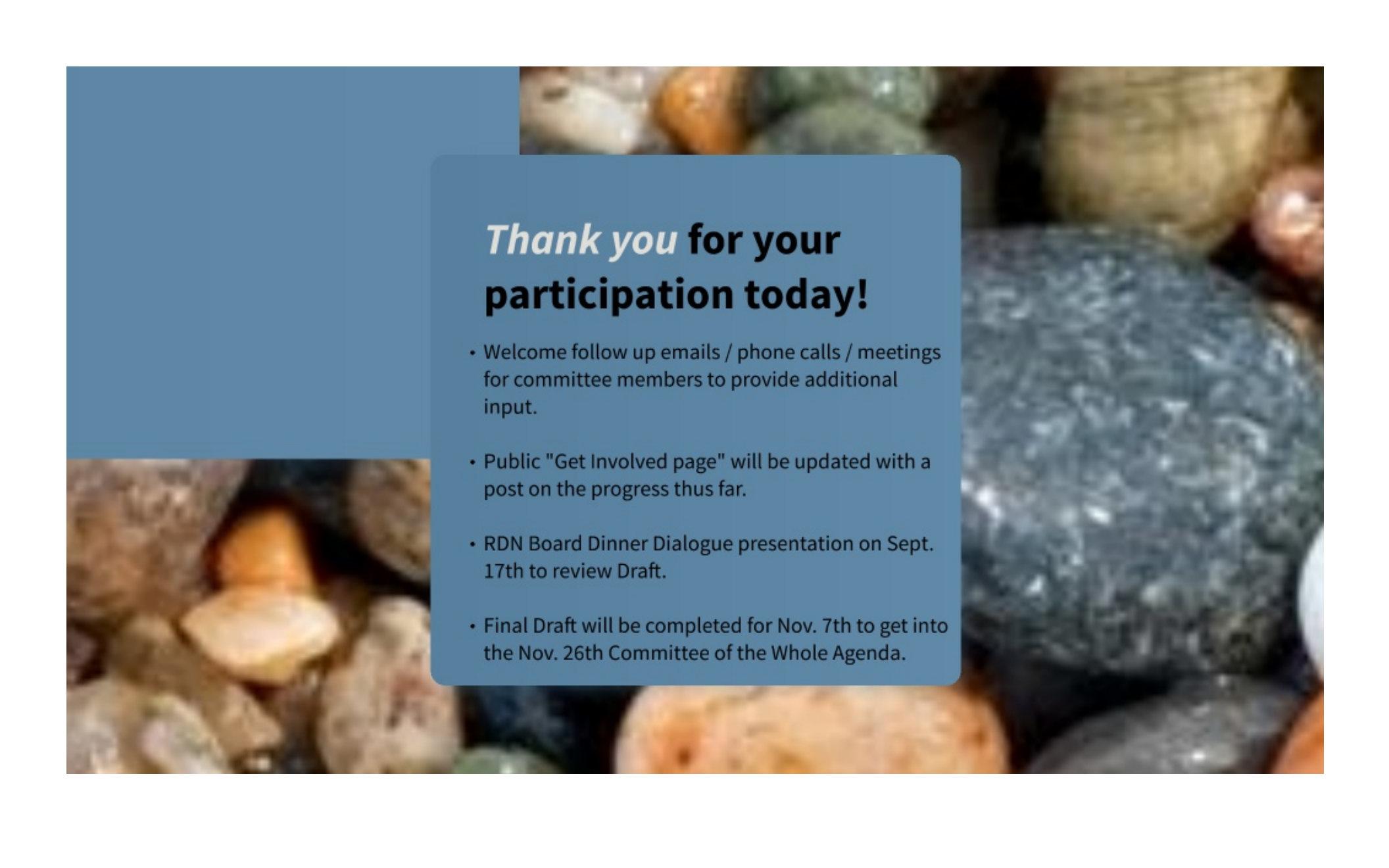
2020

Considering these new projects:

- LiDAR snow depth mapping
- Video series
- Interpretive signage and demo sites
- Ecological Accounting Protocol pilot

*Thank
you*





***Thank you* for your
participation today!**

- Welcome follow up emails / phone calls / meetings for committee members to provide additional input.
- Public "Get Involved page" will be updated with a post on the progress thus far.
- RDN Board Dinner Dialogue presentation on Sept. 17th to review Draft.
- Final Draft will be completed for Nov. 7th to get into the Nov. 26th Committee of the Whole Agenda.