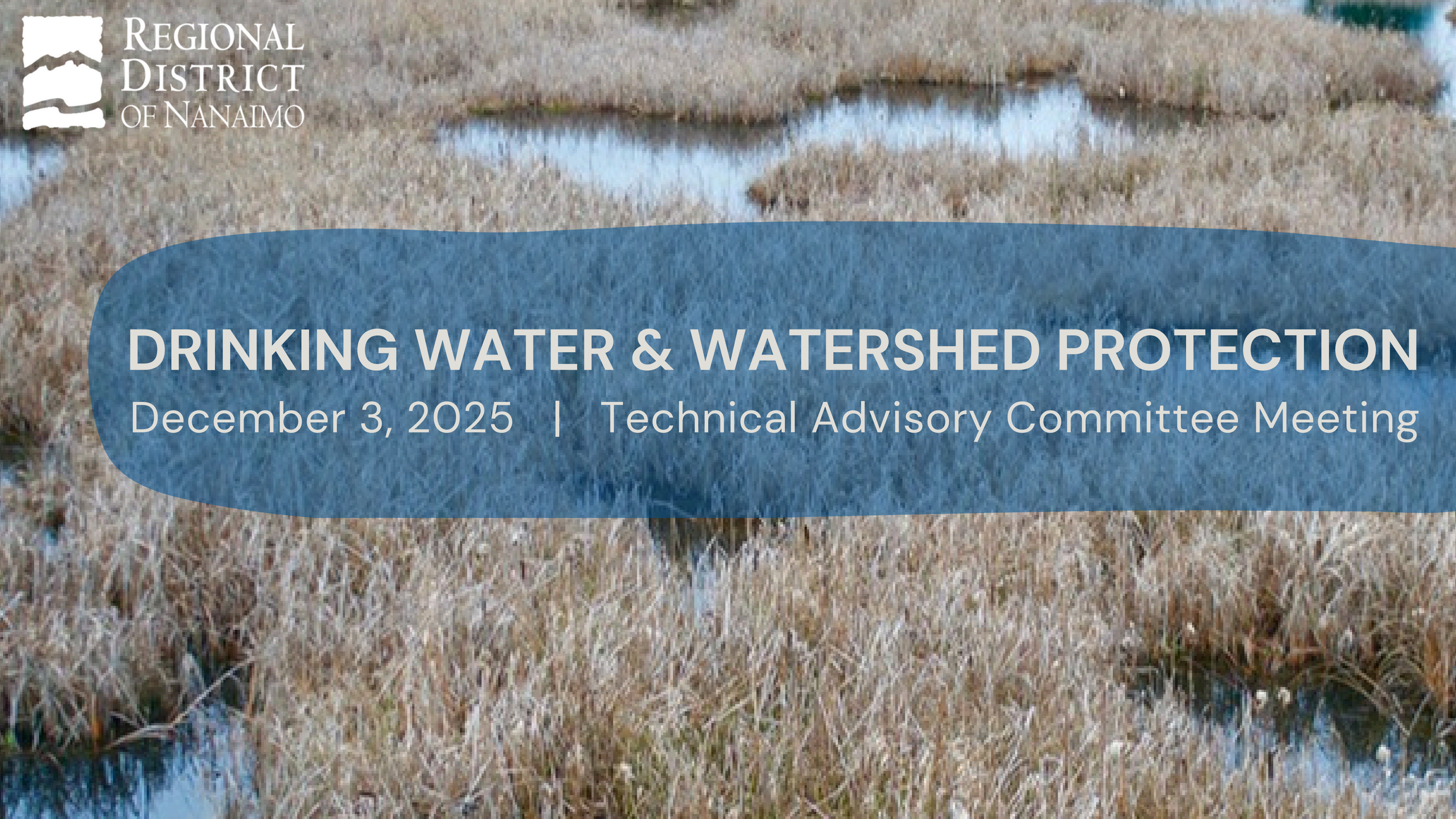


REGIONAL DISTRICT OF NANAIMO

DRINKING WATER & WATERSHED PROTECTION

December 3, 2025 | Technical Advisory Committee Meeting

REGIONAL DISTRICT OF NANAIMO

AGENDA

APPROVAL OF THE AGENDA

ADOPTION OF MINUTES

ROUNDTABLE UPDATES

INVITED PRESENTATIONS

STAFF PRESENTATIONS

ADJOURNMENT

REGIONAL DISTRICT OF NANAIMO

ROUNDTABLE UPDATES

ALL COMMITTEE MEMBERS

REGIONAL DISTRICT OF NANAIMO

INVITED PRESENTATIONS

Friends of Cottle Creek

- Maggie Estok and Pete Law

REGIONAL DISTRICT OF NANAIMO

DWWP PROJECT UPDATES

- DWWP TAC TERMS OF REFERENCE – UPDATES
- STEWARDSHIP SEED FUNDING 2025 PROJECTS
- WATER STEWARDSHIP REBATES 2025 REVIEW
- VOLUNTEER OBSERVATION WELL NETWORK
- RAINWATER MANAGEMENT INITIATIVES
- DWWP YEAR IN REVIEW
- LOOKING AHEAD TO 2025

TERMS OF REFERENCE UPDATE

Roles and Responsibilities TAC of members:

- Share relevant updates, projects, and initiatives with represented organizations
- Designation of alternates

Reporting to RDN Board:

- DWWP TAC meeting Agenda will be shared with Board members ahead of meetings
- Following a meeting, an update will be provided to the RDN Board on quarterly projects, initiatives, and considerations
- Board members may attend meetings as guests

REGIONAL DISTRICT OF NANAIMO
DRINKING WATER & WATERSHED PROTECTION - TECHNICAL ADVISORY COMMITTEE
TERMS OF REFERENCE
Updated March 23, 2021

PURPOSE

The primary role of the Drinking Water & Watershed Protection Technical Advisory Committee (DWWP-TAC) is to advise staff and the Board on the implementation and review of the Drinking Water and Watershed Protection Service.

ROLES AND RESPONSIBILITIES

The DWWP-TAC will:

- provide input and feedback on technical reports, discussion papers, and other documents prepared for the committee's information;
- provide recommendations to the Board through the Committee of the Whole regarding activities relating to the Drinking Water and Watershed Protection program;
- participate on smaller ad-hoc committees dealing with specific issues or tasks;
- provide advice and feedback on consultation activities with service area stakeholders;
- review and become familiar with the Drinking Water and Watershed Protection service;
- review and become familiar with the existing state of drinking water protection in the RDN;
- identify tools and techniques to be employed in the monitoring and evaluation of the Drinking Water and Watershed Protection service and its implementation; and
- make recommendations to increase the effectiveness of the Drinking Water and Watershed Protection service.

MEMBERSHIP

The committee will consist of the following members. Members will be selected by the Board either through an application process (for the public / community positions) or by appointment by the member's organization.

1 member	Committee Chair, RDN GM Regional and Community Utilities
4 members	Water department staff member from the City of Nanaimo, District of Lantzville, City of Parksville, Town of Qualicum Beach.
2 members	General Public (1 north / 1 south)
1 member	Environment Community
1 member	Agricultural Community
1 member	Island Health
1 member	Ministry of Forests, Lands, and Natural Resource Operations
1 member	Ministry of Environment / Registered Professional Biologist
1 member	Ministry of Transportation and Infrastructure
1 member	Forest Industry
1 member	Water Purveyors' Representative
1 member	Professional Hydrogeologist
1 member	Professional Hydrologist
1 member	Academic Community (Vancouver Island University)
1 member	Islands Trust
1 member	Fisheries and Oceans Canada
3 members	Indigenous Community Representatives

Membership may be changed as needs or issues arise and other organizations may be called on where partnerships are identified that would be of mutual benefit at the discretion of the committee.

TERMS OF REFERENCE UPDATE

Membership Additions:

- RDN Water Services representative
- City of Nanaimo Planning / sustainability representative
- One additional Ministry of Env Rep (Hydrologist)
- Youth Representative

Membership Changes:

- Professional Hydrogeologist & Professional Hydrologist on rotating 2 year terms (reapplications accepted)
- Water Purveyors Representative - invitation to other regional water purveyors such as NCID or EPCOR

APPOINTMENT AND TERM

Government and agency members may appoint a representative and designate an alternate, should the representative be unable to attend.

Representatives from Indigenous communities will be appointed by their Council or organization.

At-large representatives from the environment community (1) , general public (2), and the agricultural community (1) will be appointed by the Board for a two-year term, through an open application process administered by RDN Corporate Services. In order to allow staggering of Committee membership and allow for greater continuity for the DWWP TAC, approximately half of the Community member terms will expire each year.

Applicants must demonstrate their:

- willingness and ability to commit to volunteering the necessary time to the committee;
- interest in drinking water and drinking water protection issues in the RDN;
- willingness and ability to consider issues from all sectors and geographical perspectives within the community;
- experience related to drinking water and drinking water protection issues;
- willingness and ability to work towards consensus on issues being addressed by the committee.

Selection of members will attempt to create a committee with a balance of representation:

- geographically;
- demographically; and
- with a variety of interests and perspectives.

Members are expected to attend all committee meetings. If a member must resign from the committee, their position will be filled through the application process (for at-large members) or by appointments (for organization / agency representatives), as appropriate.

TERMS OF REFERENCE UPDATE

Other:

- Emphasize that community members, neighboring Regional Districts, stewardship partners, etc. are invited to attend meetings as guests/observers

- Propose that quorum does not need 50% representation for this committee

- Meeting times / frequency

MEETINGS

In general, annually there will be 3-4 meetings of the committee, although periodically more frequent meetings may be required (i.e. sub-committees). Meetings are expected to be held mid-day. There is no remuneration for participation on the committee but if committee activities coincide with meal times, meals will be provided. For in-person meetings, the RDN will reimburse mileage expenses for at-large members according to Volunteer Mileage Reimbursement Policy A2.19.

QUORUM

Meetings will achieve quorum when at least eleven members are present. In the absence of a quorum, a meeting can still proceed, and topics can still be discussed, provided no motions are made or votes taken.

DECISION MAKING

Committee recommendations to the RDN Board will be made by consensus whenever possible. If necessary, votes may be taken.

Committee recommendations to the Board will be made through the Committee of the Whole.

DWWP-TAC meetings will be open to the public; however, non-DWWP-TAC members will not have speaking or voting privileges.

STEWARDSHIP SEED FUNDING – 2025 PROJECTS

RDN's DWWP program supports efforts of stewardship groups taking action to monitor, restore, research, and bring educational awareness to local watersheds

Seed Funding of up to **$10,000*** for up to 3 consecutive years towards projects within the RDN that:

- Are led by a non-profit organization,
- Involve volunteers,
- Are jointly funded by other partners, donors, and/or in-kind contributions,
- Actively enhance stream, river, lake, estuary, or wetland health, hydrology, function, or conservation

**in 2025 we increased project funding amount to support more and larger projects as well as acknowledge the rising costs of these types of initiatives*

Since 2016, 35 diverse projects across the region have been supported through SSF with over $95,000 issued to date

Year	Group	Project
2016	Departure Creek Streamkeepers	Departure Creek Habitat Assessment
2016	MVIHES	Shelley Creek Water Balance Model
2016	Walley Creek Streamkeepers	Walley Creek Riparian Planting Phase 1
2017	Departure Creek Streamkeepers	Departure Creek Bank Stabilization
2017	Walley Creek Streamkeepers	Walley Creek Riparian Planting Phase 2
2017	Island Waters Fly Fishers	Millstone River Vegetation Fencing & Tools
2017	NALT	Plum Creek Wetland Restoration
2018	MVIHES	Shelley Creek Signage Support
2018	NALT	Chase River Slope Restoration
2018	NALT	Knarston Creek Riparian Restoration
2019	NALT	Holden Creek Riparian Restoration
2019	MVIHES	Englishman River Estuary Water Quality Monitoring
2019	NALT	Chase River Wetland Restoration
2019	Island Waters Fly Fishers	Millstone River Bioengineered Bank Stabilization
2019	NALT	Lower Knarston Creek Provincial Permit
2020	NALT	Lower Knarston Creek Riparian Restoration
2020	Qualicum Beach Streamkeepers	Beach Creek Flow Monitoring Station
2020	NALT	Chase River Wetland Riparian Restoration
2020	Qualicum Beach Streamkeepers	Little Qualicum River Estuary Restoration
2021	Save Estuary Land Society	French Creek Estuary Water Quality Monitoring
2021	Departure Creek Streamkeepers	Departure Creek Off-channel Restoration
2021	BC Conservation Foundation	UV filter sampling in RDN swim lakes & rivers
2021	NALT	Cat Stream Riparian Restoration
2022	Fanny Bay Salmonid Enhancement	Deep Bay Creek Mapping Project
2022	Guardians of our Salish Estuaries	Little Qualicum River Estuary Restoration – Year 1
2022	BC Conservation Foundation	Tire Wear Toxicant (PPDQ) Monitoring – Year 1
2023	Guardians of our Salish Estuaries	Little Qualicum River Estuary Restoration – Year 2
2023	Gabriola Lands & Trails Trust	Riparian Education & Restoration on Gabriola creeks – Year 1
2023	BC Conservation Foundation	Tire Wear Toxicant (PPDQ) Monitoring – Year 2
2023	MVIHES	Shelly Creek Land Survey for restoration potential
2023	BC Conservation Foundation	Community-based Flow Monitoring Network
2024	Gabriola Lands & Trails Trust	Riparian Education & Restoration on Gabriola creeks – Year 2
2024	Qualicum Beach Streamkeepers	Grandon Creek Flow Level Logger Equipment
2024	BC Conservation Foundation	Community-based Flow Monitoring Network
2024	Save Estuary Land Society	French Creek Estuary Nature Preserve Hydrology Survey
2025	Gabriola Lands & Trails Trust	Riparian Education & Restoration on Gabriola creeks – Year 3

STEWARDSHIP SEED FUNDING – 2025 PROJECTS

Friends of Cottle Creek (FCC)

COTTLE CREEK WATERSHED - URBAN SALMON HABITAT STUDY

Funds Allocated & Issued: $10,000 allocated for 2025

Project Goals: Identify the current status of aquatic habitat in Cottle Creek, and to conserve the resident cutthroat trout population.

- Supported by BCCF, NALT, local biologists, FCC volunteers, and VIU biology student will be involved in stream/habitat inventories
- Limited scientific studies in Linley Valley
- Project will inform future water and land use decisions, including habitat restoration initiatives in the Cottle Creek watershed

Courtesy of FCC

STEWARDSHIP SEED FUNDING – 2025 PROJECTS

Gabriola Lands & Trails Trust (GaLTT)

YEAR 3 - GABRIOLA STREAMSIDE AWARENESS AND RESTORATION CAMPAIGN

Funds Allocated & Issued: $5,000 issued in 2025

Project Goals: Bring watershed awareness to streamside property owners along Goodhue, Castell, and Descanso Valley Creek and support property owners undertaking streamside restoration

- Focused streamside landholder outreach and education on riparian protection and restoration; working with over 20 properties, including a local farm and golf course
- Development of public outreach materials and signage
- Volunteers and school groups involved in restoration planting on private property supported by a QEP

Courtesy of GaLTT

STEWARDSHIP SEED FUNDING – 2025 PROJECTS

Friends of French Creek Stewardship Society (FFCSS)

STREAM MAPPING AND HABITAT ASSESSMENT - FRENCH CREEK WATERSHED

Funds Allocated & Issued: $2,518.60 in 2024; additional $2,481.40 allocated for 2025

Project Goals: To map and assess the French Creek watershed

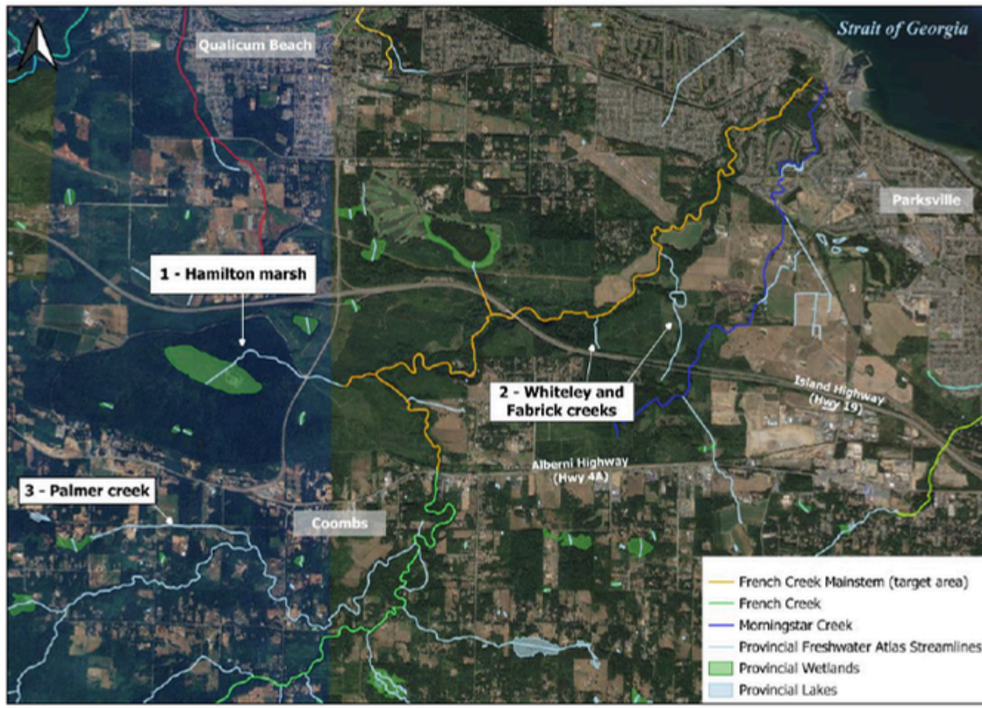
Supported by local biologists and technical experts, FFCSS volunteers will be involved in ground truth mapping and habitat assessment

The purpose of stream mapping is to:

- Provide GIS data to the Province and decision makers
- Identify previously unidentified tributaries and ditches
- Assess existing habitat values
- Identify barriers to fish access
- Observe impacted or underperforming riparian habitats
- Identify opportunities for future enhancement projects

Courtesy of FFCSS

Map 1. The current mapped extent of French Creek and its tributaries, as per the Provincial Freshwater Atlas. The mainstem of French Creek to be truthed is outlined in orange (from the Strait of Georgia to the Alberni Highway); while 3 groups of tributaries to be ground-truthed are indicated (QGIS)



STEWARDSHIP SEED FUNDING – 2025 PROJECTS

Qualicum Beach Streamkeepers (QBSK)

STREAM MAPPING AND HABITAT ASSESSMENT - Beach Creek, Grandon, and Whiskey Creek

Funds Allocated & Issued: $10,000 allocated for 2025

Project Goals: To map and complete fish habitat assessments within each watershed to inform land use planning and future restoration opportunities

- Supported by local biologists and technical experts, QBS volunteers will be involved in ground truth mapping and habitat assessment
- Limited geospatial data on these urban watercourses
- Biologists will develop mapping data to share with the Province and RDN

Courtesy of QBS & Weaver Tech LTD

STEWARDSHIP SEED FUNDING – 2025 PROJECTS

Fanny Bay Salmonid Enhancement Society (FBSES)

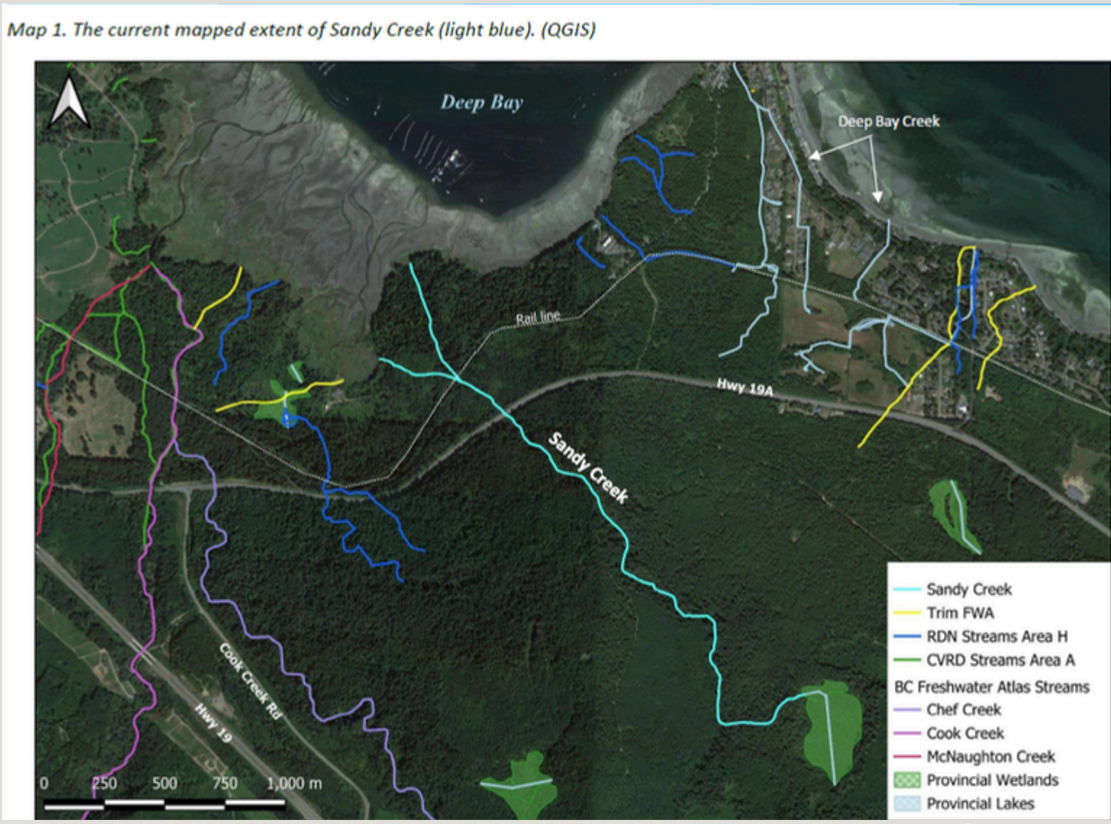
STREAM MAPPING AND HABITAT ASSESSMENT - Sandy Creek Stream Mapping

Funds Allocated & Issued: $5,000 allocated for 2025

Project Goals: To ensure the location of all watercourses in Sandy Creek are correctly identified and recorded.

- Supported by local biologists and technical experts, FBSES volunteers will be involved in ground truth mapping and habitat assessment
- Limited geospatial data on these urban watercourses
- Biologists will develop mapping data to share with the Province and RDN

Map 1. The current mapped extent of Sandy Creek (light blue). (QGIS)



Courtesy of FBSES

STEWARDSHIP SEED FUNDING – 2025 PROJECTS

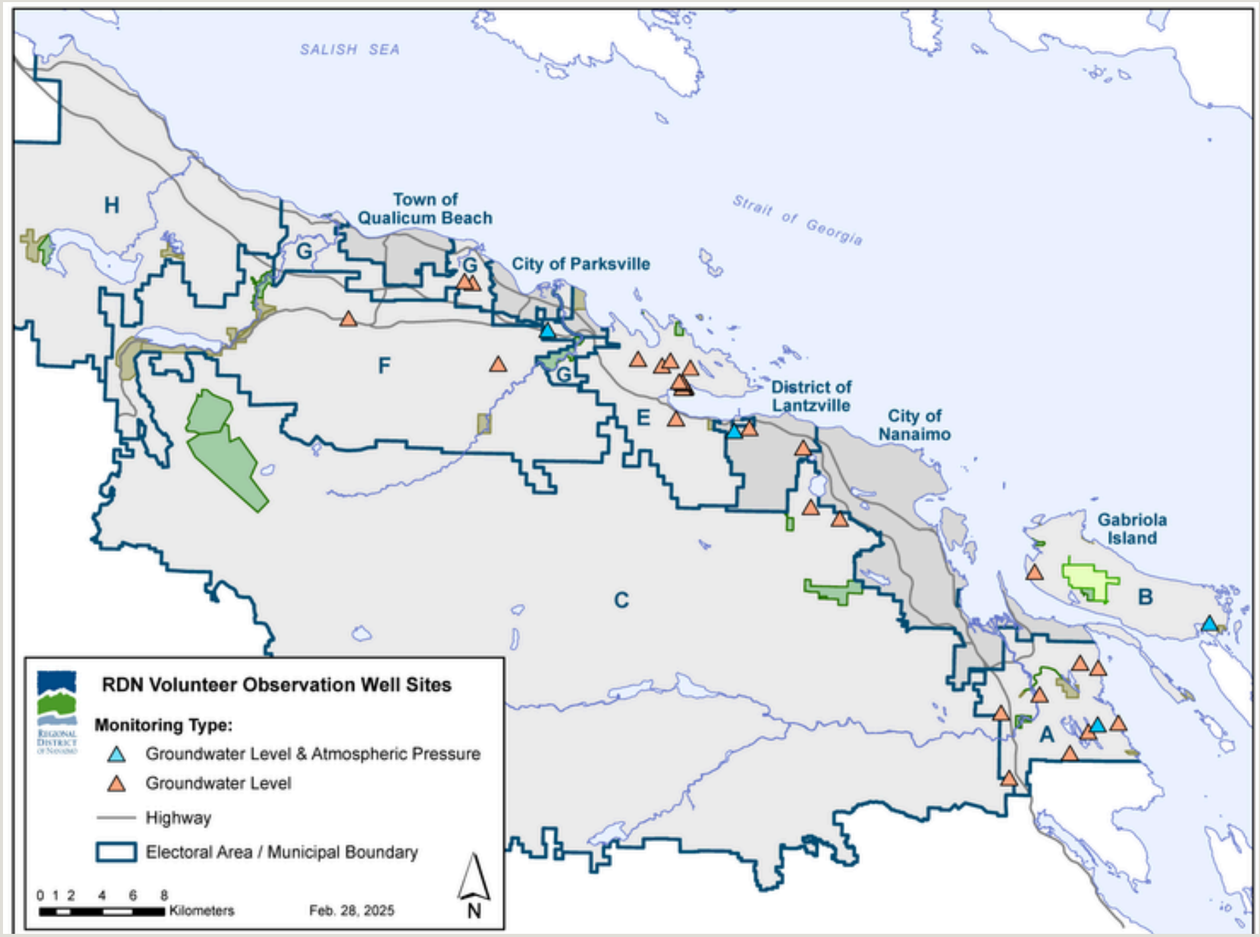
Beaufort Water Stewards (BWS)

Volunteer Observation Wells (VOWs) Expansion

Funds Allocated & Issued: $10,000 allocated for 2025

Project Goals: To Expand VOWs in Electoral Area H from 6 wells to 11 wells

- Supported by BWS and property owners in Electoral Area H
- Addition of 5 MX2001 Bluetooth level loggers with direct-read cable in 30 m length



STEWARDSHIP SEED FUNDING – 2025 PROJECTS

British Columbia Conservation Foundation (BCCF)

Year 3 - Initiating a Community Flow Monitoring Network

Funds Allocated & Issued: $4,956 allocated for 2025

Project Goals: Improve hydrometric data collection to better understand stream flow conditions across the East Coast of Vancouver Island and create a network of engaged stewards

- Expand to include two new community groups and sites
- Provide volunteer training and support
- Quality check, upload, and share data

Figure 1. Cook Creek Station, looking upstream from left bank. February 2025.

Table 1. Currently active and proposed partner groups and monitoring sites involved in the Flow Network. Shading indicates stations within the RDN.

Group	Monitoring Sites	Year Installed	Station ID
Currently Active			
Departure Creek Streamkeepers/ Nanaimo & Area Land Trust (NALT)	Departure Creek	2023	08HB0033
Qualicum Beach Streamkeepers	Grandon Creek	2012	08HB0011
	Beach Creek	2020	08HB0031
Friends of Cottle Creek/NALT	Cottle Creek	2024	08HB0040
Walley Creek Streamkeepers/NALT	Walley Creek	2024	08HB0038
Beaufort Watershed Stewards	Cook Creek	2018	08HB0032
	Wilfred Creek	2018	08HB0024
Tsolum River Restoration Society	Tsolum River	2012	08HB0012
Morrison Creek Streamkeepers	Morrison Creek	2023	08HB0034
Proposed for 2025-26			
Stqeeye' Learning Society	Lee Creek	N/A	N/A

Courtesy of BCCF

STEWARDSHIP SEED FUNDING – 2025 PROJECTS

Island Water Fly Fishers (IWFF)

Millstone River Coho Salmon Redd Restoration

Funds Allocated & Issued: $7,500 allocated for 2025

Project Goals: To provide restoration to spawning areas for coho salmon in the Millstone River

- Supported by local biologists, technical experts, engineers (DFO)
- IWFF volunteers will be involved in site restoration
- Site is ideal for coho spawning, except for the gravel currently onsite

Courtesy of City of Nanaimo

STEWARDSHIP SEED FUNDING – 2025 PROJECTS

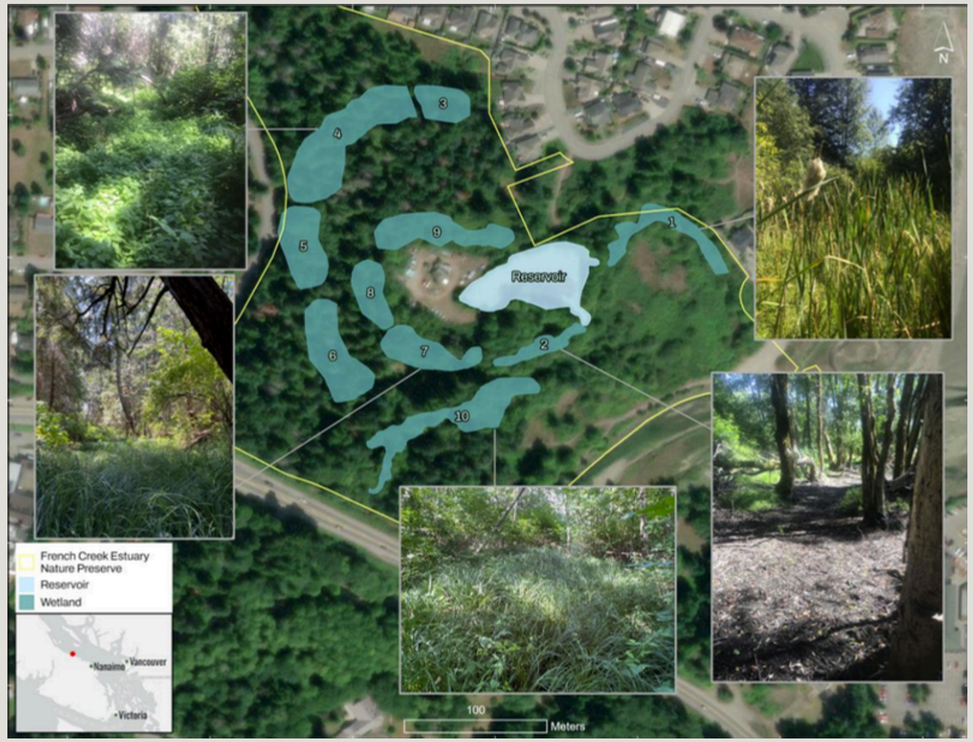
Save Estuary Land Society (SELS)

French Creek Nature Preserve Hydrological Assessment

Funds Allocated & Issued: $1,364.31 issued in 2025

Project Goals: to assess the hydrological connectivity of wetlands and channels within the Preserve and identify future restoration opportunities

- LGL Limited Consulting Services was contracted to conduct the hydrological connectivity assessment.
- Assessment completed in October 2024, with SSF reimbursements being provided in early 2025
- All 10 wetlands classified as Red-Alder - Skunk Cabbage swamps, a provincially red-listed wetland
- Recommendations include further hydrological assessments, ecological enhancement, and the installation of wetland monitoring cameras.



Representative wetland photos within the French Creek Estuary Nature Preserve

STEWARDSHIP SEED FUNDING – 2025 PROJECTS

Summary & Looking forward

- This year there was an increased program budget to support a greater number projects; also increased project support to up to $10,000 to accommodate rising costs of materials and services

- Looking forward (2026 and beyond):
  - Develop an internal project tracking database
  - Online electronic webforms to simplify the application process
    - Provide more opportunities for project sharing / outreach, such as site visits, data included on RDN interactive maps, highlight projects on the RDN's Watershed Stewardship Network Get Involved page

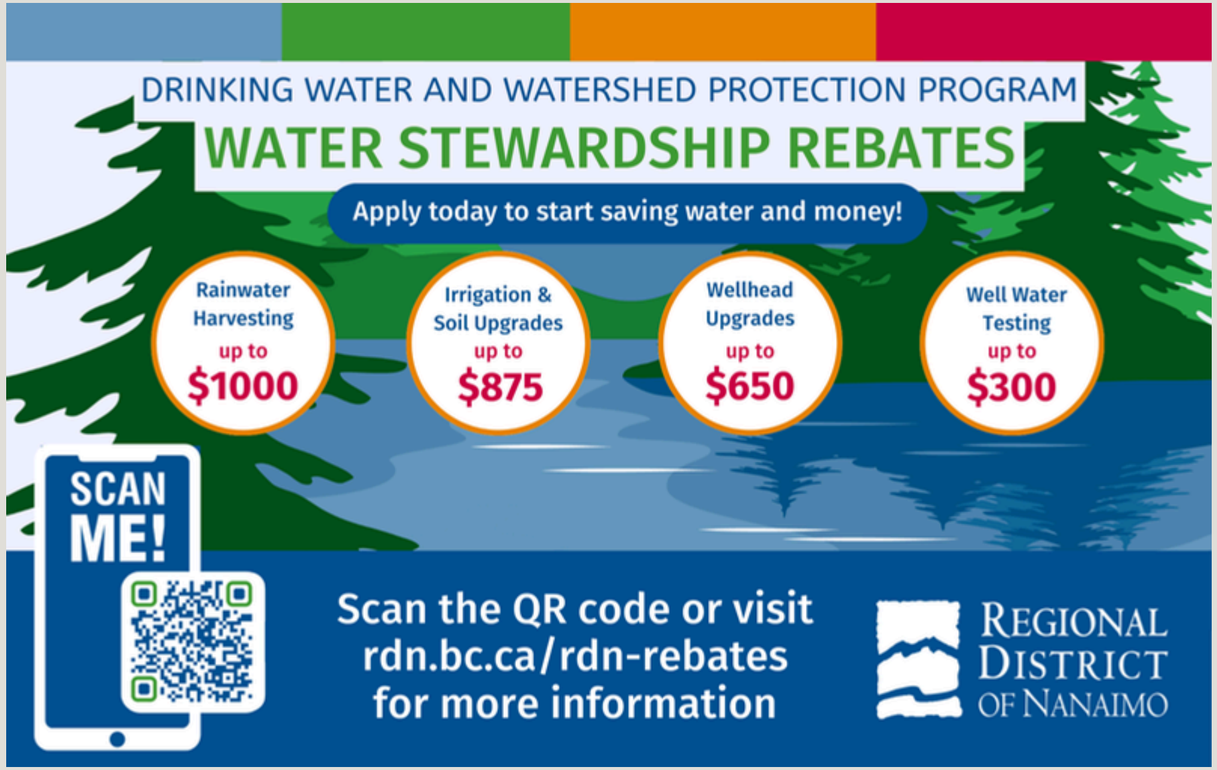
WATER STEWARDSHIP REBATES – 2025 REVIEW

- DWWP Action Plan: Water Awareness & Stewardship

- 2025: 64 Rebates awarded
  - rebate closes Dec 15; more will be added

- Advertised on social media, RDN Updates, newspapers/magazines, and outreach events

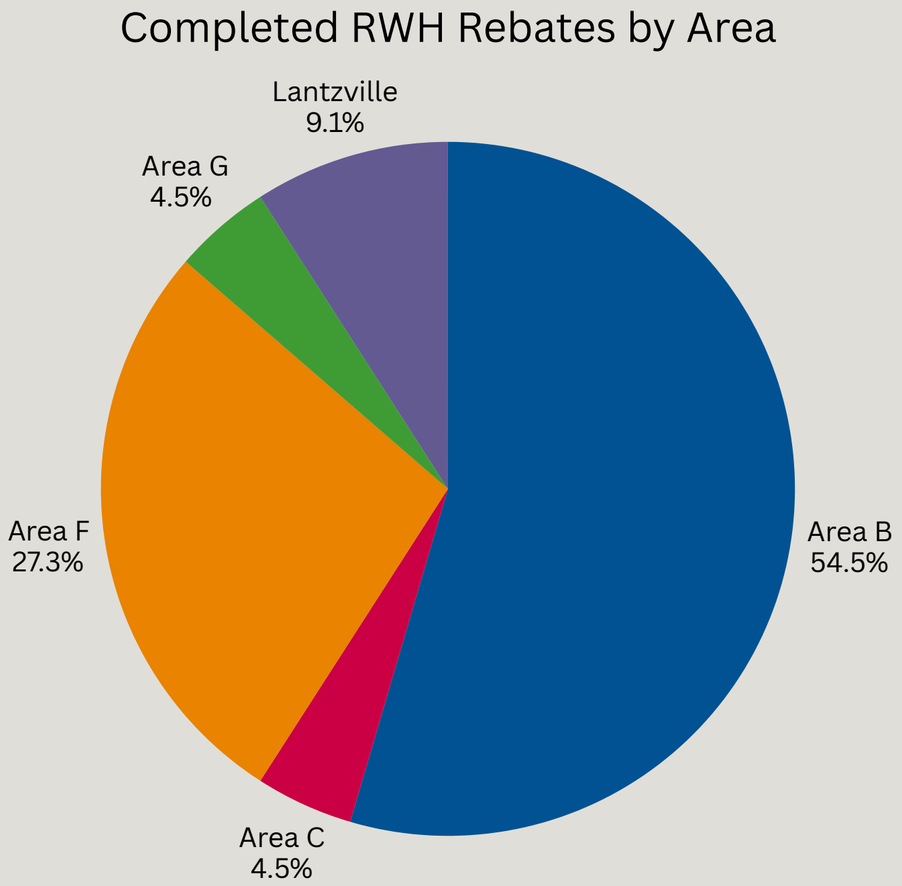
- To Discuss in Detail:
  - Rainwater Harvesting
  - Irrigation Upgrades & Soil Improvements
  - Wellhead Upgrades
  - Well Water Testing
  - Future Directions



WATER STEWARDSHIP REBATES – 2025 REVIEW

Rainwater Harvesting

- Ensured installation requirements were adhered to and developed new online material to support residents in understanding requirements
- Will continue to focus on more promotion across municipalities and EAs in 2026



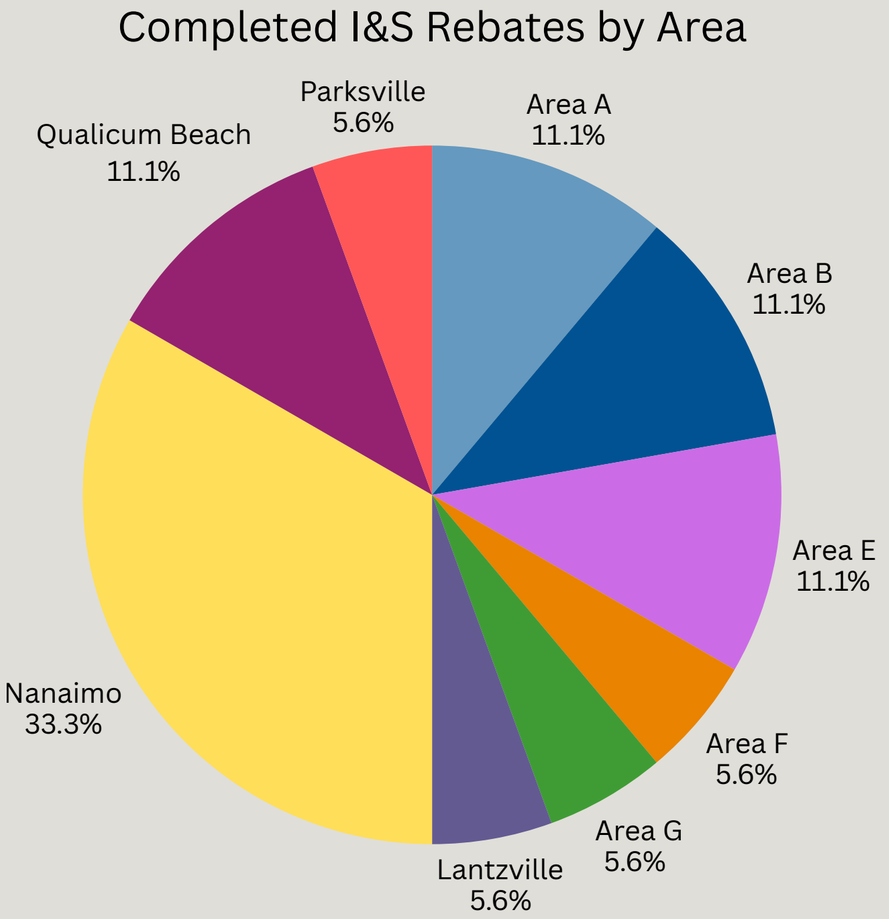
Rebate Applications	Total Allocated	Rebates Issued	Total Issued
40	$35,000+	22 (55%)	$21,596

EA A	EA B	EA C	EA E	EA F	EA G	EA H	Lantz	Nan	QB	PV
0	12	1	0	6	1	0	2	0	0	0

WATER STEWARDSHIP REBATES – 2025 REVIEW

Irrigation and Soil

- Began accepting rebate for some strata's; pilot program started this year
- Some participants asked for higher rebate amounts in soil, as delivery is quite expensive
- 12/18 awarded rebates were for soil improvements



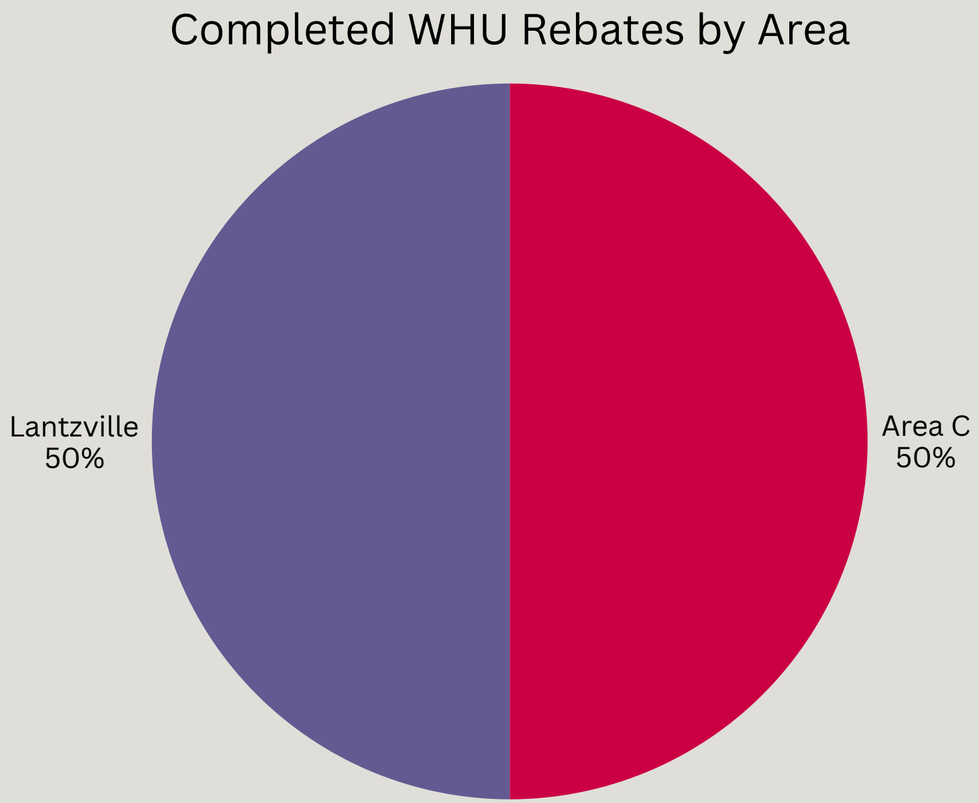
Rebate Applications	Total Allocated	Rebates Issued	Total Issued
24	$8, 650	18 (75%)	$4, 900

EA A	EA B	EA C	EA E	EA F	EA G	EA H	Lantz	Nan	QB	PV
2	2	0	2	1	1	0	1	6	2	1

WATER STEWARDSHIP REBATES – 2025 REVIEW

Well Head Upgrades

- Low participation in rebate applications; declining trend in rebate uptake in recent years
- Rebate is usually boosted by attendance at WellSmart Workshops (fall wksp postponed to 2026)
- 2026 rebate should have higher participation due to two scheduled WellSMART workshops



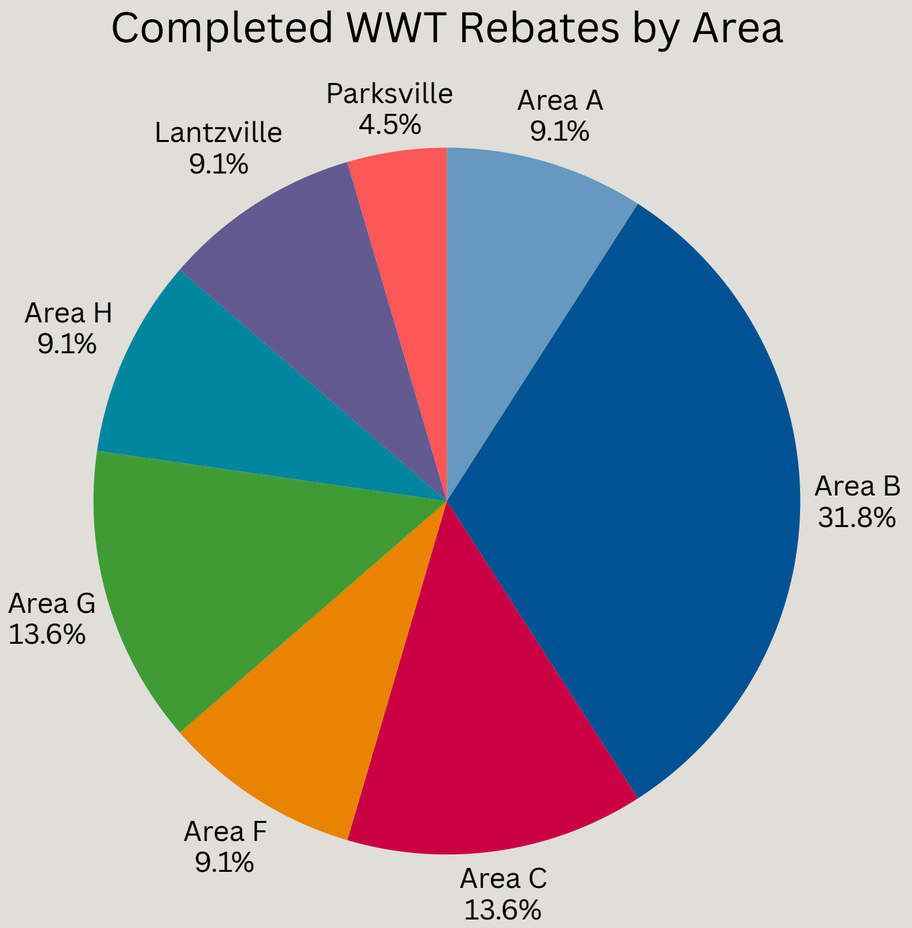
Rebate Applications	Total Allocated	Rebates Issued	Total Issued
2	$200	2 (100%)	$200

EA A	EA B	EA C	EA E	EA F	EA G	EA H	Lantz	Nan	QB	PV
0	0	1	0	0	0	0	1	0	0	0

WATER STEWARDSHIP REBATES – 2025 REVIEW

Well Water Testing

- First completed year of pilot program of restructuring this rebate to match other rebate programs
- Overall, rebate went well; easier to process than vouchers
- Courier fees now included in rebate amount
- Lower rebate application rates could be related to cancelled fall WellSMART Workshop

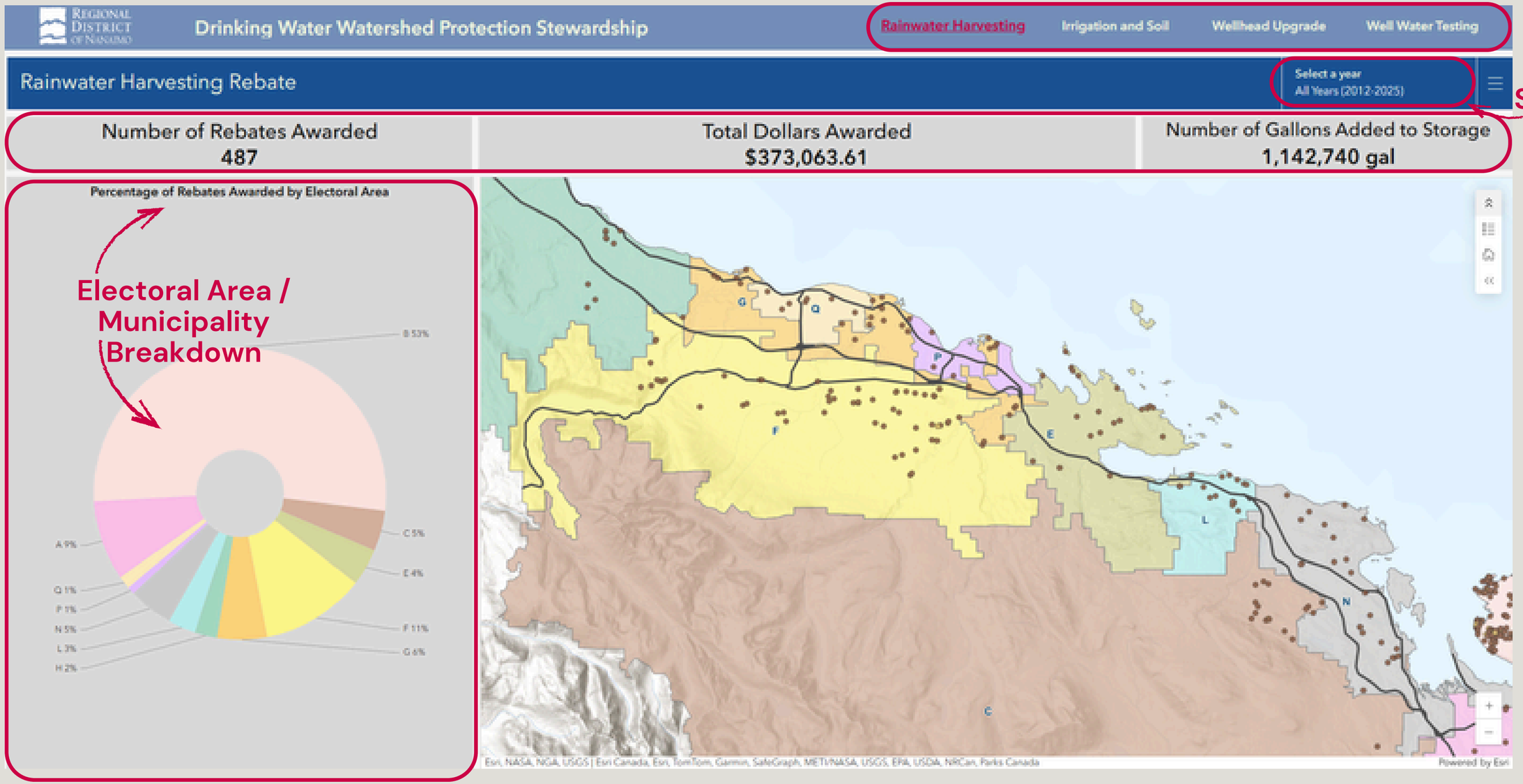


Rebate Applications	Total Allocated	Rebates Issued	Total Issued
55	$16, 500+	22 (40%)	$4, 082

EA A	EA B	EA C	EA E	EA F	EA G	EA H	Lantz	Nan	QB	PV
2	7	3	0	2	3	2	2	0	0	1

WATER STEWARDSHIP REBATES – 2025 REVIEW

Updates to Water Stewardship Rebates Map

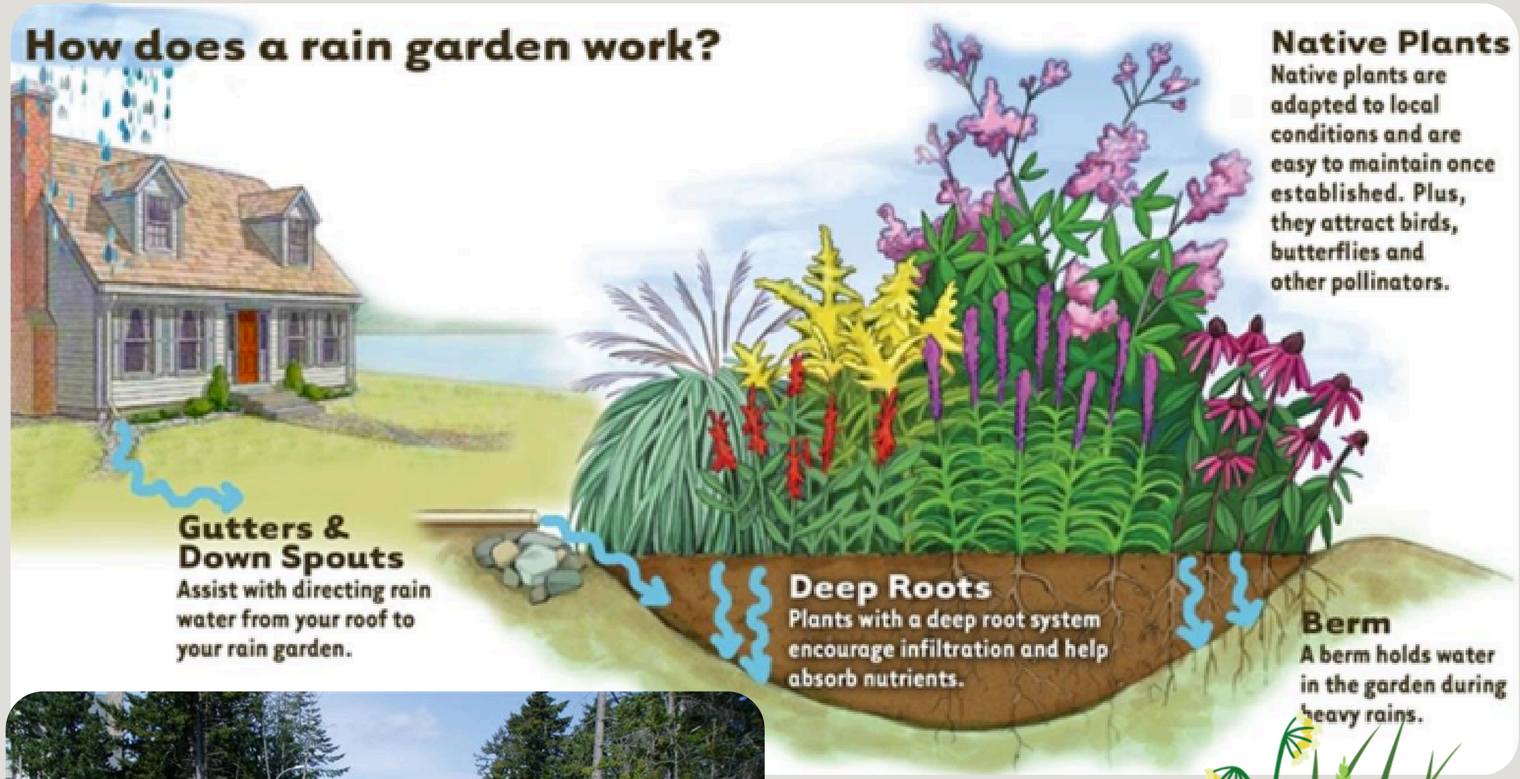


WATER STEWARDSHIP REBATES – 2026 FUTURE

Rain Garden Rebate

- Examples in other municipalities of rebates for rain gardens and other rainwater management mechanisms ($35 - $2,000+)

- Rain gardens shown to reduce toxins from tires, etc. into groundwater and adjacent streams, sink, slow, spread rainwater to reduce impacts of flooding / improve groundwater recharge; increases urban biodiversity



WATER STEWARDSHIP REBATES – 2026 FUTURE

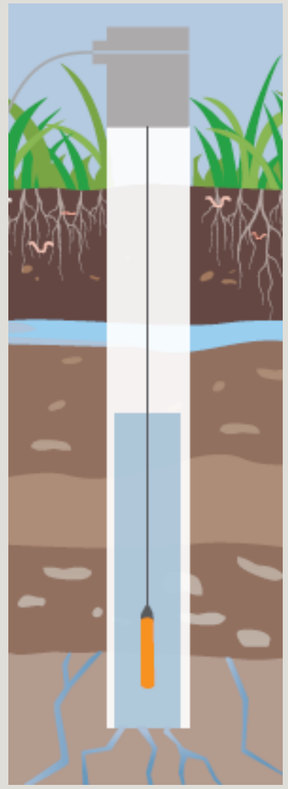
Future Directions:

- Rainwater Harvesting:
  - Investigate potential for including strata's (pilot program)
- Irrigation upgrades and Soil Improvement:
  - Potential to increase soil rebate amount
- Wellhead Upgrades:
  - Decrease allotted budget for number of rebates
- Well Water Testing:
  - Increase rebate amount to account for rising lab fees
- Rain Garden / Rainwater Management Rebate
  - Research options, potential pilot program in 2026/27

VOLUNTEER OBSERVATION WELL NETWORK PROGRAM

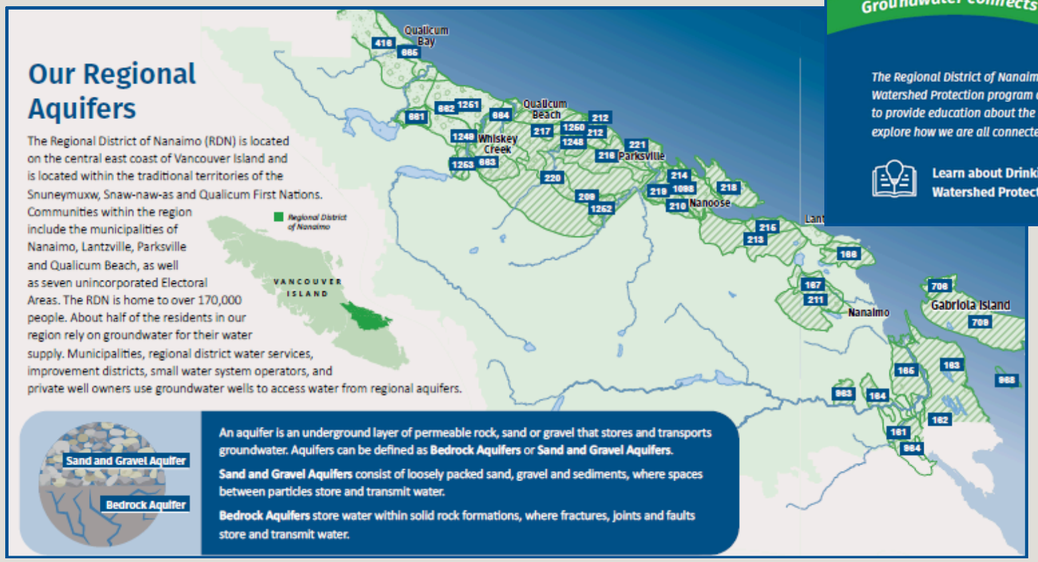
Program background

- Monitoring started in 2013, grown to include 32 sites
- Modelled after the Provincial Groundwater Observation Well Network
- Operational adjustments made in the first half of the monitoring record to account for private domestic well use
- 2013 - 2019, reported out to volunteers quarterly after each download
- 2020 onwards, annual trend reports capturing a snapshot in time of where aquifer levels were going into summer months
    - Shared with RDN Board, Water Purveyors, and well owners
- Reports available at www.rdn.bc.ca/dwwp-reports



VOLUNTEER OBSERVATION WELL NETWORK PROGRAM UPDATES

- Data collected through the VOW fed into the 2025 publication on the state of our aquifers



Publication available at

www.getinvolved.rdn.ca/groundwater-connections

Aquifer Location	Aquifer #	# of Observation Wells	Water Level Trend (last 5 years)	Water Level Trend (more than 5 years)
Deep Bay, Bowser	416	2	Declining -0.03 to -0.19m per year	Stable
Qualicum Bay, Dashwood	662	2	Declining -0.08 to -0.22 m per year	Variable 0 to +0.04 m per year
Little Qualicum River Valley	664	1	Stable	Stable
Errington, Coombs	220	1	Declining -0.24 m per year	Declining -0.27 m per year
Qualicum Beach, Coombs	217	3	Variable -0.09 to +0.08 m per year	Variable -0.08 to +0.09 m per year
Qualicum, French Creek, Parksville (coastal)	212	1	Declining -0.10 m per year	Declining -0.06 m per year
Parksville, French Creek	216	4	Increasing +0.02 to +0.81 per year	Increasing +0.15 to +0.46 m per year
French Creek (lower)	1250	5	Variable -0.22 to +0.55 m per year	Increasing 0 to +0.32 m per year
Central Nanoose (upper)	219	4	Declining -0.07 m per year	Declining -0.10 m per year
Central Nanoose (mid)	1098	4	Increasing +0.06 to +0.26 m per year	Increasing +0.04 to +0.48 m per year
Nanoose	214	5	Variable -0.34 to +0.36 m per year	Variable -0.19 to +0.30 m per year
Nanoose	218	3	Declining -0.05 to +0.39 m per year	Declining -0.01 to -0.37 m per year
Lantzville	213	3	Increasing +0.07 to +0.35 m per year	Increasing +0.15 to +0.24 m per year
Lantzville	215	3	Variable -0.23 to +0.03 m per year	Variable -0.12 to +0.04 m per year
East Wellington, Westwood Lake	167	1	Stable	Stable
Benson Meadows, Jingle Pot	211	1	Declining -0.14 m per year	Declining -0.58 m per year
Cassidy (lower)	160	2	Stable	Variable -0.06 to +0.01 m per year
Cassidy (upper)	161	2	Variable +0.01 to +0.05 m per year	Variable -0.06 to 0 m per year
Cedar, Yellowpoint	162	7	Variable -0.23 to +0.09 m per year	Variable -0.22 to +0.13 m per year
Cedar	163	1	Stable	Stable
South Wellington	165	2	Increasing +0.17 to +0.34 m per year	Increasing +0.03 to +0.14 m per year
Gabriola Island	709	5	Variable -0.06 to +0.36 m per year	Variable -0.05 to +0.02 m per year

Sand and Gravel Bedrock

VOLUNTEER OBSERVATION WELL NETWORK PROGRAM UPDATES

- In 2025, technical support for operations
    - In field review and assessment of program methodologies
        - Memorandum with recommendations for program efficiencies and revisions
    - Data download support
        - personnel
        - technical questions
        - troubleshooting
    - Data review and uploading to online database Depth2Water completed by hydrogeologist

RAINWATER MANAGEMENT

What?

Rainwater Management (as defined in the RDN Liquid Waste Management Plan):

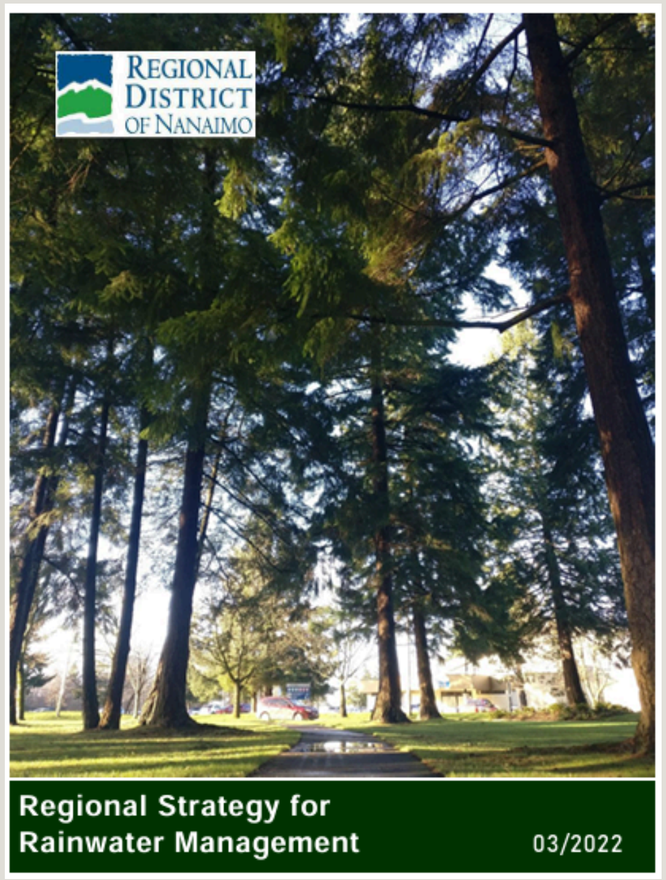
- *The management of precipitation and associated strategies to protect the health of watersheds and maintain a natural water balance. (Synonymous with 'Stormwater Management'.)*

Why?

- Maintain groundwater recharge
- Mitigate flooding
- Protect water quality
- Enhance climate resilience

- *How do we manage precipitation on the landscape, using both natural ecosystems and built infrastructure, considering the full hydrological cycle and changes in climate?*
- *How do we safely capture, store, treat, convey, and discharge water on the landscape, particularly in our built environment?*
- *Viewing rainwater as a resource, rather than a nuisance*
- *Lessening the severity of both extremes: flood and drought*

REGIONAL STRATEGY FOR RAINWATER MANAGEMENT

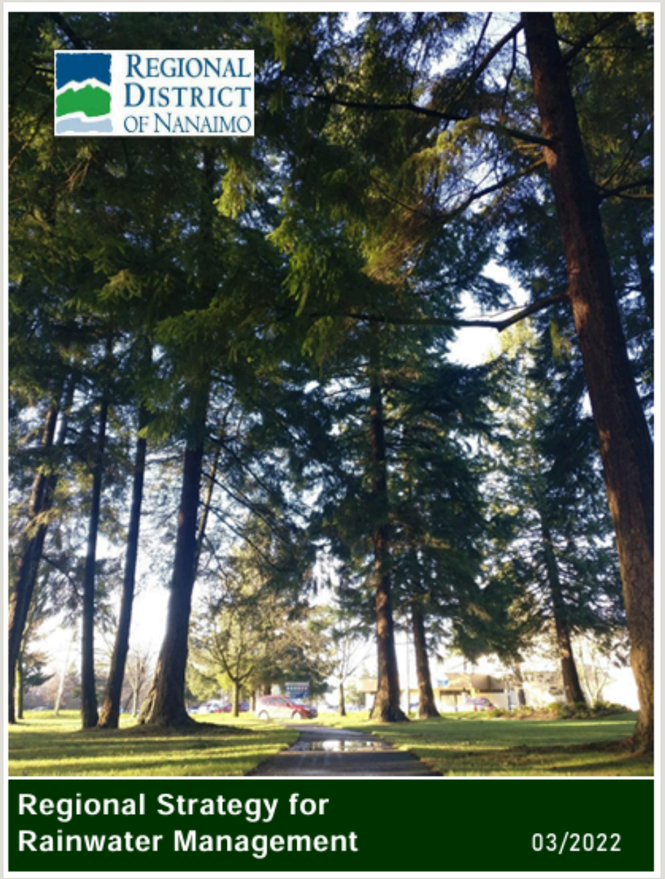


The Regional Strategy for Rainwater Management is a regulatory commitment in the LWMP; DWWP Action Plan enables implementation mechanism & provides project leadership.

Objectives

- To outline a strategy for collaborative rainwater management in the region, at the watershed scale, for the protection of private property and the environment.
- To coordinate actions across jurisdictions to maintain healthy watersheds in the context of climate change, land use pressures and evolving best practices for rainwater management.
- To provide a basis to update policies, standards and bylaws, inform education and outreach, and support grant funding applications for infrastructure upgrades and natural asset protection.

REGIONAL STRATEGY FOR RAINWATER MANAGEMENT



Key Elements

- Foundation Setting studies and assessments
  - Watershed studies, watershed monitoring, regional climate change assessment, funding options assessment
- Development of Performance Targets
  - Release rate, retention volume, recharge volume, water quality, interim targets
- Implementation tools
  - Design standards and specifications, guidance documents / manuals, policies, bylaws, DPAs, strategic planning tools

REGIONAL STRATEGY FOR RAINWATER MANAGEMENT

Scales of Implementation

SITE LEVEL

- Rainwater harvesting / re-use
- Raingardens (also at the neighbourhood scale) / bioswales
- Permeable pavers / retention of vegetated areas

NEIGHBOURHOOD LEVEL (EG. SUBDIVISIONS)

- Low impact development
  - bioswales, tree trenches, infiltration galleries, dedicated greenways, retention of ponds and wetlands

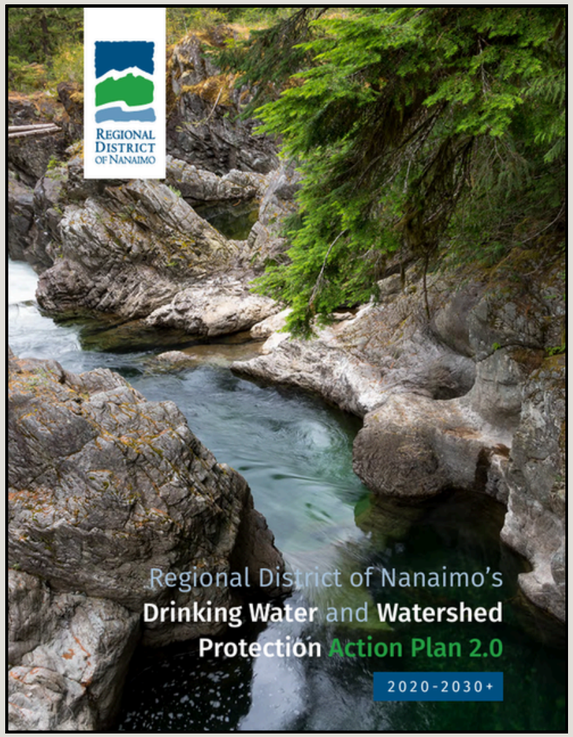
SUB-WATERSHED OR COMMUNITY LEVEL

- Coordination across land managers / jurisdictions
  - Partnerships, agreements, MOUs with private forestry and MOTT

RAINWATER MANAGEMENT PROJECTS

- Cedar-Yellowpoint-Cassidy Water budget project (foundation setting studies)
- Servicing Study / OCP support in East Wellington (Area C)
- Hydrometric monitoring and partnerships (Flow Monitoring Network and Nanaimo River Flow committee)
- Ongoing water quality monitoring (through CWMN and partnerships such as tire wear toxin monitoring support)
- Upcoming:
  - Application of watershed performance targets for inclusion in EA OCPs updates
  - Rainwater integration in Wastewater Inflow & Infiltration Strategy
  - Support for community partners – Raingarden projects / feasibility study for Rainwater rebate

DWWP 2025 YEAR IN REVIEW



Refer to handout summarizing key accomplishments in 2025

RDN Partner Dept.	DWWP Theme	DWWP Initiative (* = continuing; ^ = new ...as of 2025)	Action Detail 2025	Complete	>>2026
	Water Awareness and Stewardship	5.1.1 Community Based Social Marketing (CBSM) review / redesign of outreach programs *	Ongoing Implementation	☑	☑
		5.1.1 Public research survey for benchmarking on water behaviours, perspectives and priorities *	not started	☐	☑
Communications		5.1.1 Multimedia outreach *	Updates to graphics, water sources ms	☑	☐
Building Ops		5.1.1 Demonstration sites / interpretive signage *	Admin building rain garden	☑	☑
		5.1.1 Youth water leadership engagement *	Ongoing Implementation	☑	☑
		5.1.1 Team WaterSmart tours, community events, workshops, school materials, irrigation check-u	Ongoing Implementation	☑	☑
		5.1.2 Expand existing rebate programs*^	increased funds for RWH	☑	☐
		5.1.2 Explore new rebate for water flow meters for wells^	other rebate options being explored	☐	☐
Planning		5.1.3 Agricultural sector outreach^	Push out to 2026 >>	☐	☐
		5.1.3 ICI sector outreach^	-	☐	☐
		5.1.4 Expand seedfunding for restoration projects*^	15% increase	☑	☐
		5.1.4 Water stewardship organizations networking opportunities^	Ongoing Implementation	☑	☐
Water Ops		5.1.5 Support regional water conservation plans*	-	☐	☑
Water Ops		5.1.5 Coordinate regional watering restrictions communications *	Ongoing Implementation	☑	☑
		5.1.5 Support small water systems with annual working group session*	-	☐	☐
		5.1.6 Participate in and coordinate advisory committees*	Ongoing Implementation	☑	☑
	Water Science and Information	5.2.1 Maintain regional surface water (CWMN) and groundwater (VOW) monitoring*	Initiated Strategic Planning	☑	☐
		5.2.1 Hydrometric and climate monitoring partnerships*	BCCF / Prov / VIU	☐	☑
IT		5.2.1 Data management *^	GW Data Management System	☑	☐
		5.2.1 Explore potential for Benthic Invertebrate Monitoring (ie. CABIN)^	Analysis in 2026	☐	☑
		5.2.1 Wetland monitoring and mapping *^	Citizen science	☑	☑
		5.2.2 Water budget phase 3*	Cedar-YP initiated	☑	☑
		5.2.2 Surface water trend analysis*	CWMN Tech Memo	☑	☑
		5.2.2 Groundwater trend analysis*	Pre-Summer Reporting	☑	☑
Parks, Planning		5.2.2 Quantifying ecosystem services via ecological accounting pilot (in partnership with PWSBC)^	Holden Creek Yr. 3	☐	☑
		5.2.2 Snowpack modelling^	completed pilot - ongoing support wit	☐	☑
Wastewater		5.2.2 Water balance modelling (rainwater management) Linked to 5.2.4	French Creek Phase 2 complete	☑	☐
GIS		5.2.3 Interactive water map(s)*^	Updated rebates map	☑	☑
		5.2.3 Data visualization through dynamic graphs^	Groundwater level graphs	☑	☐
Communications		5.2.3 Publications*^	Groundwater Connections	☑	☐
Planning /Wastewater		5.2.4 Develop watershed perfomance targets for priority water region^	French Creek targets	☐	☑
Planning	Water-centric Plan	5.3.1 Integrating water information into key long-range planning processes*^	Ongoing Area F OCP, RGS	☑	☐
Planning		5.3.1 Provide regional water information to inform referrals from Current Planning and the Provin	Staff Time	☑	☐
Emergency Services		5.3.1 Provide regional water information to inform Emergency Services operations*	Staff Time	☑	☐
Planning /Wastewater		5.3.1 Develop a regional rainwater management strategy^	Complete	☑	☑
Planning		5.3.2 Best practices and policy research*^	CBM and planning/policy applications	☐	☑

DWWP YEAR IN REVIEW: ACTION PLAN PROGRESS INDICATORS

Water Collaboration

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 sites with long-term (>3 years) 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 processes informed by DWWP actions/ information	Number of watershed performance targets developed	Implementation of innovative rainwater management policies and practices	Successful advocacy with outside agencies

DWWP YEAR IN REVIEW: ACTION PLAN PROGRESS INDICATORS

Theme	Progress Indicator 1		Progress Indicator 2		Progress Indicator 3		Progress Indicator 4	
Water Awareness and Stewardship	**Reduction of metered water use over time**	Over 30% reduction in per capita water demand in City of Nanaimo over past 14 years; 2.3% reduction in RDN Water Service Areas ** data is variable, need more consistency across all systems to be able to report **	**Number of Restoration projects completed**	9 community-level restoration and research projects supported through Stewardship Seed Funding in 2025	**Market research survey response indicating improved awareness**	2021 benchmark survey complete, to be re-assessed in 2026	**Improving trends in groundwater level and surface water quality**	GW Level: Regional analysis identified increasing or stable trends in 10/ 21 aquifers reporting; 3/21 reported a declining trend; 8/21 had spatially variable trends with wells ranging from a large decline to increasing. SW Quality: Trend analysis was completed in 2024 with one stream added in 2025; variable results some parameters at some locations improving, others declining.
Water Information and Science	**Number of sites with long-term (>3 years) datasets hosted on open Provincial platforms**	Groundwater monitoring (VOW): 11 sites; Surface water quality (CWMN) 84 sites; Hydrometric stations 3; Climate stations 1	**Completion of numerical water budget models for priority watersheds and aquifers**	Initiated the Cedar-Yellowpoint-Cassidy Phase 3 Water Budget (completion in Q1 of 2026)	**Continued participation of community volunteers in citizen science efforts**	13 returning stewardship groups (CWMN); 31 ongoing well monitoring volunteers; 3 streamside dialouges to support strategic planning for monitoring programs	**Number of publications communicating water science**	Groundwater Connections mail-out and Get Involved page; Climate-Informed Water Supply Planning Communications Materials; "Our Water Sources" graphic update; Presentations for BCWWA Conference, Islands Trust Groundwater Monitoring Workshop, PSF Workshop
Water-centric Planning and Policy Support	**Number of planning documents and processes informed by DWWP actions / information**	RDN Proof of Water Policy (in progress); RDN Electoral Area Servicing Study (in progress); Parks Biodiversity Plan; 10+ Development Referrals; RDN Climate Action Plan 2025-2029; City of Nanaimo Monitoring Strategy	**Number of watershed performance targets developed**	French Creek Water Region Performance Targets - Implementation, Monitoring, and Adaptive Management	**Implementation of innovative rainwater management policies and practices**	Draft Rainwater Management Plan Checklist and Draft DPA with Rainwater Performance Targets; Servicing study under development; initiated support for I&I strategy development with Wastewater Servives	**Successful advocacy with outside agencies**	Presented to Association of Vancouver Island and Coastal Communities (AVICC) Climate Leadership Committee on DWWP "data-to-action" approaches for integrating watershed monitoring into planning and policy

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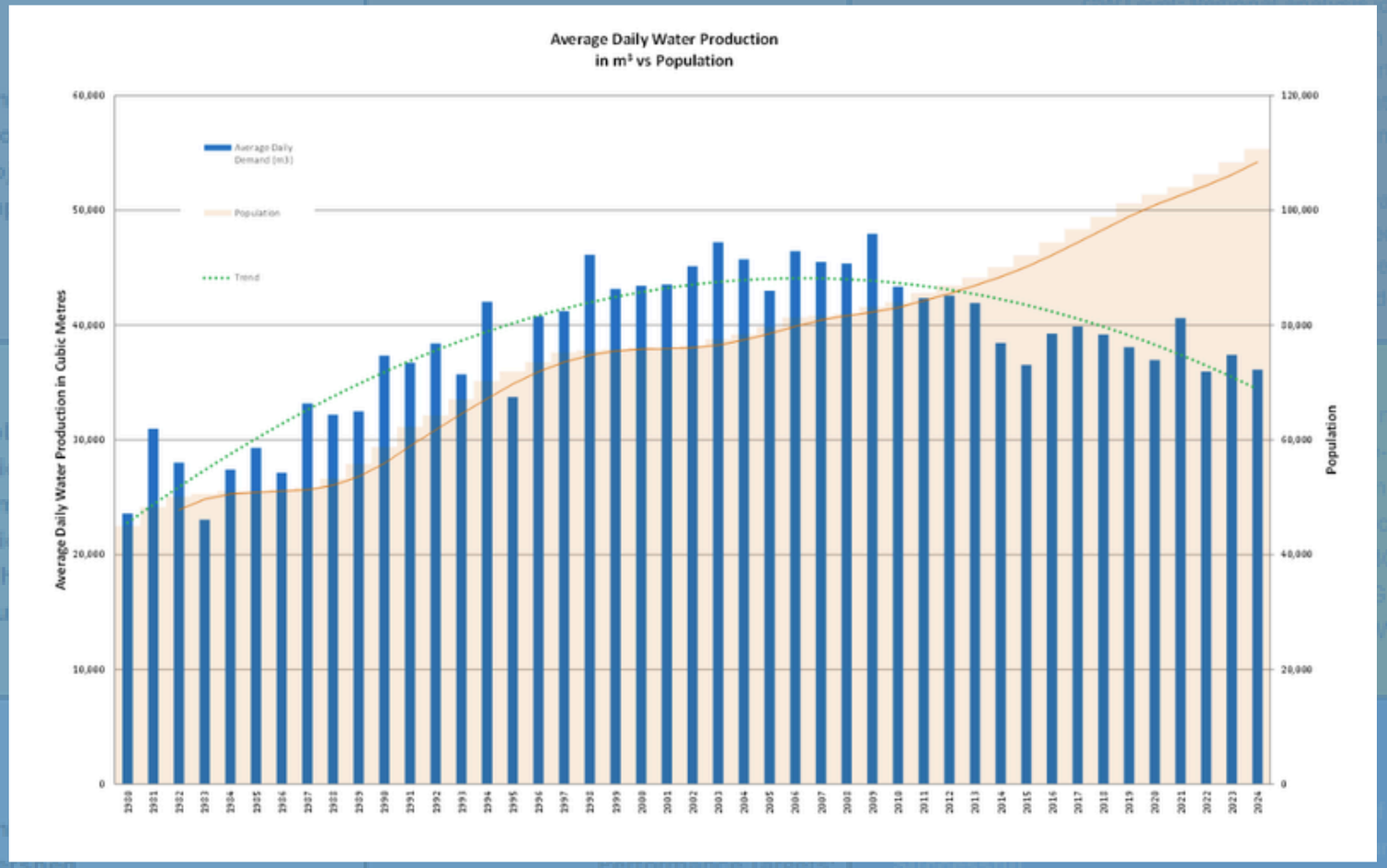

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LOOKING AHEAD TO 2026

- Complete Cedar-Yellowpoint-Cassidy Water Budget Phase 3
- Community Watershed Monitoring Network Strategic Planning
  - Supported through Riparian Spatial Analysis map updates, engagement with stewardship groups and monitoring partners
- Support OCP updates (Servicing study, aquifer assessments as needed)
- Climate Monitoring – Snowpack monitoring support
- Water Attitudes / Freshwater Perspectives Benchmark – Five-Year Progress Survey
- Supporting Rainwater Management / Watershed Protection Demonstration Sites, including signage and outreach materials
- Providing Stewardship Seed Funding to support watercourse enhancement projects
- School Freshwater Stewardship Education Delivery Contract (NALT) & Watershed Field Trips
- Ongoing water monitoring network operation, (including groundwater, surface water quality, hydrometric, lakes, wetlands) and reporting
- Ongoing rebate program delivery - Rainwater harvesting, Wellhead upgrades, Well Water Testing, Irrigation & Soil Improvements


THANK YOU
see you in 2026!