



Drinking Water & Watershed Protection

September 20th, 2022 // Technical Advisory Committee Meeting

AGENDA

ROUNDTABLE

**INVITED
PRESENTATIONS**

**PROJECT UPDATE
PRESENTATIONS**

**NEW
BUSINESS**

AGENDA

Approval of the agenda

Adoption of minutes

- Minutes from May 12, 2022

Roundtable Updates

Invited Presentations

Project Updates

New Business

Adjournment



Invited Presentations

- **Water Supply Planning Resilience Project**
Kirk Stinchcombe & Rebecca Mersereau
- **French Creek Water Budget Phase 3 – Draft Report**
Mark Bolton & Arianna Piazza
- **Climate Change Impacts on Island Water Balance**
Alan Gilchrist
- **Vancouver Island Agricultural Water Supply Assessment**
Foster Richardson - **Deferred to December meeting**



PROJECT UPDATES

STAFF PRESENTATIONS

Awareness &
Stewardship

Information
& Science

Policy &
Planning
Support



Awareness & Stewardship

**Outreach
Updates**

**Irrigation
Check-Ups**

**UPCOMING
Community Watershed
Monitoring Stewards Event**

Outreach Updates

2022 Outreach summary

Date	Event	Location
May 1 st	The River Never Sleeps	Area H
June 18 th	Gabriola Farmer's Market	Area B
July 1 st	Canada Day Celebrations	Nanaimo
July 17 th	Qualicum Beach Day	Qualicum Beach
July 21 st	River's Edge Pop-up	Area G
July 26 th	Summer by the Sea Market	Parksville
August 6 th	Mine town Day	Lantzville
September 10 th	Errington Farmer's Market	Area F
September 11 th	Cedar Farmer's Market	Area A

- Since Water 2 Earth Month, Team WaterSmart has attended 9 in person events across the region
- August 1-31st- MacMillan Arts Centre ETHOS Display "The Tale of One Urban Creek" on Shelly Creek
- WaterSaver Contest- online and in-person ends Sept 27th



Fall 2022 Outreach

- **Sept 25th**- World River's Day with City of Nanaimo
- **Sept 29th and Oct 1st**- River's Day Interpretive walks
- **October**- Watershed Field Trips for Grades 4/5 in SD68 & SD69
- **October 23rd**- "Gardening in a Changing Climate"
- **November**- WellSmart Workshops - in-person. More info TBD



Irrigation Check-Ups

- **May 2022**- letters were sent out to the top 100 residential water users in each municipality and the RDN Water Service areas
- **Over 40 residents** expressed interest and were provided with an Irrigation information package
- June- August 2022- **11 Irrigation check ups completed**
- **4 Nanoose Bay, 5 Parksville, 1 Nanaimo, 1 Lantzville**
- **Comprehensive reports** delivered to homeowners including overview maps, flagged areas and areas for improvement.
- **Feedback form** will be sent to all participants to determine if improvements can be made for next year



Community Watershed Monitoring Stewardship Event

*A thank-you event and lunch to celebrate CWMN volunteers
& introduce potential new members to the program!*

- **Saturday, November 19th, 1:00pm to 3:00pm, at the McMillan Arts Centre**
- Catered lunch, appreciation gifts, door prizes, and more!
- Event open to the public who are interested in learning more about volunteering
- Opportunity for CWMN groups to showcase their group to potential new recruits with a short presentation and/or table for materials
- Invitation to CWMN members coming soon
- Promotion through partner networks, RDN social media, Get Involved, and more



**Community
Watershed
Monitoring
Updates**

**Canadian Aquatic
Biomonitoring Network**
Deferred to December meeting



**Information
& Science**

**Regional Riparian
Analysis &
Interactive Map**

Community Watershed Monitoring Updates

- August Volunteer Training
 - 38 volunteers trained at five sessions
 - 2x French Creek, 2x Millstone, Gabriola
- 14 groups participating
 - new group Lantzville Streamkeepers
 - NCES & QLWSS sites not sampled
- 67 sites, 38 streams, and 24 watersheds
- Summer sampling complete
 - Aug. 16 - Sept. 13
- Fall flush start TBD, Oct. 4 tentative
- Hach equipment delays



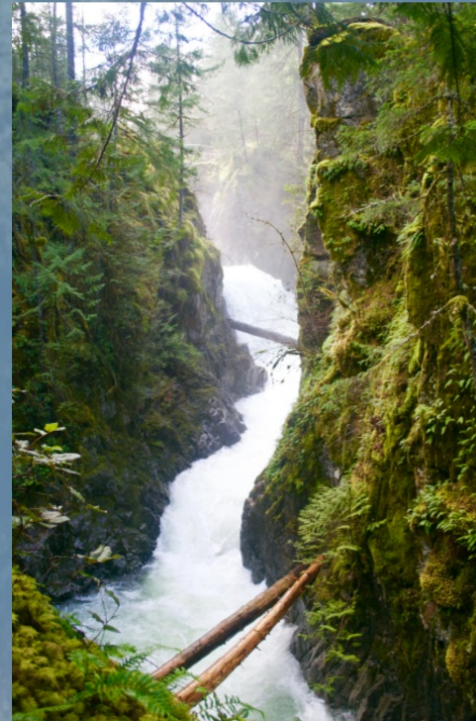
Regional Riparian Analysis & Interactive Map

Project aims:

- Provides a regional-level status summary to guide field work
- Strategizes and prioritizes efforts for conservation, monitoring, and rehabilitation
- Highlights where to allocate funding for restoration and enhancement projects

Links to DWWP/RDN program initiatives:

- Community Watershed Monitoring Network
- Stewardship Seed Funding Allocation
- Regional Strategy for Rainwater Management
- Ecological Accounting Process
- Municipal Natural Assets Inventory



Regional Riparian Analysis & Interactive Map

Project Overview

- 47 streams analyzed
- Compiles existing data from publicly-available sources
- Quantifies current vegetation extents and considers vegetation types and diversity, ages of stands, canopy closure, soil classes, and disturbance
- Presents a criteria for health, showing where there is potential deficit
- Identifies priority areas for restoration, enhancement, or monitoring
- Presented in both a report and as an interactive, publically available map



Regional Riparian Analysis & Interactive Map

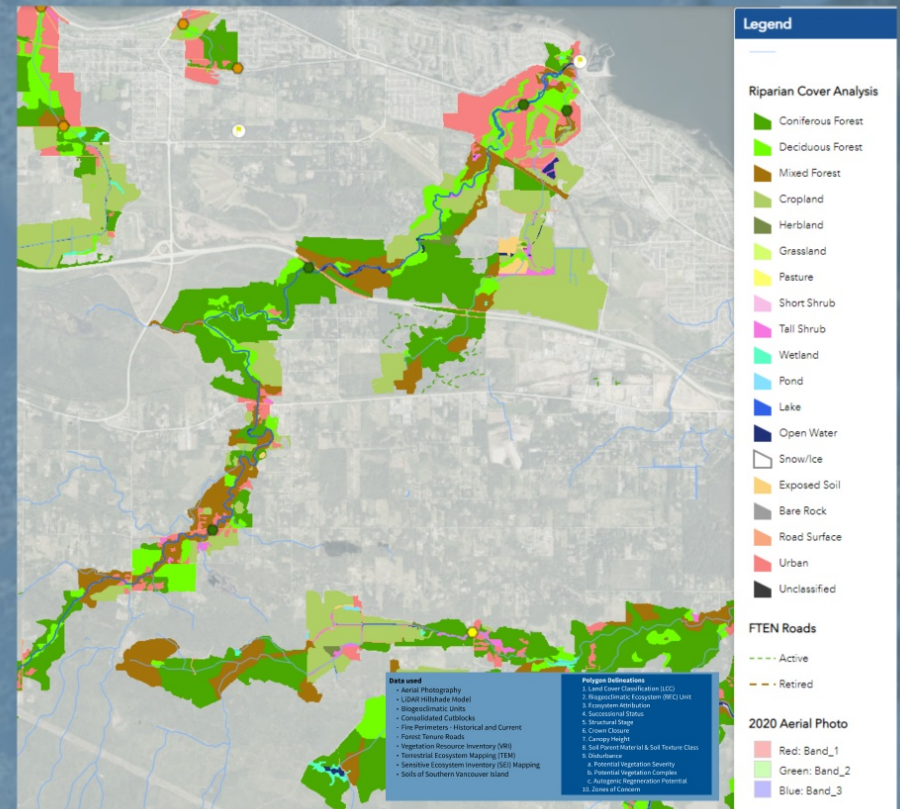
Riparian Cover Analysis

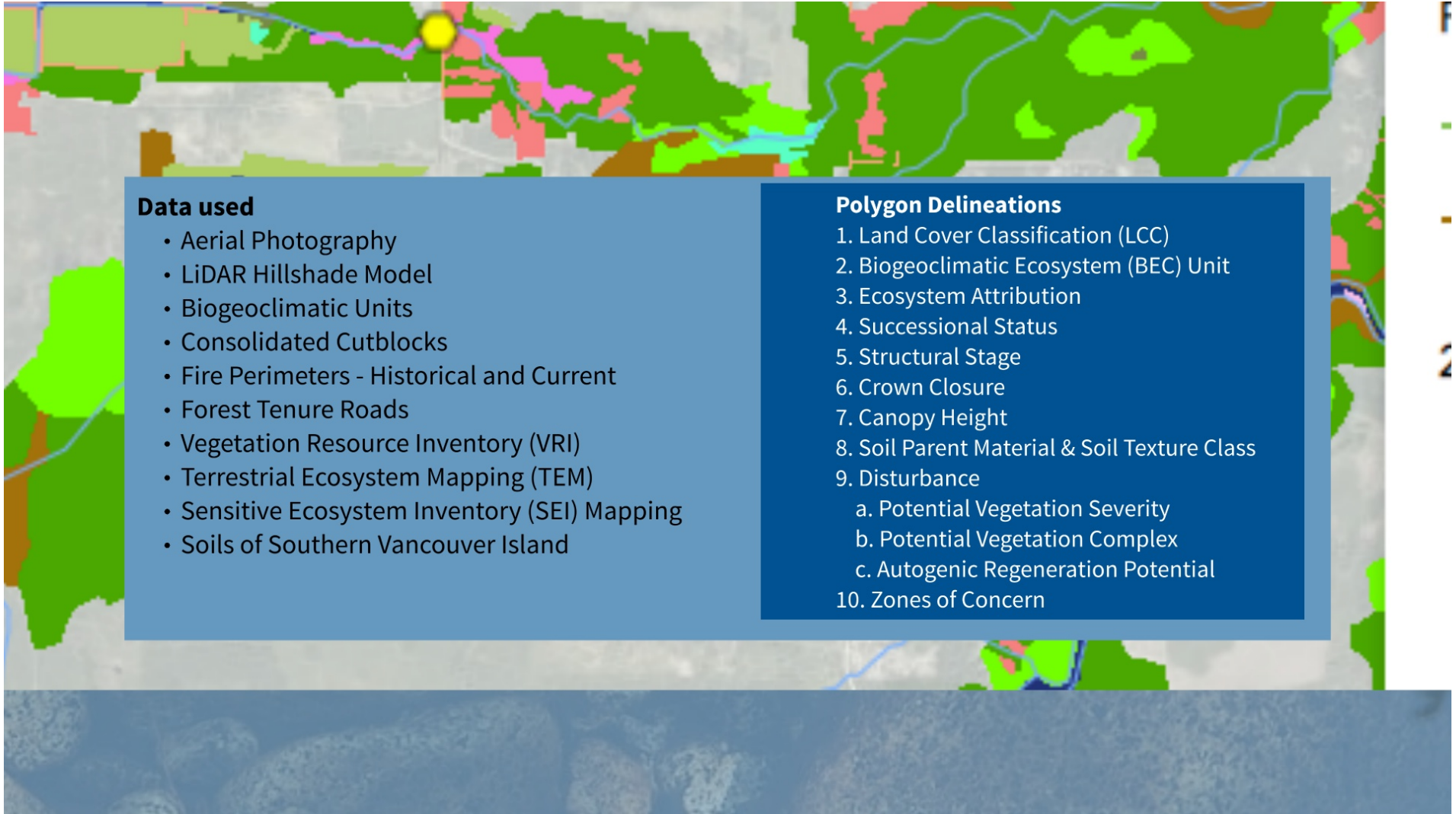
Individual map polygons were primarily defined using **land cover classification (LCC)**

Delineation of riparian cover used the **variable width approach** and were contingent on ecological attributes, structure, stand composition, and other imagery-observable characteristics

Areas were mapped at a scale of **1:5000**. Scale varied if areas of noticeable disturbance or unique attributes were observed

A total of 5,409 polygons were mapped, the most frequently mapped LCC was Coniferous Forest (2,083 polygons) and the second was Urban (695 polygons)





Data used

- Aerial Photography
- LiDAR Hillshade Model
- Biogeoclimatic Units
- Consolidated Cutblocks
- Fire Perimeters - Historical and Current
- Forest Tenure Roads
- Vegetation Resource Inventory (VRI)
- Terrestrial Ecosystem Mapping (TEM)
- Sensitive Ecosystem Inventory (SEI) Mapping
- Soils of Southern Vancouver Island

Polygon Delineations

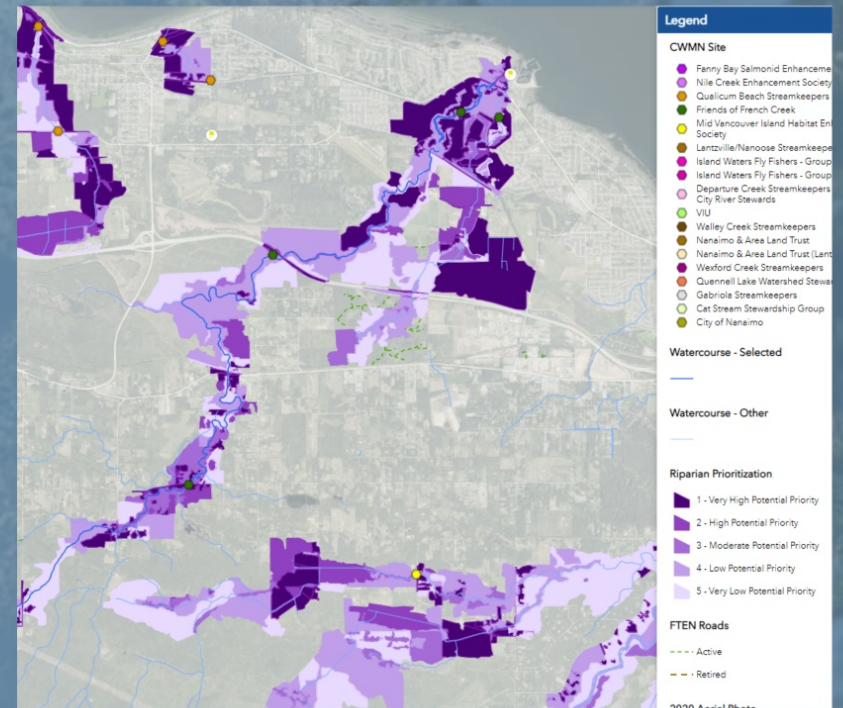
1. Land Cover Classification (LCC)
2. Biogeoclimatic Ecosystem (BEC) Unit
3. Ecosystem Attribution
4. Successional Status
5. Structural Stage
6. Crown Closure
7. Canopy Height
8. Soil Parent Material & Soil Texture Class
9. Disturbance
 - a. Potential Vegetation Severity
 - b. Potential Vegetation Complex
 - c. Autogenic Regeneration Potential
10. Zones of Concern

Regional Riparian Analysis & Interactive Map

Restoration Prioritization

Developed a restoration prioritization scheme for the riparian corridors by assessing 8 parameters associated with riparian condition :

1. Disturbance
2. Zones of Concern
3. Vegetation Cover
4. Terrestrial Habitat Cover and Continuity
5. Vegetation Complexity and Structural Diversity
6. Soil Parent Materials and Texture
7. Water Quality
8. Climate

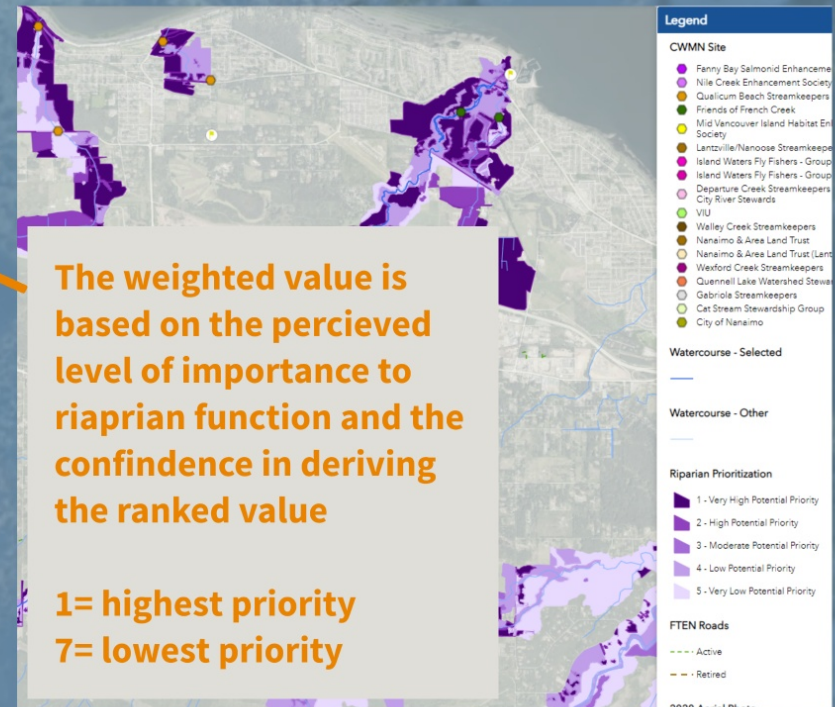


Regional Riparian Analysis & Interactive Map

Restoration Prioritization

Developed a restoration prioritization scheme for the riparian corridors by assessing 8 parameters associated with riparian condition :

1. Disturbance (1)
2. Zones of Concern (1)
3. Vegetation Cover (2)
4. Terrestrial Habitat Cover and Continuity (3)
5. Vegetation Complexity and Structural Diversity (4)
6. Soil Parent Materials and Texture (5)
7. Water Quality (6)
8. Climate (7)

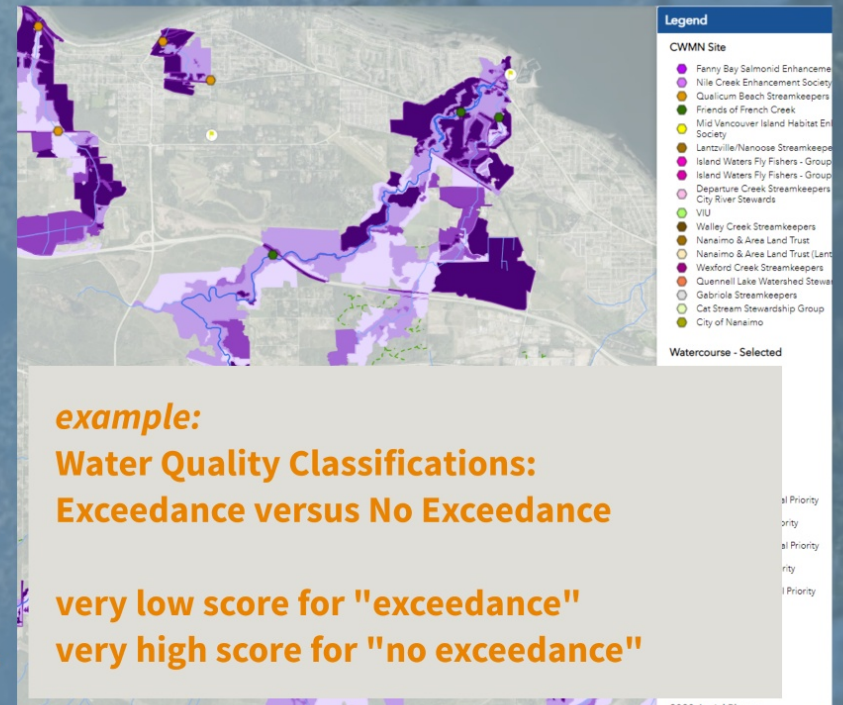


Regional Riparian Analysis & Interactive Map

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6. Soil Parent Materials and Texture
7. Water Quality (6) ←
8. Climate



Regional Riparian Analysis & Interactive Map

REGIONAL SERVICES

Drinking Water & Watershed Protection

- Action Plan
- Our Watersheds
- Reports
- Projects
- Team WaterSmart
- Watershed Education
- Rebates
- Resources
- FAQ

SEPTEMBER 2022

Su	Mo	Tu	We	Th	Fr	Sa
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24

RDN ► Regional Services ► Drinking Water & Watershed Protection ► Projects ► Riparian Analysis Map

Updated on September 16, 2022

Riparian Analysis Map

Our region is experiencing increased air and water temperatures, prolonged drought periods, and increased frequency of high intensity rainfall events as a result of climate change. To buffer these extremes, intact and functional riparian areas are essential for promoting cooler air and water temperatures in heatwaves, offering water filtration and flood protection during high rainfall events, and providing overall enhanced biodiversity, ecosystem services and climate resilience.

To understand the state of riparian cover across the region's major watercourses and guide future restoration and enhancement efforts, the RDN's **Drinking Water & Watershed Protection (DWWP)** engaged with *McTavish Resource & Management Ltd* to determine current functional riparian cover levels across the region's watersheds, using aerial imagery, remote sensing data, and existing water quality data collected through the RDN's **Community Watershed Monitoring Network**.

The *Regional Riparian Spatial Analysis for Restoration Prioritization* project assessed the riparian condition of 47 waterways across the RDN based on a prioritization scheme that considers eight parameters associated with riparian health, including:

- Disturbance,
- Zones of concern,
- Vegetation cover,

Click on the image below to enter the **Riparian Analysis Map Viewer**:

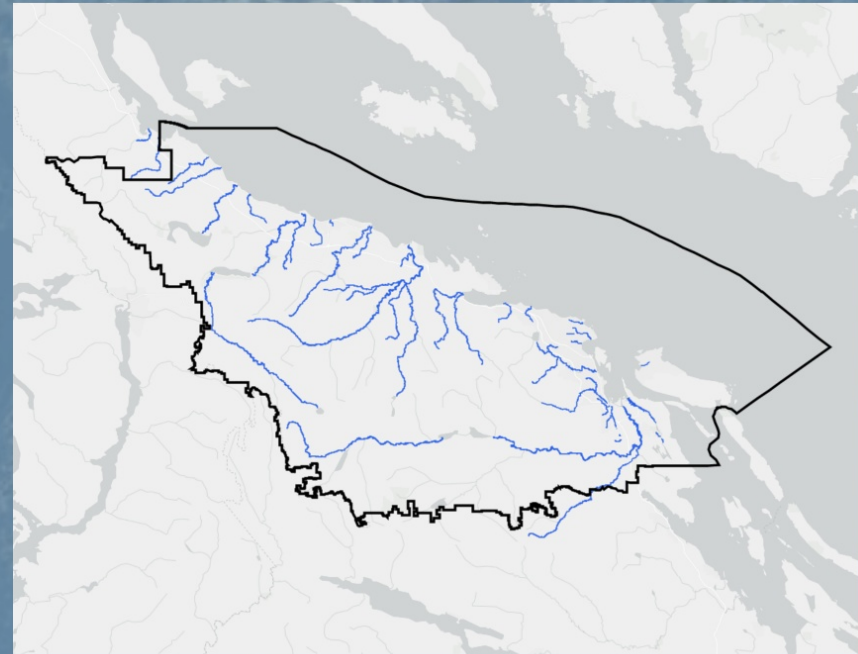
Your feedback is welcome! Don't hesitate to contact us with your comments, questions, and concerns by emailing waterstewardship@rdn.bc.ca

<https://www.rdn.bc.ca/riparian-analysis-map>

Regional Riparian Analysis & Interactive Map

Project Limitations

- Watercourse and Site-Specific Ground Truthing
- Aerial Imagery
- Property Ownership
- Climate Change
- Restoration Prescriptions



Regional Riparian Analysis & Interactive Map

Next steps

- Present to RDN Planning and RDN Parks
- Minor updates with consultants for usability
- "How-to" video tutorial on webpage
- User feedback session / updates to map layers based on user feedback
- Map maintenance such as aerial imagery update/change detection analysis

Optional - for discussion/scoping:

Ground-truthing high priority areas (calibrating analysis based on results)

Climate resilient restoration prescriptions

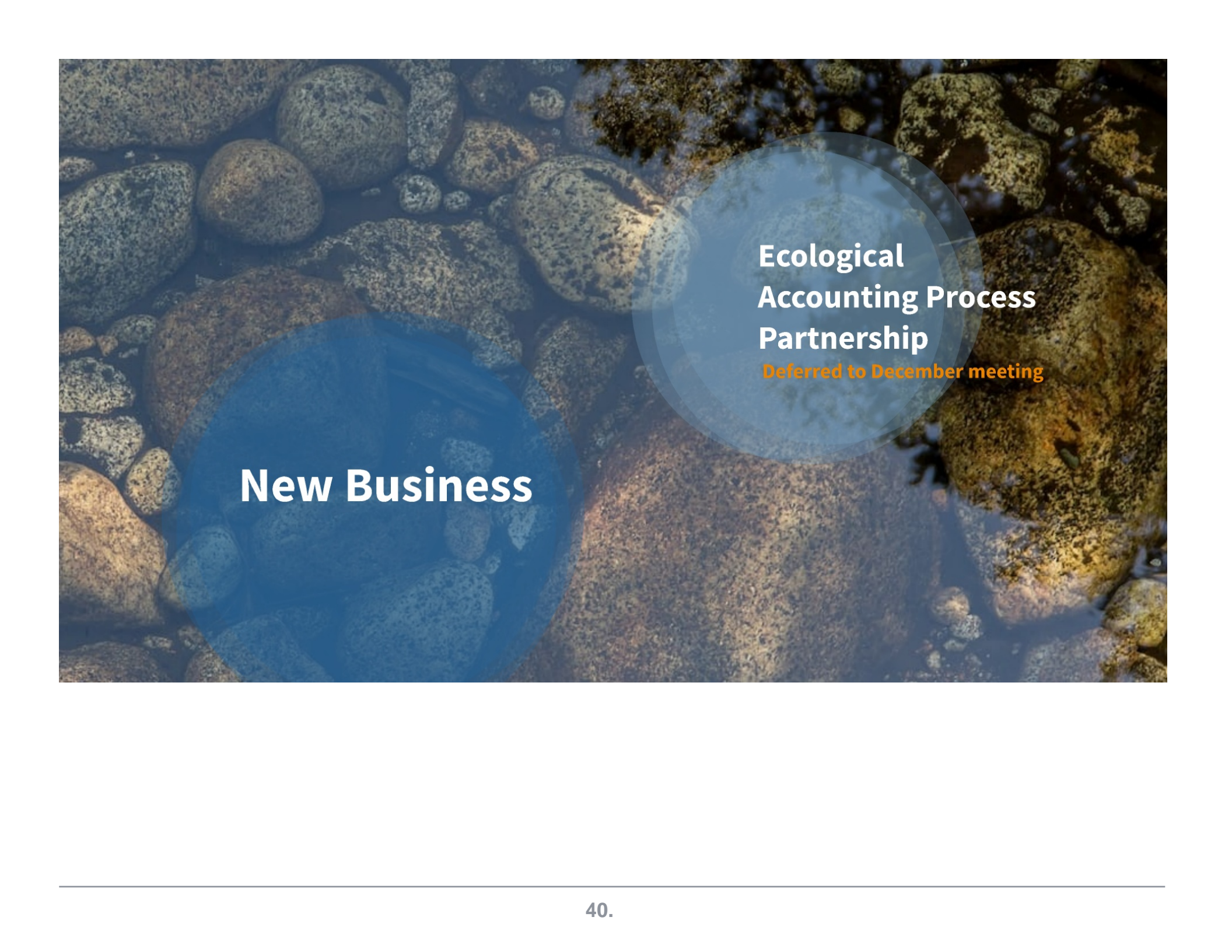
LiDAR expansion



Rainwater Items Update
Deferred to December meeting



**Policy & Planning
Support**



New Business

**Ecological
Accounting Process
Partnership**

Deferred to December meeting

