



RVCA Water Quality Update: Little Silver & Rainbow

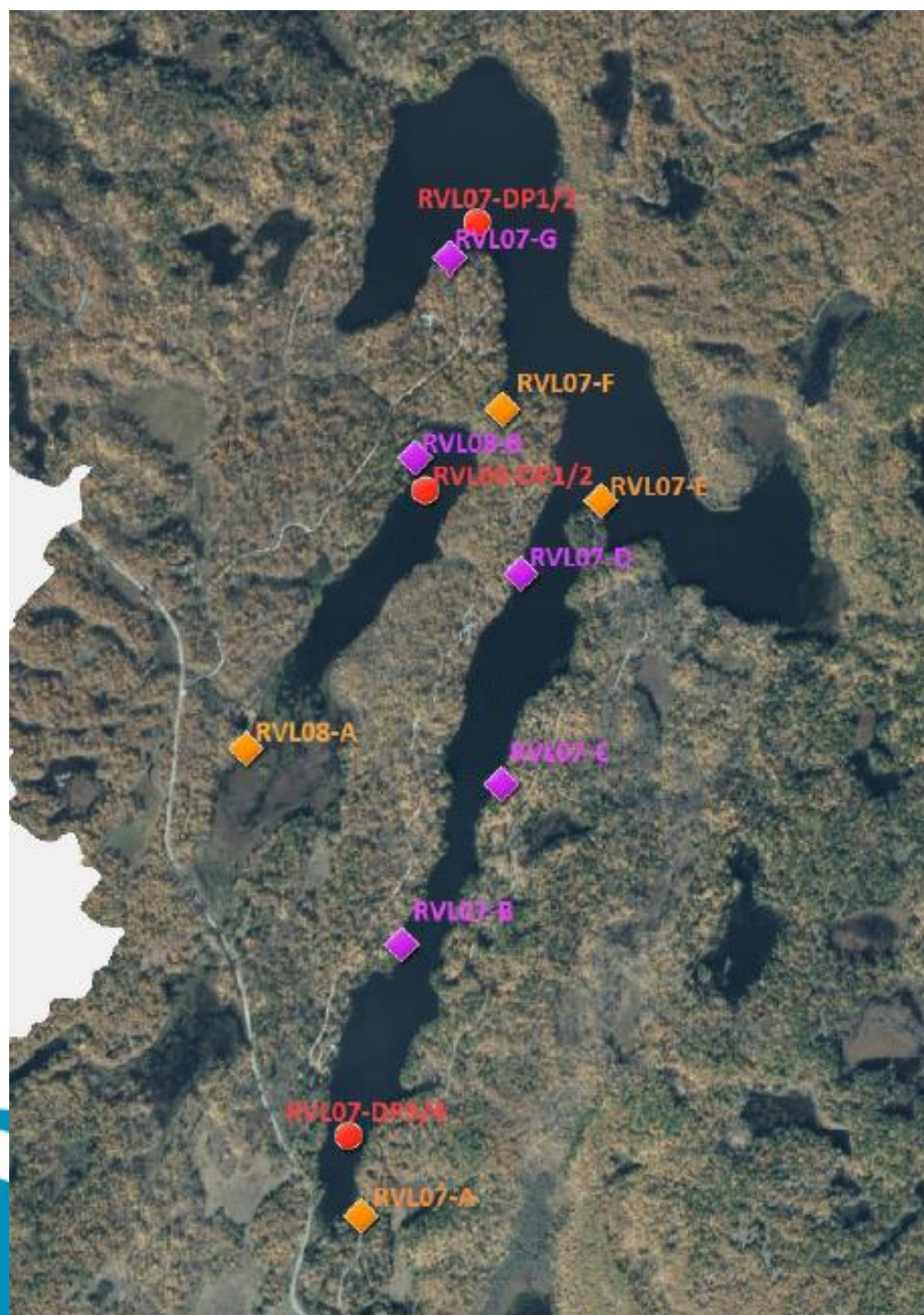
Haley Matschke – Surface Water Quality Coordinator

Little Silver & Rainbow Lakes AGM

July 5th, 2024 – Maberly, ON

Monitoring Locations

- Little Silver Lake:
 - 2 Deep Points
 - 3 Shoreline Sites
- Rainbow Lake
 - 1 Deep Point
 - 1 Shoreline Site
- Roughly **3179** water Samples since 2001



2024 Sampling Results – Little Silver

Deep Point								
Lake	Date Sampled	Site	Calcium (mg/L)	Carbon (mg/L)	E.Coli (CFU/100mL)	TP (mg/L)	TKN (mg/L)	Secchi (m)
RVL07-Little Silver	05-07-2024	DP1				0.026	0.4	6.5
RVL07-Little Silver	07-17-2024	DP1		7.2		0.006	0.3	5.5
RVL07-Little Silver	08-20-2024	DP1	18.8			0.013	0.3	4.5
RVL07-Little Silver	10-09-2024	DP1				0.022	0.4	4
RVL07-Little Silver	05-07-2024	DP3				0.009	0.3	6.5
RVL07-Little Silver	07-17-2024	DP3		7.3		0.009	0.4	4.5
RVL07-Little Silver	08-20-2024	DP3	18.5			0.01	0.3	2.5
RVL07-Little Silver	10-09-2024	DP3				0.015	0.4	3.75
Shoreline Samples								
RVL07-Little Silver	07-17-2024	A			2	0.006	0.3	
RVL07-Little Silver	07-17-2024	E			3	0.005	0.3	
RVL07-Little Silver	07-17-2024	F			4	0.008	0.3	
RVL07-Little Silver	08-20-2024	A			1	0.012	0.3	
RVL07-Little Silver	08-20-2024	E			5	0.012	0.3	
RVL07-Little Silver	08-20-2024	F			1	0.012	0.4	

2024 Sampling Results – Rainbow Lake

Deep Point								
Lake	Date Sampled	Site	Calcium (mg/L)	Carbon (mg/L)	E.Coli (CFU/100mL)	TP (mg/L)	TKN (mg/L)	Secchi (m)
RVL08-Rainbow	05-07-2024	DP1				0.022	0.5	3.5
RVL08-Rainbow	07-17-2024	DP1		11.2		0.016	0.5	2.75
RVL08-Rainbow	08-20-2024	DP1	22.9			0.027	0.7	1.5
RVL08-Rainbow	10-09-2024	DP1				0.025	0.6	2.25
Shoreline Samples								
RVL08-Rainbow	07-17-2024	A			32	0.025	0.8	
RVL08-Rainbow	08-20-2024	A			26	0.028	0.7	

Trophic Status

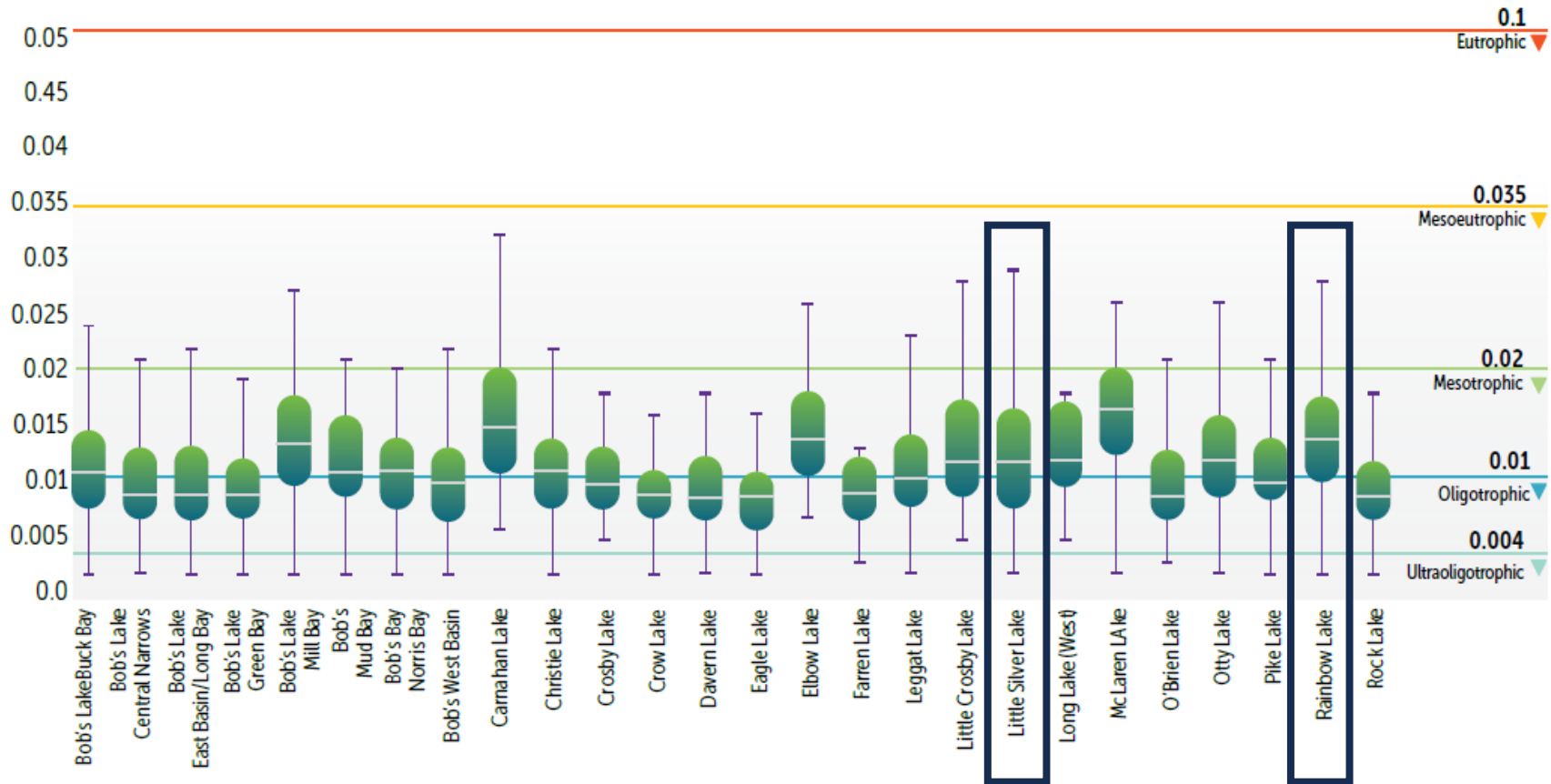
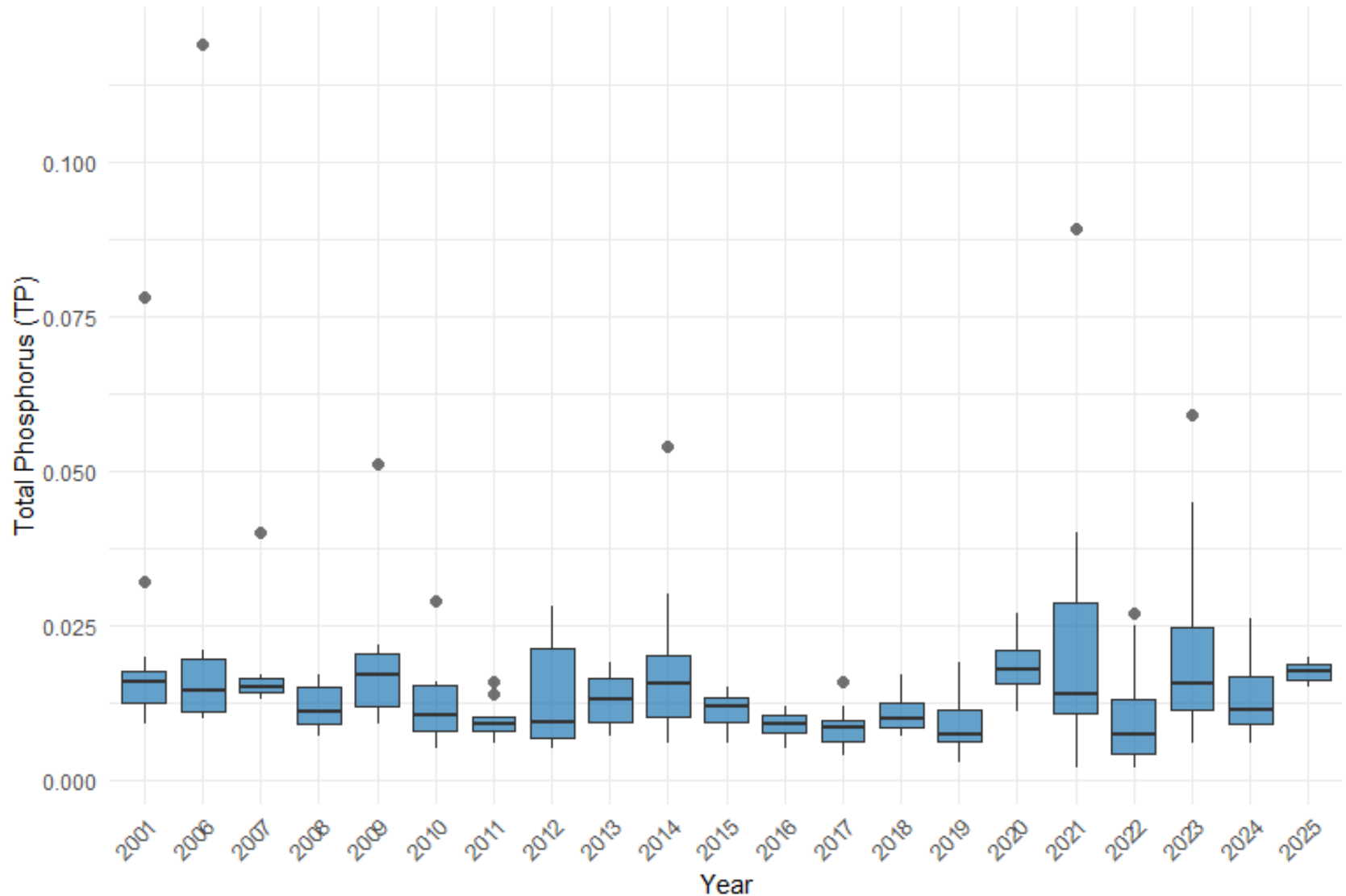


FIGURE 2.29 Trophic status in the Tay River Subwatershed as determined by euphotic zone Total Phosphorus concentrations results between 2001 and 2021

Deep Point Trends – TP

Annual TP Distribution at LittleSilverLakeDP1 & DP3



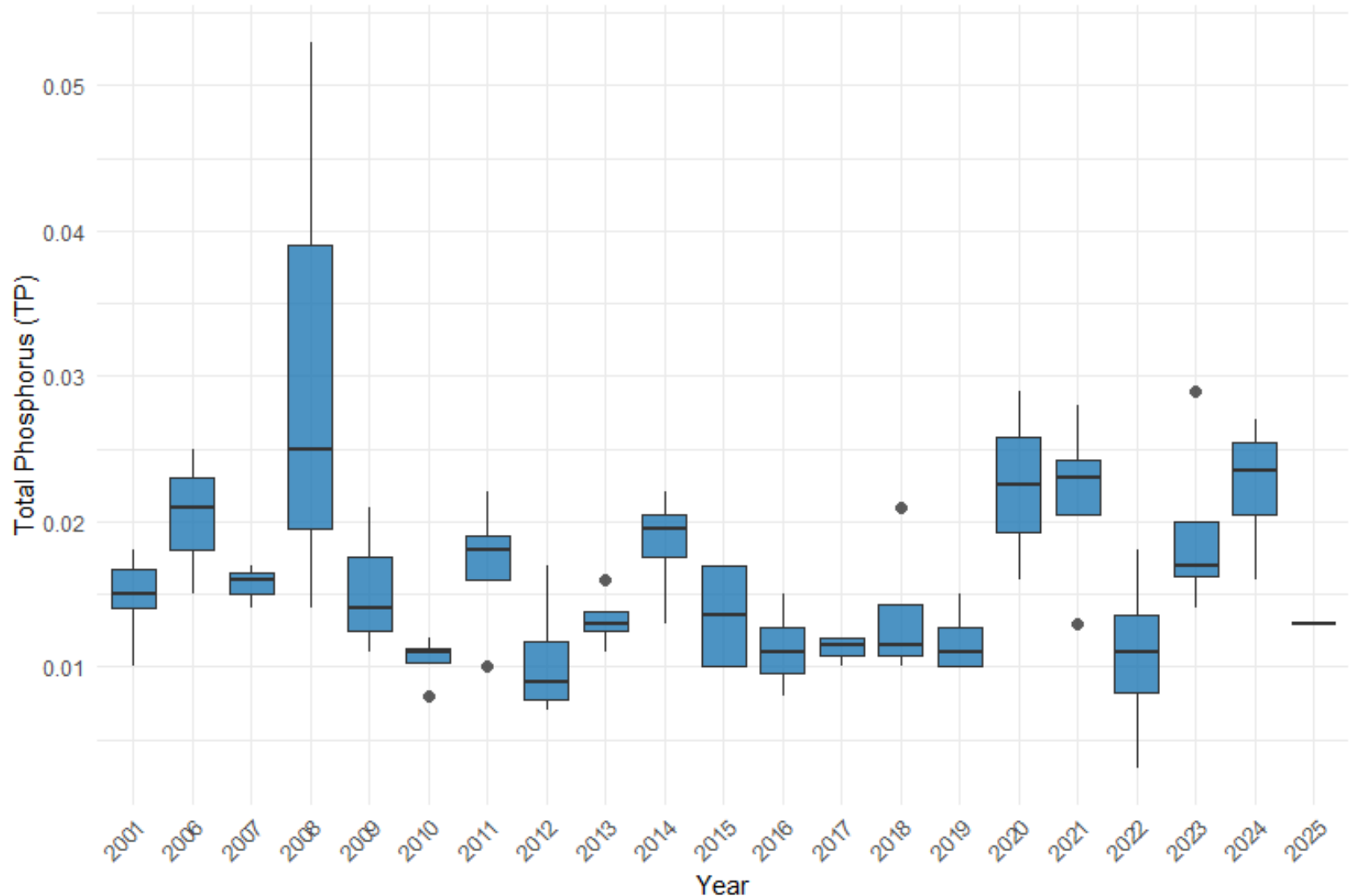
Deep Point Trends – TP, Little Silver Lake

TP Trends at LittleSilverLakeDP1 and LittleSilverLakeDP3

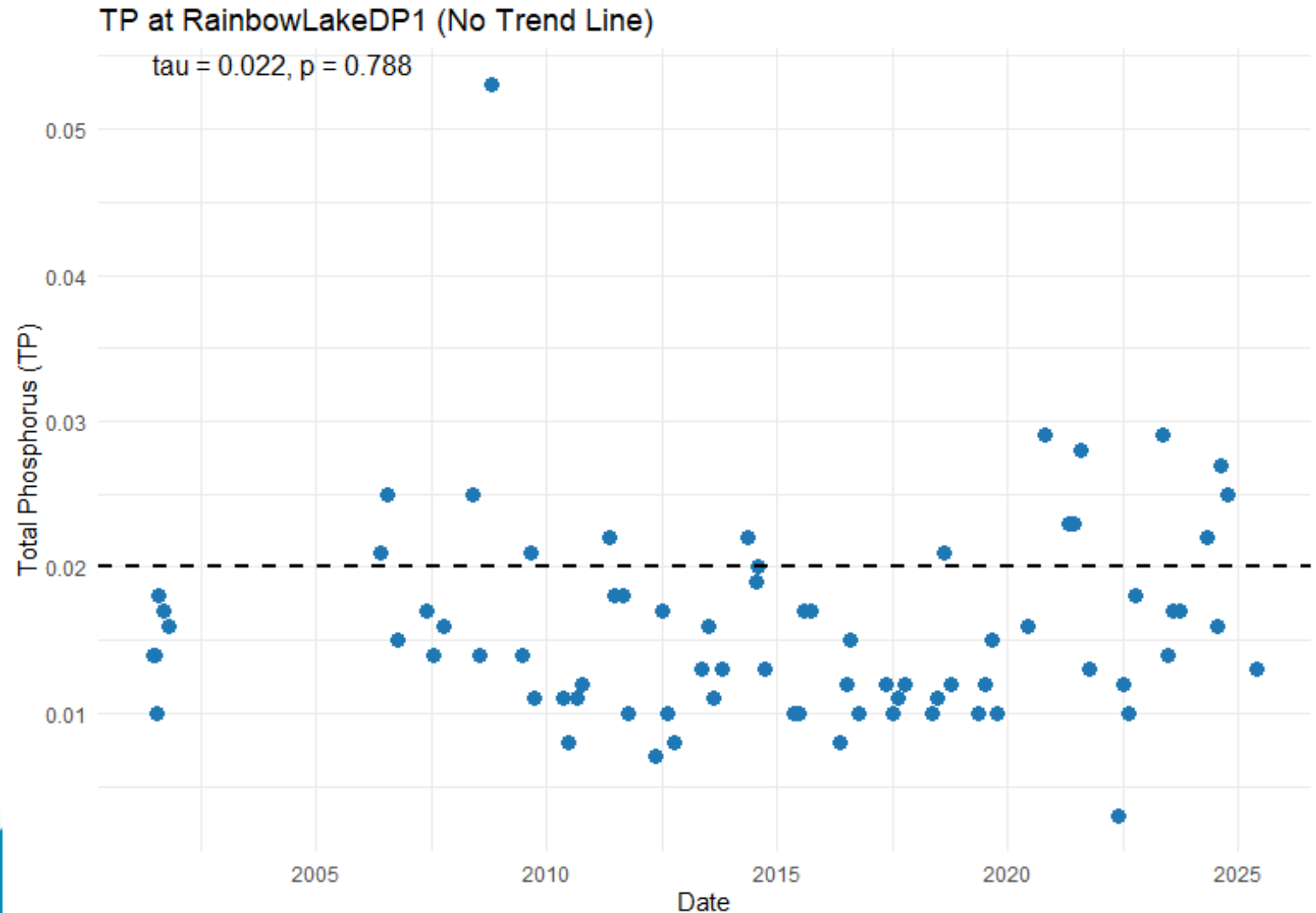


Deep Point Trends – TP, Rainbow Lake

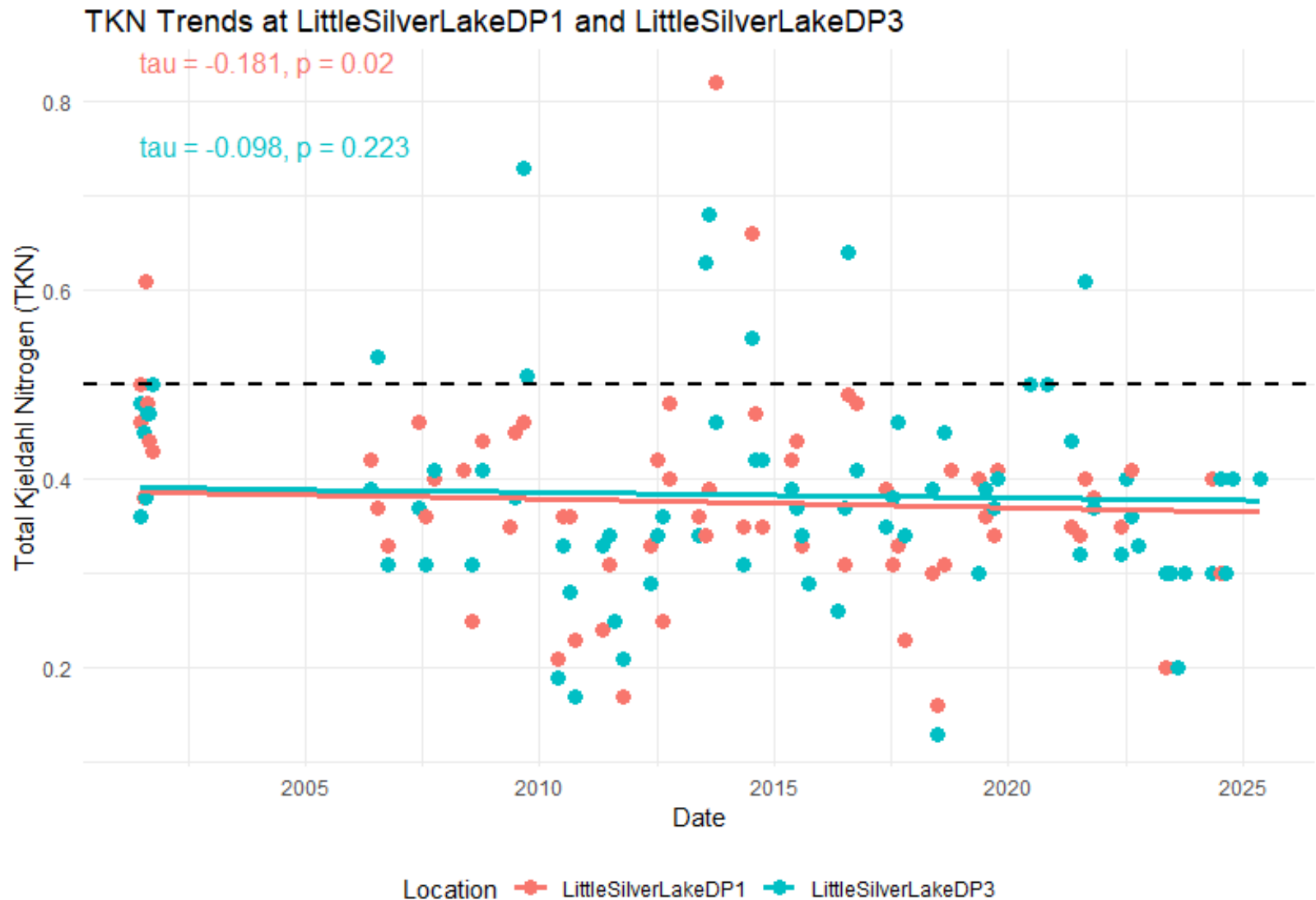
Annual TP Distribution at RainbowLakeDP1



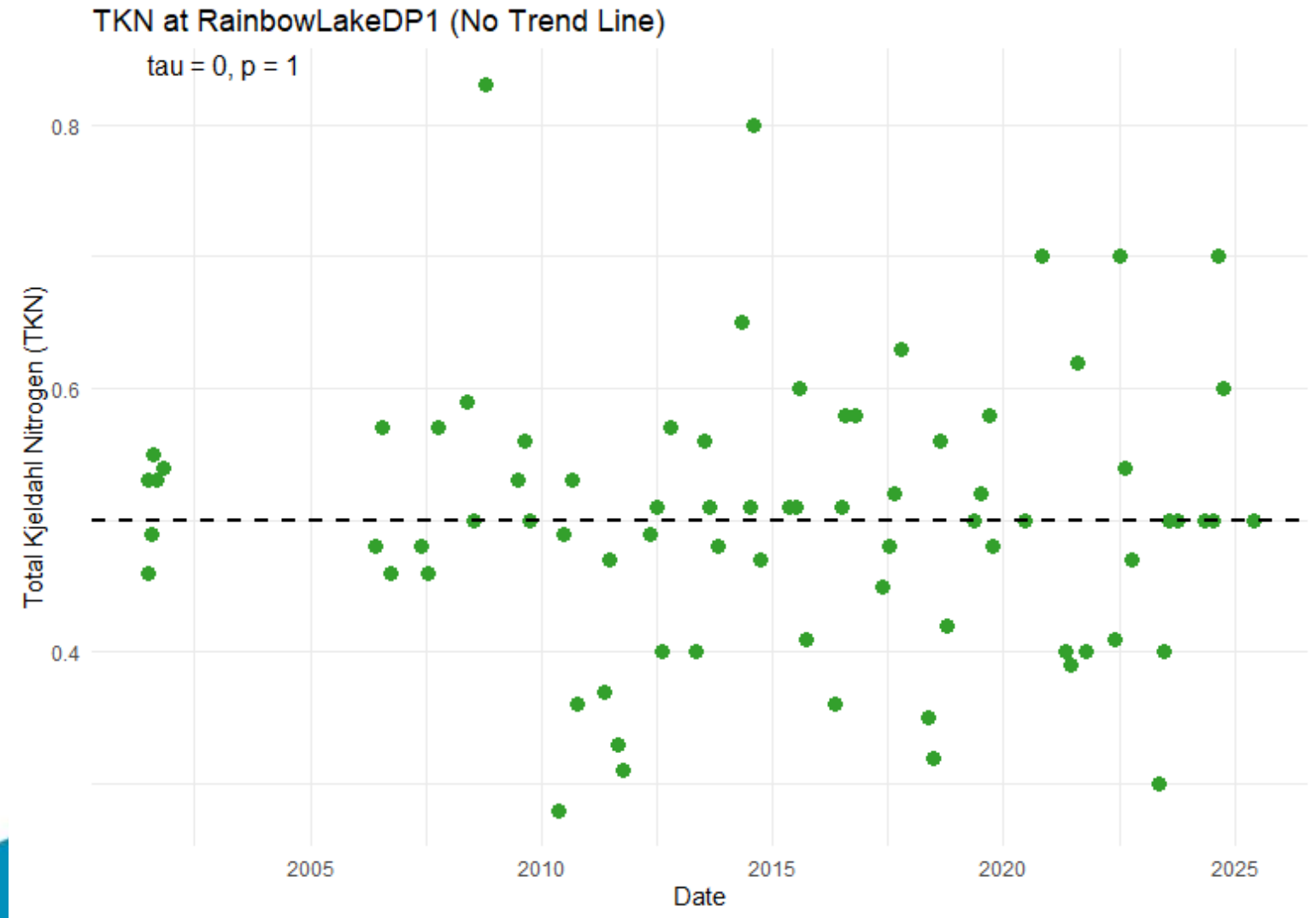
Deep Point Trends – TP, Rainbow Lake



Deep Point Trends – TKN, Little Silver Lake



Deep Point Trends – TKN, Rainbow Lake



Dissolved Oxygen Conditions

- Depleted oxygen conditions at depth resulting in increased risk of internal loading.
- Can be limiting conditions for select fish species

Deep Point Sampling			
Site:	RVL07-DP1		
Date:	08-20-2024		
Depth (m)	Temp (°C)	DO (%)	DO (mg/L)
0.1	22.2	90.7	7.9
1	22.2	90.5	7.88
2	22.2	90.4	7.87
3	22.2	90.4	7.87
4	22.2	90.3	7.86
5	19.7	75	6.85
6	15	54.3	5.49
7	12.4	13	1.39
8	10.9	6.6	0.72
9	9.5	5.9	0.69
10	8.6	4.5	0.52
11	8.1	4.1	0.48

Deep Point Sampling			
Site:	RVL08-DP1		
Date:	08-20-2024		
Depth (m)	Temp (°C)	DO (%)	DO (mg/L)
0.1	21.3	55.4	4.9
1	21.1	55.5	4.93
2	20.9	49.1	4.38
3	19.9	5	0.47
4	18.3	3.9	0.36

Nearshore Conditions – Guideline Exceedances

- Little Silver

- Period on Record:
 - TP: 6/201(~3%)
 - TKN: 11/201 (5.4%)
 - E. coli: 0/201
- 2020 to 2024:
 - TP: 3/35 (~9%)
 - TKN: 1/35 (~3%)

- Rainbow Lake

- Period on Record
 - TP: 12/61 (20%)
 - TKN: 31/61 (51%)
 - E. coli: 0/61
- 2020-2024
 - TP: 5/10 (50%)
 - TKN: 9/10 (90%)





Final Thoughts

- Water Quality conditions in Little Silver and Rainbow remain relatively consistent with historical conditions. Some shifts in recent years
- Low oxygen conditions, wetland headwaters, and shallow depths heavily influence the lake's condition
- Continuing to improve the lake's resiliency to impacts will be support it in its future

RVCA Updates

- Photo Contest:
 - Looking for photo entries to Celebrate RVCA 60th Anniversary in 2026!
- Submission Deadline: **September 30th, 2025**
- Submission Criteria:
 - Must be taken within the Rideau Valley watershed
 - Minimum file size of 5 MB
 - Horizontal/landscape orientation
 - Submission form must identify photographer and approximate location. If wildlife or points of interest are present in the photo, they should be identified.
 - Content should focus on one of four categories:
 - Natural landscapes
 - Wildlife in Action
 - On the Water
 - Wonderful Weather
 - All submissions must agree to a release waiver allowing RVCA to use the photo in the calendar as well as in any future products and communications.



25 Years of Source Water Protection

- 2025 marks **25 years** of Source Water Protection work
- Mini documentary being released **July 9th**
- Check Social Media for announcements



Drinking Water Wise Webinars

A rural drinking water webinar series to promote the Best Practices for Source Water Protection.



Cisterns 101

July 9, 2025

[Register now!](#)



History of Source Water Protection

May 21, 2025

[Watch recording](#)



Well Maintenance & Safety

April 9, 2025

[Watch recording](#)

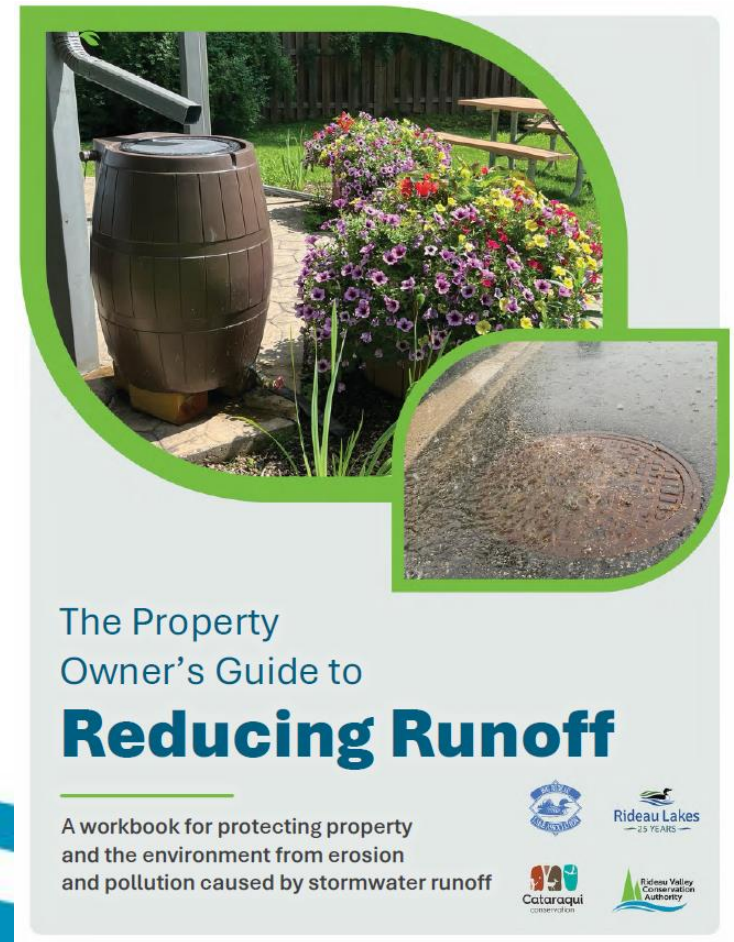
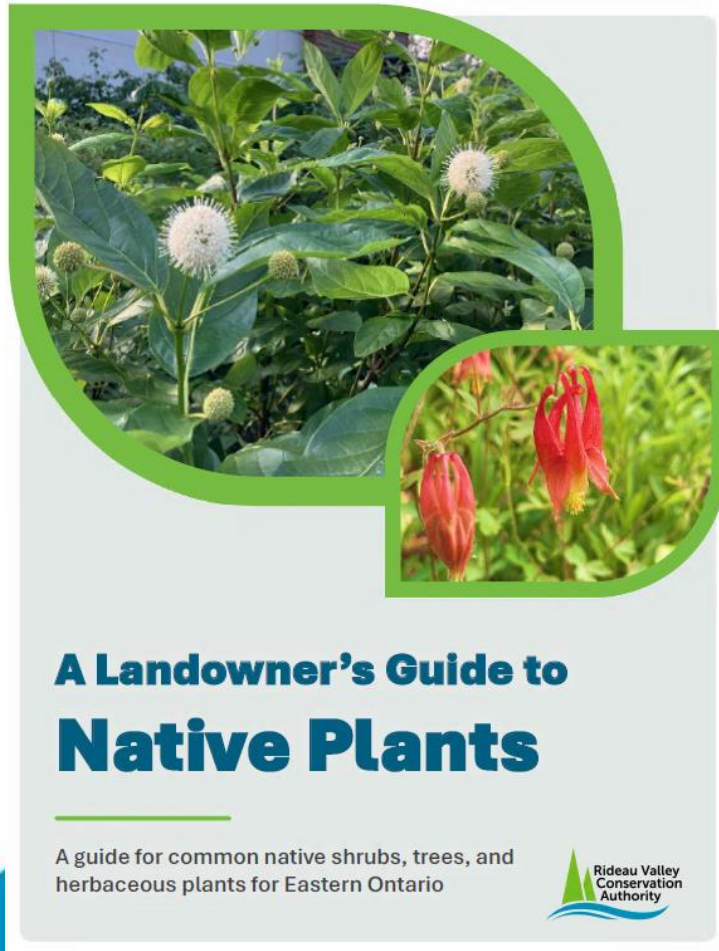
New! Private Drinking Water System Working Group

- SPC created a new policy
 - Currently awaiting final approval
- Multi-disciplinary group meeting bi-annual
 - Possible representation: Health Unit, Source Protection committee, MECP, Municipalities, Agriculture, Public Health, etc.
- Discuss gaps, opportunities to help rural homeowners and better protect private systems



NEW! RVCA Resources

- **New!** Native Plant Guide
- **New!** Property Owner's guide to Reducing your Runoff



RVCA Stewardship Programs & Opportunities

- **Shoreline Naturalization Program**

- Suitable for any shoreline property, No minimum requirements
- Benefits of Shoreline Naturalization:
 - natural erosion control
 - slows and filters runoff
 - contributes to the “ribbon of life” habitat
 - deters geese
- **Meaghan McDonald:** meaghan.mcdonald@rvca.ca

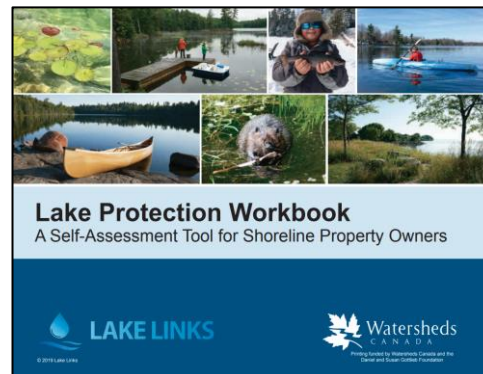
- **Forestry Program**

- Large scale tree planting program
- **Ian Cochrane:** ian.cochrane@rvca.ca

- **Rural Clean Water Program & ALUS**

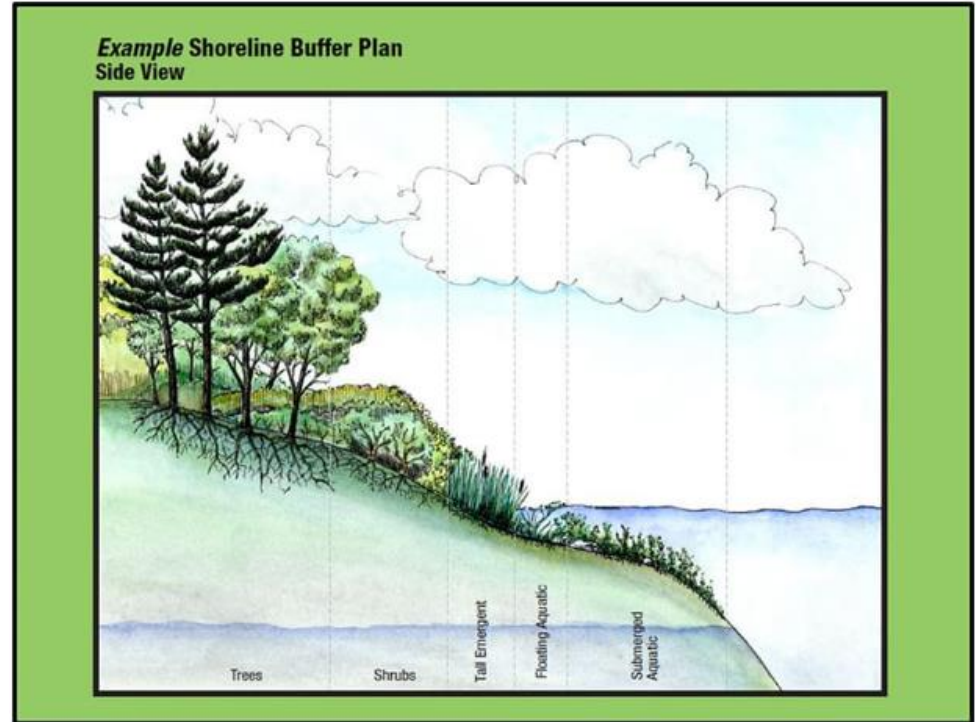
- Provides incentive grants for several project categories aimed at improving water quality in rural areas.
- Examples include:
 - Erosion Control- Shoreline: 90% up to \$3,500
 - Buffer grants (usually used to top-up Shoreline Naturalization Program)
 - Septic Repair- 50% up to \$1000
 - Well Projects (decommissioning, upgrades, replacements): \$500 to \$2000
 - Education Projects- 75% up to \$1000
- **Derek Matheson:** derek.matheson@rvca.ca

- **All programs are actively conducting site visits for the 2025 season!**



RVCA Projects to date:

- Shoreline Naturalization:
 - 2025/2026 – **0** projects scheduled to date
 - Historical – **15** projects, **1483** Plants
- Rural Clean Water:
 - **8** Projects approved, over **\$3855.40** in funding



Rideau Valley Conservation Foundation

- Local Environmental Charity and Land Trust
- RCVF raises funds and in-kind gifts collected towards:
 - Land protection and conservation
 - River Care
 - Conservation Education Programs
- Programs:
 - Adopt and Acre
 - Out to Learn
 - Memorial Tree Planting Program
 - Special Occasion Tree Planting Program
- For more information or to donate:

rvcf.ca



Questions/Concerns?

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or

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