

Stream RFP #07 – Supplemental Water Quality Sampling for Combined Reston Mussel Stocking x Stream Monitoring Program

Resource Protection Group, Inc. – QUARTERLY PROGRESS REPORT

For Period April 1, 2025 through June 31, 2025

PROJECT NUMBER: RPG Stream RFP #7

PERSONNEL: Sally Entekin, Ryan Stewart, Jess Jones, Paul Angermeier

COOPERATORS: Resource Protection Group, Inc. and USGS

Project START DATE: May 1st, 2024

Project END DATE: December 31st, 2025

OBJECTIVES:

We will quantify biogeochemical effects of reintroducing native unionid mussels into two restored urban headwater streams in Reston, Virginia - Snakeden Branch and The Glade. We have scientists with expertise in mussel establishment and population dynamics, biogeochemistry and ecology as experts for each of the key components of the stated needs of Resource Protection Group, Inc. Our study will provide a year and a half of bimonthly sampling at baseflow (June 2024-December 2025) during the ongoing mussel reintroduction as a way to provide a more detailed analysis of how mussel beds in the restoration streams are altering nutrient processing, water quality, and biological communities. We are already measuring and analyzing individual mussel biogeochemistry, and here we propose to measure water and sediment nutrients in the downstream reaches with the established mussel beds, and at the upstream control stream reach in both streams to scale the mussel nitrogen and phosphorus nutrient cycling effect.

PROGRESS DURING REPORTING PERIOD:

1. We sampled water 5 times between April 1st and June 30th.
2. We have sampled a total of 17 times since the start of the project in May 2024.
3. All data have been processed and shared with Eric Smith by Athena Tilley and Ryan Stewart at the VT Water Lab.
4. A list of sample dates and sample locations are available in this [google document](#) that will be kept up to date.
5. Rowan Scott and Donya Mohamed graphed processed data that can be found here.
 - o <https://drive.google.com/drive/folders/1Mv1nUMtMtfZ8mt-eT8Szpq6X5PKYOXJM?usp=sharing>

PLANS FOR NEXT QUARTER:

1. We will continue taking bi-monthly water samples at the control and mussel-added streams and aiming to sample as close to baseflow as possible.
2. We added an additional water sampling site at the beginning of the Glade mussel-added reach (but having no mussel influence) on May 15, 2025 after conversations with the team.

Revised list of stream sites, reaches and events currently sampled (as of March 31, 2025)

Stream	Reach	Pools	Sample #/event	Total Events	Total Samples
Snakeden Run	Control	1	1	36	36
	Treatment	1	1	36	36
	Tributary above gaging station outflow(began sampling on 8/12/2024)	1	1	36	36
Glade Run	Control	1	1	36	36
	Treatment	1	1	36	36
Grand totals	5	5	5	36	180