

Mussel reestablishment as a best management practice: scaling their nutrient effects from the individual to the stream.

# Resource Protection Group, Inc. – Reston Stream Monitoring PROGRESS REPORT

For Period Apr 1, 2024 through September 30, 2024

***PROJECT NUMBER:***

***PERSONNEL:*** Sally Entrekin, Jess Jones, Athan Anderson, Donya Mohamed,  
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***COOPERATOR:*** Resource Protection Group, Inc. ***START DATE:*** October 1<sup>st</sup>, 2022

***END DATE:*** September 30<sup>th</sup>, 2027

## ***OBJECTIVES:***

We will measure and analyze features of individual mussels, mussel beds, and stream reaches to describe the role mussels play in stream ecosystem function. Our fisheries management plan, focused on fish-host needs of the mussel populations, will be informed by species-specific responses of reintroduced mussels and their effectiveness in assimilating nutrients and changing physical and chemical conditions of the sediments to facilitate nitrogen removal via denitrification.

## ***PROGRESS DURING PERIOD:***

#### SITES:

1. Ten discrete water sampling events have been taken since June 2024.
2. Mussel salt experiment has been set up and is running at the Mussel Lab at VT.\
3. New student is developing hypotheses on mussel-insect interactions.
4. Spring quantitative macroinvertebrate samples have been taken.
5. Sondes have been downloaded.
6. Mussels have been propagated for introduction #2. The group is waiting for the completed mussels survey prior to releasing more mussels.

#### DATA:

1. Biogeochemistry data is currently being processed for discrete water samples and in situ experiments.

### ***PLANS FOR NEXT QUARTER:***

1. Continue taking water samples at the control and mussel-added streams.
2. Complete mussel-salt experiments at the Mussel Lab on campus at VT.
3. Begin pilot study for mussel-insect interactions.
4. Complete mussel surveys at Snakeden and Glade Run.
5. Download sondes.
6. Analyze biogeochemical in situ experiments that were conducted in August 2024.