



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

For Period Oct 1, 2021 through Dec 31, 2021

PROJECT NUMBER: GC22LM00TZA0000

PERSONNEL: Brendan M. Foster

COOPERATOR: Resource Protection Group, Inc.

START DATE: October 1st, 2020

END DATE: September 30th, 2025

OBJECTIVES:

This monitoring program seeks to measure and evaluate system-wide hydrologic, water-chemistry, and ecologic responses to enhanced stream restoration practices, with a focus on the stream environments and practices employed in Snakeden Branch and The Glade, in Reston, Virginia. Specifically, this program will:

1. Initiate and conduct precipitation, streamflow, water-quality, and ecological monitoring at multiple locations in the Snakeden Branch and The Glade for:
 - a. Two years before enhanced stream restoration practices are implemented,
 - b. Two years during implementation of enhanced stream restoration practices, and
 - c. Two years after implementation of enhanced stream restoration practices;
2. Make all monitoring data available to other researchers and the public expeditiously via the USGS National Water Information System Web Interface (NWISWeb; <https://waterdata.usgs.gov>) and other formal data outlets; and
3. Provide peer-reviewed documentation of the findings of the monitoring program.

PROGRESS DURING PERIOD:

SITES:

1. Continuous hydrologic and water-quality measurements continue to be collected and transmitted in real-time at all monitoring stations with minimal issues or fouling.

2. Routine servicing (cleaning and calibration checks of all equipment) were completed at all stations.
3. Discrete water sampling continued at Snakeden Branch and The Glade and included routine sampling and “wet weather conditions” sampling. Samples were sent to the USGS National Water Quality Laboratory and USGS Kentucky Sediment Laboratory for analyses.
4. Custom wipers were acquired and deployed for the in-situ nitrate sensors at Snakeden Branch and The Glade. The new wipers have performed better than the original wipers at reducing fouling.
5. Fall 2021 benthic macroinvertebrate sampling and physical habitat surveys were completed on October 12th-15th, 2021.
6. Additional agreements and easements between USGS and Reston Association and Reston Association and Dominion Energy, respectively were signed. USGS hired an electrician for typical electrical and grounding work to enable energizing the stream monitoring stations and to pass inspection by Fairfax County. The original inspection date for both monitoring stations was delayed and rescheduled to December 29th, 2021. The sites have passed inspection. All customer agreements have been signed and the construction of the powerlines are being scheduled.

DATA:

1. Real-time continuous provisional data continues to be served on NWISWeb.
 - Site ID 0164578734 Snakeden Branch above Lake Audubon:
https://waterdata.usgs.gov/va/nwis/uv/?site_no=0164578734&agency_cd=USGS
 - Site ID 0164579522 The Glade near Howland Drive:
https://waterdata.usgs.gov/va/nwis/uv/?site_no=0164579522&agency_cd=USGS
 - Site ID 385536077204401 Meteorological station at Glade Rec Area:
https://waterdata.usgs.gov/va/nwis/uv/?site_no=385536077204401
2. Preliminary ratings have been developed between gage height and discharge for The Glade and Snakeden Branch and remain under development. The provisional real-time discharge values are being served on both stream monitoring station’s NWISWeb pages.

PLANS FOR NEXT QUARTER:

1. Continue servicing trips for Reston stream monitoring stations and precipitation gage.
2. Continue discrete water sampling.
3. Conduct Spring 2022 benthic macroinvertebrate sampling and physical habitat surveys at all eight ecological reaches.
4. Acquire AC power for stream monitoring stations.
5. Program automated water samplers and begin storm sampling (once stream monitoring stations have been energized).
6. Schedule date for annual cooperator presentation for around late March or April.