



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

For Period July 1, 2021 through Sept 30, 2021

PROJECT NUMBER: GC21LM00TZA0000

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. Summer 2021 electrofishing surveys were completed on Sept. 13th - Sept 15th, 2021. All eight ecological monitoring reaches were surveyed. Provisional data were sent to cooperator.
5. USGS has facilitated agreements between Reston Association and USGS, and Reston Association and Dominion Energy to ensure the language in all agreements are acceptable to all parties. USGS sent a document package containing all agreements to Reston Association for Board approval. Agreements were approved by Reston Association Board and is scheduled for proper signatures of Reston Association Board and notary. Once agreements are signed USGS will move forward with the procurement of the underground powerlines.

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 Fall 2021 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. Custom made wipers for in-situ nitrate sensors at Snakeden Branch and The Glade will be deployed in mid-October, 2021.