



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

For Period Oct 1, 2022 through Dec 31, 2022

PROJECT NUMBER: GC23LM00TZA0000

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, air temperature, 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. Samples were sent to the USGS National Water Quality Laboratory and USGS Kentucky Sediment Laboratory for analyses.

DATA:

1. Real-time continuous provisional data continues to be served in near real-time on NWISWeb.

- Site ID 0164578734 Snakeden Branch above Lake Audubon:
<https://waterdata.usgs.gov/monitoring-location/0164578734/#parameterCode=00065&period=P7D>
- Site ID 0164579522 The Glade near Howland Drive:
<https://waterdata.usgs.gov/monitoring-location/0164579522/#parameterCode=00065&period=P7D>
- Site ID 385536077204401 Meteorological station at Glade Rec Area:
<https://waterdata.usgs.gov/monitoring-location/385536077204401/#parameterCode=00045&period=P7D>

2. Additional streamgaging equipment has been deployed and surveys completed to accelerate the expansion of the stage-discharge ratings at both stream monitoring stations. An additional mode of accelerating rating expansion will come from development of a hydraulic model. Additional surveys are needed for hydraulic model development and will occur next quarter.

5. Stream monitoring cameras continue to serve imagery of Snakeden Branch and The Glade:

- Site ID 0164578734 Snakeden Branch above Lake Audubon:
https://apps.usgs.gov/hivis/camera/0164578734_VA_Snakeden_Br_above_Lake_Audubon_Reston
- Site ID 0164579522 The Glade near Howland Drive:
https://apps.usgs.gov/hivis/camera/0164579522_VA_The_Glade_nr_Howland_Dr

PLANS FOR NEXT QUARTER:

1. Continue servicing trips for Reston stream monitoring stations and precipitation gage.
2. Continue discrete water sampling including storm sampling.
3. Prepare and publish official USGS data release for all 2022 ecological surveys (benthic macroinvertebrates, habitat, and fish).
4. Prepare for additional water-quality monitoring planned to start in April 2023.
5. Complete additional surveying needed for hydraulic model and build model.