



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

For Period Jan 1, 2022 through Mar 31, 2022

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. AC power has been acquired and both stream monitoring stations.
5. Storm sampling has commenced at both stream monitoring stations. First storm sample was triggered at Snakeden Branch on Feb. 25, 2022, and was processed and sent to laboratories for analyses. Subsequent storm samples collected on March 31, 2022 have also been retrieved, processed, and sent to laboratories for analyses.
6. Hands-on educational outreach activity on March 24, 2022 for multiple sections of I.B. Biology at South Lakes High School to educate the student on basic stream ecology, water-chemistry, and our monitoring efforts.

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.
3. The official data release for all benthic macroinvertebrate, fish, and physical habitat surveys is under review and will be released to the public upon completion. These data will be reposted on sciencebase.gov and will have a unique URL for quick access which will be sent to cooperator as soon as review has completed.

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. Conduct Spring 2022 benthic macroinvertebrate sampling and physical habitat surveys at all eight ecological monitoring reaches.
4. Present annual update presentation to cooperator on April 26, 2022