COMMUNITY-BASED RESTORATION MONITORING VOLUNTEER PACKET

Photo Credit: Alliance Staff

We strive for clean streams and rivers flowing through resilient landscapes, cared for by the people who live, work, and play in the Chesapeake Bay watershed.

TABLE OF CONTENTS

MONITORING OVERVIEW


Photo Credit: Alliance Staff

The National Fish and Wildlife Foundation's (NFWF) Chesapeake Bay Stewardship Fund (CBSF) has implemented numerous restoration practices aimed at reducing the impact of agricultural practices and urban/suburban land uses. As restoration projects continue to be implemented, it is critical for NFWF to assess whether these practices are working and are improving the quality of local streams in order to ensure the investments are helping to meet Chesapeake Bay restoration goals.

The Community-based Restoration Monitoring Program was developed in order to track the progress of stream restoration, riparian forest buffer, and cattle exclusion fencing practices funded through the NFWF Chesapeake Bay Stewardship Fund.

This project is made possible through a grant from the National Fish and Wildlife Foundation, with support from the U.S. Environmental Protection Agency.

PURPOSE OF MONITORING

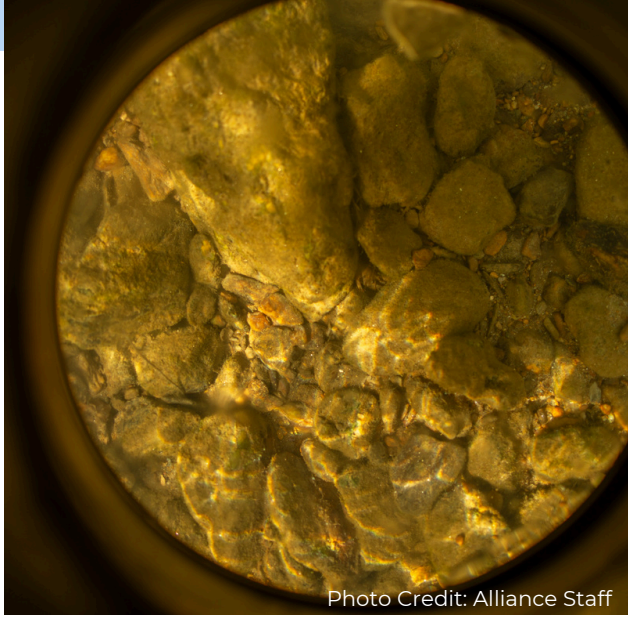
Photo Credit: Alliance Staff

- Assess the impact of stream restoration and stream health practices aimed at improving local water quality and the Chesapeake Bay.
- Assess the stream's quality of habitat for aquatic life (fish and macroinvertebrates) by evaluating water quality and riparian forest buffer health.
- Assess the status of the intervention pre-restoration, during, and post-restoration.
- Alert project managers and landowners to potential issues.
- Conduct community engagement and education.

DATA COLLECTED

Water Quality Monitoring Indicators

- Measure air and water temperature
- Measure water clarity
- Collect insect samples (benthic macroinvertebrates)

Buffer and Streambank Visual Assessment

- Cross-section depth and stream bed assessment
- Channel geometry and biological habitat indicators
- Riparian zone assessment
- General stream reach characteristics

Standardized photo documentation

- Standardized stream photos
- In-stream photos
- Concerns/issues related to the restoration project

Photo Credit: Alliance Staff

VOLUNTEER MONITORING REQUIREMENTS

Requirements to Become a Volunteer Restoration Monitor

- You must be 18 years or older.
- Comfortable wading into 2ft of stream water.
- Able to scramble up and down streambanks.
- Able to get to and from the monitoring site on your own transportation.
- Attend the virtual training session (1.5 hours).
- Fill out the volunteer waiver.
- Sign up for a site(s).
- Monitor a site (3 - 4 hours).

Volunteer Code of Conduct

- Read and respond to the monitoring group email sent out 1 week before the monitoring day.
- Regularly communicate with the monitoring lead if you cannot attend or need assistance with anything monitoring-related.
- Physically able to navigate the assigned site and willing to perform the site visit tasks.
- Interact respectfully with the landowners and other volunteers.

VOLUNTEER MONITORING CERTIFICATION

1. Attend the protocol training. This volunteer training will be virtual (1-hour). This will cover an overview of the program, what is being monitored and why, volunteer expectations, and monitoring methodologies.
2. Fill out the volunteer waiver.
3. Sign up for a site(s).

5. Participate in monitoring your chosen site(s). At the site, you will receive hands-on field training on the protocol as we monitor the stream.

MONITORING EXPECTATIONS

Monitoring Duties

- Measuring water quality indicators: Water temperature, air temperature, and water clarity.
- Conducting visual, physical assessments: stream geometry, substrate composition, periphyton, canopy cover, riparian zone, and biological habitat.
- Collect benthic macroinvertebrates.

Time commitment

Each monitoring site will take ~ 3 - 4 hrs with a monitoring team of at least 3 people, including the monitoring leader.

- Monitoring occurs in the Spring (March - April) and Fall (August - October).
- Each monitoring team lead will select a monitoring day within each season.

Location of monitoring sites

Monitoring takes place at pre-selected sites in Pennsylvania, New York, Maryland, and Virginia. Fill out the monitoring form to volunteer. Once the form has been filled out, the monitoring team will help connect volunteers with a site closest to them.

MONITORING PROCESS

In order to assess the benefits of restoration project(s) our monitoring team will need to monitor the stream pre-installation and then for at least 5 years after installation. Below is the monitoring schedule. **You will need to recertify each year.** You are not required to stay all 5 years.

Monitoring Type	**Pre-Restoration** (Up to 2 years prior)	**Post-Restoration** (Year 1 and 2 after install)	**Post-Restoration** (Years 3 - 5 after install)
• **Visual-Physical Assessment** • **Physical Water Quality Indicators** • **Pictures**	Minimum 1 survey before installation (Spring or Fall). Can occur the same season the installation occurs.	Twice annually (Spring and Fall), starting the season after implementation .	Once annually (Spring or Fall depending on when the practice is installed).
Benthic Macroinvertebrates	Minimum 1 survey before installation (Spring or Fall). Can occur the same season the installation occurs.	Once (Spring) in Year 1 after installation.	Every other year (Spring) in Years 3 and 5 after installation.

Monitoring will take between 3 - 4 hours. A general schedule is below:

Morning/Afternoon session:

1. Arrival at the parking lot
2. Change into waders
3. Walk down to the stream
4. Begin monitoring
5. Clean up
6. Biosecurity
7. Departure

*Snack and water breaks between transects

WHAT TO BRING

What the Monitoring Team Lead will bring:

- Monitoring supplies
  - Equipment for monitoring
  - Biosecurity
- Volunteer binder (volunteer packet, waiver, manual + licenses)
- Pens and pencils
- First Aid Kit
- Site binder + datasheets
- Phone
- Water Cooler
- Waders

What Each Volunteer should bring

- Sunscreen
- Hat
- Sunglasses
- Phone
- Water bottle
- Towel
- Spare full set clothes
- Bug spray (please wear only inside your waders or places that will not be getting wet)
- Waders (if you have them)

*Please notify your team lead if you do not have any, we can supply extra waders.

- Lunch and snacks

SAFETY

Before you begin testing your water sample, read through all of the instructions first to familiarize yourself with the procedures and to note any precautions that should be taken.

- If you feel sick before going out to monitor, please notify your monitoring lead. Do not monitor if you are feeling unwell!
- Individuals with open wounds should ensure they are covered.

During Monitoring

- Please park ONLY in the designated parking area indicated on the map provided for you by email from your monitoring lead. Wait for your entire team to arrive at the parking location. You will be walking down as a group to the monitoring site.
- Be sure to drink plenty of water, especially between transects.
- Do NOT take photographs of the landowner, their family members, or any part of their property outside of the monitoring site.
- If you have any concerns or questions at any time during the monitoring process please speak up.

After Monitoring

- Wash your hands at the end of monitoring each site with soap and water or hand sanitizer.
- Check yourself for ticks after monitoring.

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