

WEG provides highly experienced, cost-effective professional services.

Our Skilled Professionals:

- *Certified Taxonomists*
- *Aquatic Biologists*
- *Regulatory Specialists*
- *Wildlife Biologists*
- *Hydrologists*
- *Water Resources Engineers*
- *Environmental Planners*
- *Wetland Ecologists*
- *Mapping/GIS/CAD Specialists*
- *Field Technicians*

WEG supports a variety of public- and private-sector clientele, including:

Our Clients:

- *Local Governments*
- *State Agencies*
- *Non-profit Organizations*
- *Commercial and Residential Developers*
- *Colleges and Universities*
- *Academic Institutions*
- *Engineers/Surveyors/Planners*
- *Federal Government Agencies*
- *Parks and Recreational Facilities*
- *Homeowners Associations*
- *Utility Companies*

Our Expertise
Your Success

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**Williamsburg
Environmental
Group, Inc.**

Biological Monitoring



Environmental Consultants

...dedicated to developing
simple, cost-effective solutions
to today's complex
environmental issues...

Williamsburg Environmental Group, Inc. (WEG) offers a specialized set of capabilities in the areas of biological monitoring and taxonomy. Our staff members are highly-trained professionals drawing from a diverse background in water quality and aquatic resources with extensive experience conducting biological assessments and monitoring studies throughout the mid-Atlantic region. WEG personnel are knowledgeable in Virginia Department of Environmental Quality (DEQ) protocols as well as other regional protocols for sample collection, processing, level of taxonomy, and reporting as defined by the Freshwater Biological Monitoring program.

Biological monitoring is an effective way to:

- Provide a quantitative water quality scoring system based on multi-metric calculations.
- Help identify project reaches for potential restoration opportunities.
- Evaluate the success of stream restoration projects related to aquatic habitat and water quality conditions.
- Assess the value of streams for mitigation.
- Quantify construction impacts to freshwater resources.
- Review effects of point source discharges on water quality and aquatic habitat.
- Establish watershed management plans and prioritization.
- Evaluate changes in the watershed over time due to non-point source impacts.
- Compare conditions among sampling sites.
- Evaluate local conditions in comparison to reference sites.



WEG's sampling methods and multi-metric water quality computations are consistent with DEQ standards and are compatible with DEQ's Ecological Data Application System (EDAS) database.

WEG is also experienced with other regional protocols that may be required for projects outside of Virginia.

Biological Monitoring Services

SERVICES

Impact Assessment, Biological Monitoring, and Water Quality

WEG's staff biologists and Society for Freshwater Science (formerly NABS) certified taxonomists have extensive experience in the development and implementation of comprehensive biological monitoring plans to assess and quantify water quality impacts from point and non-point sources. These services have a wide range of applications, including site-specific assessments, strategic watershed improvement plans, and implementation prioritization to meet project goals or requirements.



MS4 and Stormwater Control Support

Biological monitoring can assist you in evaluating the effectiveness of stormwater programs, can be used as a screening tool for identifying potential physical and chemical sampling locations, and can help direct restoration and retrofit priorities. For regulated Municipal Separate Storm Sewer Systems (MS4s), recent U.S. Environmental Protection Agency (EPA) guidance discourages infrequent, end-of-pipe, wet-weather grab sampling and recommends instead including physical and biological indicators in monitoring/evaluation metrics. WEG can advise both MS4s and non-MS4s in the application of biological, physical, and chemical water quality monitoring efforts to aid in regulatory compliance and to help stretch limited financial resources for water quality monitoring.

Mitigation Banking Requirements

Recent requirements set forth by the IRT (Inter-agency Review Team) now mandate that all newly approved mitigation banks in the Commonwealth of Virginia conduct biological monitoring. WEG's staff can help customize a biological monitoring program that accomplishes project goals without accruing considerable expenses.



Aquatic Benthic Macroinvertebrate Taxonomy and Sample QA/QC

WEG maintains a dedicated laboratory for aquatic macroinvertebrate taxonomic services. Samples are processed according to state-specific protocols. Specimens are identified by a NABS-certified taxonomist to the lowest practicable level (genus/species) and voucher specimens may be retained at the request of the client. The laboratory is equipped with high-quality compound and stereo-microscopes as well as an extensive library of taxonomic keys. In addition, WEG can provide taxonomic QA/QC as an independent laboratory for other practicing taxonomists or state departments.



Additional Biological Monitoring—Fish Surveys

WEG conducts fish surveys throughout Virginia using electrofishing technology in wadeable streams. Staff are experienced in the techniques used by the EPA's Rapid Bioassessment Protocol.

Learn More!

WEG staff also offer professional training opportunities for regulatory personnel, consultants, watershed groups, and academics. Training topics include proper sampling techniques, sample processing protocols, and taxonomy.

For more information on these topics or to request a training workshop, please feel free to contact our Marketing Department at (757) 220-6869 or email at info@wegnet.com.