

# Alyssa Hanna

Staff Botanist

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## Profile

Ms. Hanna uses botany, microbiology, and plant ecology principles to assist in field data collection and analysis for stream and wetland restoration projects, invasive species control plans, and wetland delineation. Ms. Hanna's research experience includes demographic modeling of plant populations using a variety of sampling strategies, spatial habitat modeling, and abundance and distribution of species across transmission corridors. She has also coordinated and implemented environmental education initiatives for students of all ages.

## Skills and Experience

Over fifteen years of experience with invasive plant species identification, research, and control.

Proficient in conducting field research, including experimental design and statistical analysis for biological and environmental projects.

Experienced with geostatistical analysis and GIS mapping, including plant habitat assessment and plant species distribution modeling.

Skilled with frequentist statistical analysis methodology.

Knowledgeable of a variety of statistical software programs, including SAS JMP, S-PLUS, R, MATLAB, MINITAB, Microsoft Excel, and PASW Statistics, and adept in organizing and managing large datasets.

Experienced in field data collection, wetland delineation, and stream and habitat assessment, including EPA's Rapid Bioassessment Approach, HGM Functional Assessment of High Gradient Ephemeral and Intermittent Streams in West Virginia, and benthic macroinvertebrate sampling.

Experienced in developing and teaching general biology, botany, environmental science, and ecology courses at the college level, including creating laboratory and field activities.

Collaborated with schools throughout West Virginia and Maryland using hands-on activities, field experiences, and inquiry-based learning to better understand alternative energy generation, the environment and human impacts, the importance of clean water and healthy streams, and the necessity of adequate wastewater treatment.

Provided field and technical assistance with ecological work, GIS mapping, and invasive species.

Created maps and analyzed demographic data that was used to determine if bat species should be considered for listing as a federally threatened species.

Provided capacity building assistance for the Potomac Highlands Cooperative Weed and Pest Management Area.

## Education

A.B.D, Biology, West Virginia University.

B.A., Botany and Microbiology, Ohio Wesleyan University, 2004.