



Meghan Betcher

Project Environmental Scientist

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Profile

Ms. Betcher offers expertise in environmental science, microbiology, and ecology. She is experienced in project design, field sampling, data analysis, and presentation of complex scientific findings to academics, students, and community groups.

Skills and Experience

Extensive experience in designing field sampling strategies, and collection and analysis of field-based data.

Experienced in preparing source water protection plans—wrote management plans, including public outreach strategies, and completed surveys of potential contaminant sources for more than ten communities across West Virginia.

Researched and analyzed coal mining and quarry permits and associated NPDES permits, water quality databases, and mining impacts.

Experienced in spatial data analysis presentation and map creation utilizing GIS and online applications.

Analyzed the role of microbial communities in environmental processes through molecular-based methods, including lignocellulose degradation, forest regeneration following wildfires, and grasslands impacted by invasive plant species.

Investigated the role of bacterial symbionts in lignocellulose digestion in a marine wood-boring bivalve to gain information pertinent to discovery of enzymes applicable in cellulosic biofuels production.

Presented complex scientific data to academics, professionals, students, and community groups.

Educated the public in multiple environmental science topics, including watershed health, beach ecology, alternative transportation, and sustainability.

Education

M.S., Environmental Science and Engineering-Environmental and Biomolecular Systems focus, Institute of Environmental Health, Oregon Health & Science University, Portland, 2011.

B.A., Microbiology, Microbial Ecology focus, University of Montana, Missoula, 2004.

Publications

Hansen E, Betcher M, Hatcher K, Askins N. 2014. Coal combustion waste and acid mine drainage pollution in Crafts Run, Monongalia County, West Virginia. Prepared for Public Justice. Downstream Strategies.

Hansen E, Mulvaney D, Betcher M. 2013. Water resource reporting and water footprint from Marcellus Shale development in West Virginia and Pennsylvania. Prepared for Earthworks. Downstream Strategies and San Jose State University.

Hansen E, Glass M, Betcher M, Boettner F. 2013. Environmental benefits to the Chesapeake Bay of a poultry litter baling facility in the Eastern Panhandle of West Virginia. Prepared for Blue Moon Fund. Downstream Strategies.

Farmer J, Peters C, Hansen E, Boettner F, Betcher M. 2013. Overcoming the market barriers to organic production in West Virginia. Downstream Strategies and Indiana University School for Public Health.

McIlmoil R, Hansen E, Askins N, Betcher M. 2013. The continuing decline in demand for Central Appalachian coal: market and regulatory influences. Downstream Strategies.

Betcher M, Fung J, Seronay R, Concepcion G, Distel D, Haygood M. 2012. Microbial abundance in the digestive system of four shipworm species (*Bivalvia: Teredinidae*). *PLOSOne*.

Betcher M. 2011. Insights into the shipworm (*Bivalvia: Teredinidae*)–bacterial symbiosis: novel isolates and micrographic bacterial localization studies. Master's Thesis. Institute of Environmental Health, Oregon Health & Science University.