

I became aware early on that environmental management is critical for protecting human health and interests. In the Fingerlakes, NY, where I grew up, fishing and swimming were impacted by mercury and fecal coliform.

With a desire to find ways to ameliorate similar issues, I pursued a major in geology and a concentration in environmental science at Bryn Mawr College. During this time, I enjoyed research as an REU in coastal resource management. After college, I worked as a consultant and as a teacher. While I liked aspects of these positions, I found I was unsatisfied doing only investigation or instruction, and realized I wanted an academic position. Consequently, I entered the graduate program at the University of Massachusetts in Amherst to do research in geochemistry. While working as a teaching and research assistant, I conducted experiments investigating the release of carbon into aqueous systems from black shales. This work inspired me to consider other environments where organic matter is cycling, and led me to pursue a Ph.D. at VIMS, investigating the fate of organic matter in both terrestrial and aqueous systems. I find this work particularly rewarding because I think understanding the sources and sinks of organic matter is critical for understanding carbon cycling and the impacts of human-induced climate change on our environment.

My dissertation research involves a study of the hydrology, soil mineralogy, dissolved organic matter (DOM) geochemistry, and vegetation in the Taskinas Creek watershed in Chesapeake Bay National Estuarine Research Reserve. I plan to examine a) the amounts and sources of watershed terrigenous DOM (including C, N and P components) delivered to the Creek and subsequently to the York River Estuary b) the transformation of this DOM by both biotic (e.g., microbial) and abiotic (e.g., photochemical) processes and c) the fate of terrestrially derived organic materials in river, wetland, and estuarine ecosystems, including its role in supporting microbial and higher foodwebs. It is my hope that this research will be useful to watershed, wetland and estuarine resource managers as it will evaluate the role of watershed-wetland-estuarine processes, including the impacts of changing land use and climate, which regulates the structure and function of wetland and estuarine food webs and biogeochemical cycles.



*Discussing the geology of Taskinas Creek with my field assistant and brother, Matt Schillawski.*