Department of the Environment – Nontidal Wetlands – Study of Vernal Pools (HB 854)

TESTIMONY OF DR. MARK SOUTHERLAND

I have a Smithsonian Fellowship and Ph.D. in freshwater ecology and have consulted for federal, state, and local agencies on water resource issues for 30 years. I have also served on the boards of Maryland Academy of Sciences' Science Council, Maryland Water Monitoring Council, Howard County Environmental Sustainability Board, Howard County Conservancy, Patapsco Heritage Greenway, and Safe Skies Maryland.

Vernal pools are a type of freshwater wetland that are typically water–filled from early winter through mid–summer; have no fish populations; and provide habitat for species that cannot reproduce anywhere else, including the wood frog, mole salamanders, and fairy shrimp. Vernal pools provide disproportionately large amounts of ecosystem services, owing to their widespread occurrence throughout the landscape and ability to replenish groundwater and filter stormwater flows.

Two events brought me to conceiving and advocating for this bill:

1. Our Natural Waters are in Crisis. The wetlands and other waters of Maryland and the nation continue to be lost through development, pollution, and modification, and are consistently listed as the most endangered ecosystems in the U.S. and worldwide. Waters of the United States (WOTUS) are currently under even greater assault as the Trump administration is removing federal protections from approximately 50% of U.S. waters, including all vernal pools. The science is clear that all waters are connected hydrologically and that ephemeral wetlands, such as vernal pools, are critical to the health and utility of permanent waters. Therefore, it is incumbent on Maryland to take all the steps it can to ensure we are good stewards of our waters.

2. Vernal Pool Protection is Inadequate in Maryland. In Maryland, as elsewhere, there is little understanding of what vernal pools are and how they contribute to biodiversity and human quality of life. However, the states of California, Maine, and Massachusetts have already enacted protection or certification programs, while others have conducted inventories to better understand the abundance and distribution of vernal pools. In Maryland and elsewhere, vernal pools are being lost at a rapid rate because of the limited knowledge of their presence (they hold water only part of the year) and the difficulty of enforcing their protections as wetlands. Therefore, Maryland should undertake a vernal pool study to inventory all pools and make recommendations for their protection and management.

The Time is Now. Fortunately, the advent of more powerful remote imagery technologies makes it much easier to conduct aerial surveys that, with appropriate ground truthing, can provide accurate and cost-effective inventories of vernal pools not possible in the past. The Maryland Department of the Environment, Maryland Department of Natural Resources, and University of Maryland Center for Environmental Science have expertise that can be applied to this study today. If we wait, we will lose thousands more vernal pools and the biodiversity and environmental services they provide.