

David W. Smith
46 Lafayette Avenue
Annapolis, MD 21401
February 20, 2020

Dereck E. Davis
Chair
Economic Matters Committee
Maryland House of Delegates

Testimony in Support of Maryland House Bill 0395, David W. Smith, February 20, 2020

Dear Chairman Davis and Members of the Economic Matters Committee,

I am submitting this written testimony in support of HB0395, which proposes to use proceeds from the Regional Greenhouse Gas Initiative to fund the Maryland Healthy Soils Program (established in 2017 under Maryland HB1063).

I'm soil scientist and former federal Senior Executive with the U.S. Department of Agriculture (USDA) where I worked for over 39 years. I retired in 2017 from the Natural Resources Conservation Service (NRCS) where I was serving as Deputy Chief for Soil Science and Resource Assessment and led the U.S. National Cooperative Soil Survey and other nationwide programs including the Conservation Effects Assessment environmental modeling, a National Water and Climate Center, and the National Resources Inventory (NRI) program. While in D.C. I also served on the USDA Science Council, the USDA Taskforce for Climate Smart Agriculture and Forestry, and a Soil Science Interagency Working Group to the White House's National Science and Technology Council. Since 2018 I've been working part-time as an independent consultant and senior adviser to a global management services company that values my expertise in soil science, agriculture, and natural resources management.

Soil serves as a foundation for society. It supports 95% of all global food production and grows fiber and bioenergy crops as well. Soil is also vital for filtering water, as a cost-effective reservoir for sequestering carbon, and for fostering biodiversity. Healthy soil is essential for food security.

Agricultural soils were degraded by erosion and the depletion of soil carbon stocks over the course of the past about 150 years. In the U.S., we recognized the severity of this threat during the Dust Bowl era when we began coordinated soil conservation efforts to combat soil erosion, and good progress has been made. However, much work remains to restore soil carbon stocks to more optimal levels.

Agricultural soils are among the planet's largest reservoirs of carbon and hold great potential for expanded carbon sequestration. An abundance of research shows that soil health-promoting practices such as conservation crop rotation, cover cropping, no-till, and advanced nutrient management significantly increases soil organic carbon (SOC) content while also reducing

greenhouse gas (GHG) emissions, increasing biodiversity, and reducing nutrient losses to waterways. Widespread implementation of these and other soil-health promoting practices will increase the health, yield, profitability, biological activity, and carbon sequestration of the State's soils, which is the goal of the Maryland Healthy Soils Program. But that program must have adequate funding!

Accelerated adoption of soil health-promoting agricultural land management practices under a funded Maryland Healthy Soils Program will help reduce agricultural GHG emissions and remove CO₂ from the atmosphere. One authoritative source (UN-FAO) estimates that soils can sequester around 20 billion metric tons in 25 years, which more than 10 % of anthropogenic emissions. This level of carbon sequestration is entirely consistent with the goals of the Maryland Strategic Energy investment Fund.

Maryland currently stands out as nationwide leader in addressing water quality through the adoption of agricultural conservation practices. I think we should seek to maintain that national leadership role regarding carbon sequestration in agricultural operations too!

According to the U.S. Agricultural Census, which is conducted every 5 years, Maryland leads the nation with 41% of available cropland planted to cover crops as reported in 2019. The national average for all states was only 5.6%. I believe we can attribute much of our cover crop adoption success to the funds made available to assist producers through the voluntary, incentives-based Maryland Agricultural Water Quality Cost-Share (MACS) Program. A proud success! The Ag Census also shows a U.S. average 37% of reported tillage practice acres under no-till. Maryland, however, stands out in the number 2 position with 74% of our reported cropland tillage acres under no-till. Cover crop, no-till, and related conservation measures have resulted in major reductions in edge-of-field sediment losses and in-stream loads of sediment, nitrogen, and phosphorus delivered to the Chesapeake Bay according to reports published by USDA and others. These water quality gains are clear and very important, but the work is far from done. More widespread adoption of soil health-promoting practices is needed to restore SOC stocks and biodiversity in our soils, while continuing the improvements in the Chesapeake Bay.

Providing funding to the Healthy Soils Program via HB0395 will be a crucial step toward better farm resilience and reducing the detrimental consequences of climate change. I ask for your favorable report on HB395.

Thank you for your time and attention.

Sincerely,



David W. Smith