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Testimony in SUPPORT of HB1175— Nutrient Management - Tidal Buffer - Vegetative Buffers and Restrictions on Fertilizer Application

House Environment and Transportation Committee Hearing:
February 28 at 1:00pm

February 26, 2025

To Chair Korman and Members of the Committee,

I , Dr. David Newburn, offer the following testimony in support of HB1175, which seeks to prevent nonpoint source water pollution from agricultural fertilizer use that would otherwise be permitted 100 feet from Maryland tidal waters, increase land voluntarily enrolled in conservation buffers to enhance nutrient reductions, and create the state's first program that provides incentives for tenant farmers — an important yet under-represented population necessary to increase conservation buffers. This effort is in service of targeting Bay restoration efforts in environmentally sensitive areas within the Critical Areas, while including incentives for the farming industry.

This bill is directly related to science-based findings within a recent report[1], *"Evaluating the Effectiveness of Economic Incentives to Enhance Riparian Buffer Adoption and Environmental Benefits for Water Quality and Carbon Sequestration in Maryland"*, that I co-authored with colleagues at the University of Maryland, Oxford University, and the University of Miami. The report for this multi-year study, funded by and prepared for the Harry R. Hughes Center for Agro-Ecology, summarizes analysis using a survey of 1,530 agricultural landowners throughout all counties in Maryland. The experiment embedded within the survey asked landowners about their willingness to enroll in alternative buffer incentive programs that varied in terms of bonus payments, annual recurring payments, contract length and buffer vegetation type. The policy scenario analysis for riparian buffer adoption examined program costs and environmental benefits for Bay water quality (nitrogen and phosphorus reductions) and carbon sequestration using spatially explicit models for agricultural landowner parcels.

In alignment with HB1175, this report finds that riparian buffer adoption is a highly cost-effective practice. The benefit-cost analysis is high, with water quality benefits substantially exceeding program costs. Bonus and annual payments both increase landowner participation, particularly the higher upfront bonus payments. Additionally, the proposed legislation in HB1175 targets the state's buffer incentives towards environmentally sensitive lands in the Critical Area that have disproportionately higher pollution reductions, thereby maximizing pollution reduction efforts and investments on a small portion of farmland with strategic importance.

[1] Newburn, D., Lichtenberg, E., Kim, Y., Wietelman, D., Wang, H. "Evaluating the Effectiveness of Economic Incentives to Enhance Riparian Buffer Adoption and Environmental Benefits for Water Quality and Carbon Sequestration in Maryland", University of Maryland, October 2024, Report prepared for Harry R. Hughes Agro-Ecology Center. Available at: https://agnr.umd.edu/research/research-and-education-centers-locations/harry-r-hughes-center-agro-ecology/scientific-15/

Another important consideration is that the farmland along tidal areas, targeted in HB1175, is often vulnerable to increasing risks from saltwater intrusion and sea-level rise. This is particularly apparent for low-lying farmland on the Lower Eastern Shore, where farmers are struggling with less productive land and increasing impacts from sea-level rise and land subsidence. A recent paper[2] that I co-authored with others, "*Coastal Agricultural Land Use Response to Sea Level Rise and Saltwater Intrusion*", uses satellite imagery to forecast the agricultural areas on the Eastern Shore that are most threatened in the coming decades. HB1175 would create targeted incentives for farmland along tidal areas at disproportionate risk and provide soft landings for farmers struggling with less productive land to help transition to conservation buffers.

A creative feature in HB1175 is to provide buffer incentives that are split between tenant land operators and landowners. The existing state incentive programs primarily provide incentives for the landowner. The tenant land operators, who are more aware of existing incentive programs, stand to lose leased land when enrolling in buffer programs. The HB1175 provides a win-win scenario by offering competitive rates for on-farm conservation practices that benefit both the landowners and tenant land operators, leading to increased buffer adoption. The report (see footnote 1) indicates that landowners that lease land are highly willing to enroll. The proposed structure in HB1175, whereby incentives are shared between landowners and tenants, will provide motivations for tenants to share program information with landowners about existing and new incentives. Landowners that lease farmland is a substantial population in Maryland, but this group is under-represented in participating in conservation programs.

HB1175 also proposes fertilizer restrictions for farmland in environmentally sensitive areas along the tidal zones. The report (footnote 1) indicates that almost half of landowners with available land for buffers are unlikely to enroll in buffer programs, despite high bonus and annual payments above levels in existing state incentive programs. Hence, the proposed fertilizer restrictions, in tandem with conservation incentives, can provide a paired policy to increase landowner participation in conservation buffer programs.

In summary, HB1175 creatively targets the buffer incentive program, supported by findings in the academic report (see footnote 1), by doing the following:

1. Establishing shared incentives for both landowners and leased land operators to enroll land in conservation buffers within the 100-foot setbacks;
2. Providing targeted buffer incentives in environmentally sensitive areas in the Critical Areas for voluntary land enrollment within the 100-foot setbacks; and
3. Increasing the nutrient application setback on farms bordering tidal waters to 100 feet to reduce nutrient pollution in sensitive areas.

I am grateful to the sponsor for bringing this important legislation forward and urge this committee for a favorable report on HB1175. I would be glad to further discuss the academic report and how the findings support the proposed legislation in HB1175.

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[2] Epanchin-Niell, R. Thompson, A., Han, X., Post, J., Miller, J., Newburn, D., Gedan, K., Tully, K. "Coastal Agricultural Land Use Response to Sea Level Rise and Saltwater Intrusion", July 2023, Selected Paper at the 2023 Agricultural & Applied Economic Association Annual Meeting, Washington, DC.

Sincerely,

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