HB 1560 - OPPOSE
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HB 01560
Forest Conservation - Incentives - Pilot Program and Fund

Environment and Transportation
March 11, 2026

Dear Chair Korman, Vice Chair Guyton, and members of the Environment and Transportation Committee:

My name is Sonia Demiray. I am the Executive Director of the Climate Communications Coalition, the former chair of the Frederick County Forest Conservancy District Board (The "Forestry Board"), and am currently completing a graduate degree in Forests and Climate Change at Oregon State University.

The Climate Communications Coalition opposes HB 1560. This bill seeks to establish a program to manage forests to ensure ecosystem services from private forests. Yet, the science is clear that ecosystem services are optimal and maximized in natural and unmanaged forest ecosystems. Maryland needs a program to permanently protect forests for the provision of ecosystem services today and tomorrow, not another active management program.

Management and stewardship plans include thinning, logging, pesticide and herbicide applications, prescribed burns, and even clearcutting or "regeneration cuts." This is not conducive to biodiversity support or ecosystem services provision. The industry currently sources timber from state forests, industrial woodland, and family forests enrolled in one of the many options of stewardship plans already provided by the DNR. Creating another one for ecosystem services provision would require permanent protection from active management, extraction, and traffic. The bill clearly states, however, that this program would promote renewable energy (woody biomass which pollutes more than coal per unit of energy produced), fiber products, and timber – in addition to creating credit trading systems.

This bill is not an environmental bill, it asks for $10,000,000 to expand the forestry industry as laid out in the Maryland Forestry Economic Adjustment Strategy (MFEAS (1)).

Per MFEAS (page 31), "most private forestland owners do not own land primarily to sell timber. The top reasons for ownership: wildlife, beauty, privacy, nature." This must be encouraged, not derailed, during this triple climate, biodiversity, and pollution crisis. Following, we clarify the terminology used in the bill and provide the scientific background on optimized ecosystem services from natural protected forests.

Terminology

A "Forest Conservation Pilot Study Program and Fund" proposed by the Maryland Forestry Foundation seeks to expand forest "conservation and management" activities to privately owned, non-industrial forests. Most forested lands in Maryland are privately owned and increasingly preserved for wildlife, beauty, biodiversity, and recreation (MFEAS, pp 19 & 31.) Yet the timber industry, strongly supported by MDNR's forest service, has aggressive expansion plans as outlined in the MFEAS (1).

The following clarifies the terminology used in this bill as currently interpreted by the forest service and forest product industry:

"Forestry" is the science of developing, caring for, or cultivating forests, the management of growing timber (Merriam Webster).

"Conservation" means that the land will not be developed. Nonetheless, lands in conservation are working lands, same as forests in conservation are working forests - they produce timber, food, and fiber (i.e. an agricultural reserve or a forest on logging rotations.) This use of "conservation" has confused the public who think that resources in conservation are protected, but they are regularly harvested.

"No Net Forest Loss" is Maryland's current state policy and underlying objective mentioned in this bill. This means that, today, in Maryland, a mature forest "in conservation" can be entirely clearcut as long as a new field of seedlings is planted in the same spot or elsewhere. Under our current forest laws, these two forests count as the same (canopy cover/ forest cover) and there has been "No Net Loss" of forest cover, despite all the vital ecosystem services having been eliminated, not to come back for decades or centuries - if they do.

A "Management Plan", also known as a "stewardship plan", while it may include reforestation and invasive species removal, is primarily focused on profit: logging rotations, thinning, and the production of forest products. The Forestry Foundation's states that unless the forest "produces", it will be paved over. However, this contradicts the MFEAS' own assertions that most private forests are preserved for nature, beauty, and wildlife. The primary focus of active forest management is not ecosystem health, which science has proven to be optimal when forests ecosystems evolve at their own pace through natural processes, when they are left unmanaged (4) or left to thrive under passive management (which can include invasive plant removal and deer management, but no extraction.)

Ecosystem Services

The bill proposes a pilot study for the development of ecosystem value-oriented forest management plans. In fact, it misleadingly states that: "(…) mitigating the devastating impacts of climate change [is] measurably reliant on a healthy *managed* forest ecosystem with the

derivative ecological value of increased carbon sequestration, clean air, water quality, reduced storm water runoff, filtering of nutrients, biodiversity, wildlife habitat, renewable energy development, and climate mitigation." (Emphasis added.)

The science is clear that the best provision of ecosystem services is through natural and intact forest ecosystems (4), those that allow ecosystem processes to evolve naturally, not those that are "managed." Following, we analyze the bill's assertions one by one.

1. Carbon sequestration and storage

Carbon sequestration and storage is most effective when the ecosystem is left alone, when it is protected, to let natural processes lead ("passive management"). A 2010 study of eastern forests (5) clearly shows that if forest ecosystems are left to themselves, they remove the most carbon (see below the red line). This should be no surprise- a forest that is impacted or cut down entirely, cannot function as well as an intact ecosystem.

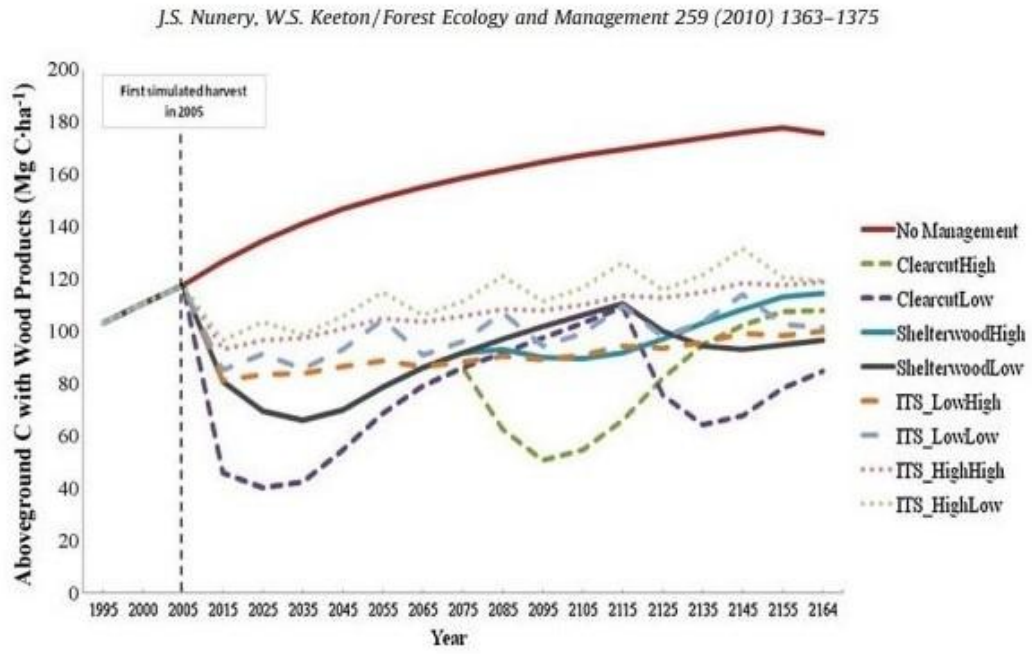
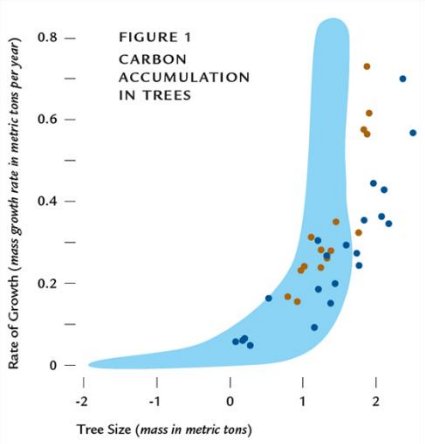


Figure 1. This graphic from the peer reviewed study by (5) Nunery and Keeton (2010) in "Forest carbon storage in the northeastern United States: Net effects of harvesting frequency, post-harvest retention, and wood products" clearly shows that most carbon sequestration and storage occurs in intact forest ecosystems, as compared to all the different forestry management options.



Aboveground mass growth rates for 58 species (shaded area) juxtaposed with two of the most massive tree species on earth: Swamp Gum (*Eucalyptus regnans*—brown dots) and Coast Redwood (*Sequoia sempervirens*—blue dots). Mass growth rate equals the total mass accumulated each year after accounting for respiration. The mass of a tree is primarily carbon, so the figure shows that annual carbon accumulation increases with the size of the tree. (Adapted from Stephenson et al. 2014.)

Figure 2. shows how the carbon accumulation in trees increases with the size of a tree, which is directly correlated to its age. This is important since the Foresters/forestry agents often assert that younger trees absorb more carbon to justify logging mature trees, or that there is "too much biomass in the forest." Both are untrue: trees absorb carbon based on surface area. It may appear as if younger trees are growing faster (vertically) while mature trees store carbon horizontally (in girth) which is less visible. A tree will continue to amass carbon in its biomass and sink it into the forest soil until the day it dies. Even when the tree decomposes, most carbon sinks into the soil. (6)

2. Clean Air

Oxygen is a byproduct of photosynthesis. Photosynthesis from forest ecosystems is most effective when leaf area is maximized (7) which will happen when forests are not logged, thinned, or otherwise impacted by human intervention. In fact, eastern forests are becoming denser due to climate change – this "mesophication" improves ecosystem services provision.

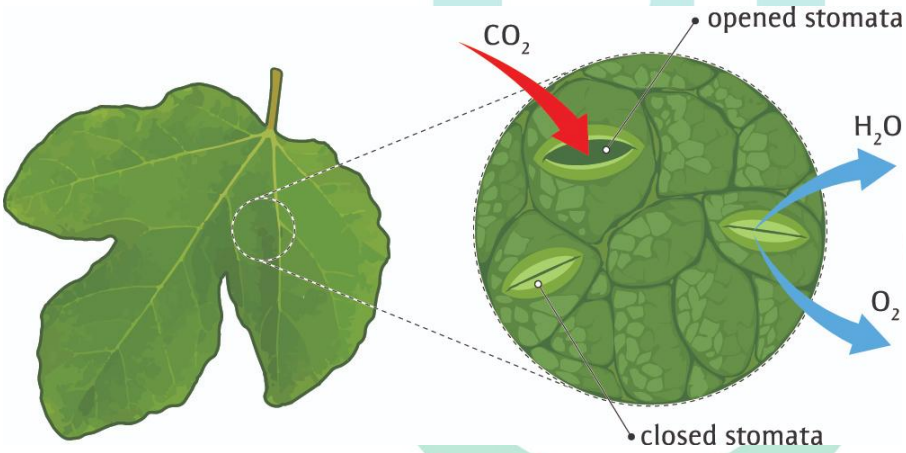
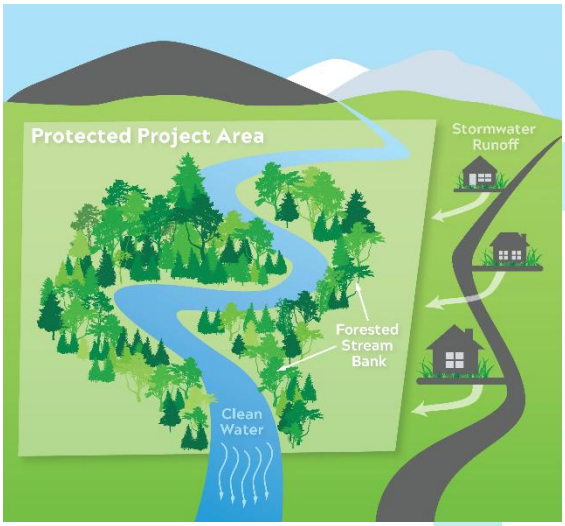


Figure 3: Oxygen is a byproduct of photosynthesis which happens primarily on leaves; forest management, unless applied for reforesting, reduces the number of leaves and therefore does not increase oxygen production. (Picture source: Ideal-Accelerate-ed.com https://ideal.accelerate-ed.com/pub/afhdje/em/-/lo/dbe42de9-520c-4a10-b97d-4b039e47e83b/p/5625d85e-41f9-4870-94ce-57af641cc71d)

3. Water



Water quality, filtration, and avoided runoff: A ten-year study by the Open Space Institute (8) demonstrates that protected forest land filters and reduces most pollutants, including nitrogen, which is a big problem in Maryland. Protected forests improve water quality in headwaters and avoid millions of dollars in stormwater management development and maintenance costs, in addition to avoiding erosion. Most active forest management activities increase soil erosion, runoff, loss of soil-carbon, loss of microbial life, and often increase sediment in waterways.

Figure 4: The Open Space Institute's 10-year study of water quality and forests showed that untouched, protected forests do the most for water quality, nutrient cycling, runoff avoidance, soil moisture which improves soil carbon sequestration and storage, soil erosion, and general evapotranspiration, which is key for the water cycle, including inland precipitation. (Picture Source: Open Space Institute https://www.openspaceinstitute.org/stories/quantifying-the-value-of-forest-protection-for-clean-water)

4. Biodiversity and habitat

Intact forest ecosystems are home to 80% of all terrestrial life. Forests evolve as a mosaic of different habitats created by natural disturbances such as wind snap, fire, decay, etc. Different aged trees provide many different habitat layers. Forests naturally cycle different habitats supporting a vastly superior species richness in unmanaged forests (9).

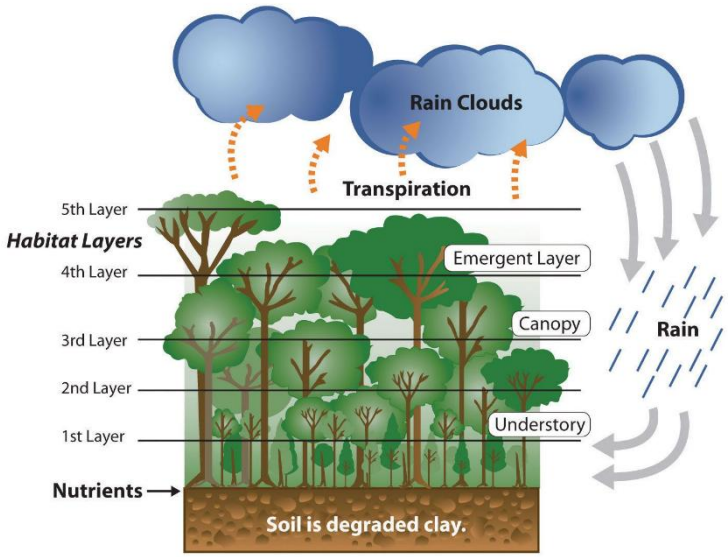


Figure 5. Different habitat layers and forest ecosystem functions. (Picture Source: E2Forest.uk Forest ecosystem classroom. https://uk.pinterest.com/pin/545005992388025148/)

This is also the main reason why managing forests or resetting succession "to create habitat for a specific species" is misguided. Forests naturally evolve, and species travel to where they can find the optimal habitat.

Removing dead trees (salvage logging) is also a mistake as dead trees host more life than live trees; a decomposing tree hosts the most organisms; and different specimens, shrubs and soils host different species (10). Forest management homogenizes the biodiversity and generates even-aged stands which offer far less benefits for biodiversity, or worse, they are replaced with monocrop cultures for easier timber harvest. Logging is often likened to a "massacre" where no animal survives. Thinning similarly removes natural habitat and food sources for a host of biota.

5. Soils

Interestingly, this bill does not mention the creation of fertile soil - one of eastern forests' biggest ecosystem service. Fertile soils are vital for plant life, carbon sequestration, and food security. Microbes, bacteria, fungi, and invertebrate detritivores convert organic matter into soluble nutrients and support the generation of fertile soils. The deep moist soils and rich duff bed of the eastern forests teem with these and therefore are more productive (generating one cm. of soil every 200 years) than drier forests (which can take up to 400 years to create one cm. of fertile soil (11.)) This vital ecosystem service is often overlooked, yet according to the Global Symposium on Soil Erosion (12) approximately 33% to 40% of the world's soil is considered moderately to severely degraded. If we do not protect our soil generating forests, we may soon face food insecurity. Logging and thinning, including the concomitant road building, compresses the soils, impacts below ground biomass, eliminates mycelial networks (which die when the trees die), and upends the microbiota. Prescribed burns and herbicide applications similarly degrade the soil.

Land protection v. conservation

This brings us to what Maryland really needs: permanent protection for forest ecosystems to support biodiversity (we are two percentage points away from an anthropogenic mass extinction (13)) and to rebalance the ecosystem processes which we have disrupted (14). Climate change is a symptom of these disrupted Earth systems processes, including the impacts on biogeochemical cycling for which biodiversity is key.

Earth's complex processes (carbon cycle, water cycle, biogeochemical cycling, climate, etc.) are fully balanced and effective where lands and waters are kept natural which is why we need to protect large areas (15). Similarly, a managed forest does not emit the terpenes and bionucleators that are required to condense evapotranspiration into clouds and catalyze precipitation inland; it cannot host the rich microbiome that cycles the detritus on the forest floor

into nutrients and soil carbon; it does not filter water or produce oxygen at the rate and quality that a natural forest ecosystem can. We need true forest protections that prioritize biodiversity, water, air, nutrient cycling, soil formation, and long-term carbon sequestration.

Maryland already has over 30% of land in conservation (2) from forests to agricultural reserves. Public lands in Maryland are “in conservation” and have management plans. Land in conservation steadily produces necessary commodities including private industrial forests, tree farms, and monocrop cultures on given logging rotations, grown for the purpose of generating timber and biomass.

We need working lands in conservation. But we also need to protect land for biodiversity and ecosystem recovery – this is now more important than ever during this triple climate, biodiversity, and pollution crisis. However, according to the USGS, the official tally on protected lands in Maryland only has 2.67% of its land protected (3):

Figure 6. Only Gap 1 and Gap 2 Status codes count as protected. Gap 3 is managed land/in conservation (permits extraction and traffic); Gap 4 is unprotected. (Source: USGS)

The US committed to reaching 30% of lands and waters under permanent protection by 2030 for biodiversity recovery (Kunming-Montreal Global Biodiversity Framework). This applies to every State. Private forest landowners should be encouraged and incentivized to protect their land and get us a little closer to this goal.

Funding

The bill proposes creating an incentive fund to encourage private landowners to move their land into management plans for the next 20 years. We have clarified that the opposite is needed: permanent protection of forest ecosystems. Two decades are little for a forest ecosystem. Incentives should be disbursed to those landowners who are willing to permanently protect their lands from conversion and management, for biodiversity and Earth systems processes recovery. In fact, we should investigate redirecting damaging tax credits, incentives, and subsidies, such as those for logging, biomass, fossil fuels, ethanol, etc. to a Forest Protection Fund.

HB 1560 is not the bill Maryland needs. The Climate Communications Coalition respectfully requests an unfavorable report on HB 1560.

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