TO: The Honorable Kumar Barve, The Honorable Dana Stein and the House Committee on Environment and Transportation

CC: The Honorable Sarah Elfreth, The Honorable Sara Love, Mr. Jeremy Baker, Mr. Patrick O'Leary Chesapeake Bay Commission, Chesapeake Bay Foundation, Potomac Conservancy, Harry Hughes Center for Agro-Ecology

FROM: Chesapeake Conservancy

RE: HB 723 / SB 526 - Forest Preservation and Retention

Executive Summary: Chesapeake Conservancy is submitting this memorandum to provide clarification regarding the memo submitted to your Committee by Tom Ballentine, VP for Policy, NAIOP Maryland with the subject, "HB 723 / SB 526 – Forest Preservation and Retention – Comments on 3-7-23 ENT Reprint." We have included certain text (italicized) quoted from Mr. Tom Ballentine, NAIOP and we have provided our response (bulleted) to clarify these statements based on the Harry Hughes study findings.

Background: Chesapeake Conservancy is a Chesapeake Bay watershed conservation organization and is a non-profit organization. Chesapeake Conservancy's Conservation Innovation Center (CIC) is a leader in the field of conservation technology, cultivating a community centered around collaboration and visionary thinking. Harnessing the power of data and technology—particularly Geographic Information Systems (GIS) and Artificial Intelligence (AI)—the CIC empowers the conservation community by supporting data-driven decision-making.

Harry Hughes Study: In recent years the state government identified a need to improve its inventory of forest and tree canopy cover, assess near- and long-term change and assess the effectiveness of forest and tree planting programs operating in the state. The Maryland General Assembly enacted legislation in 2019 (HB 735 / SB 729) and in 2021(HB 991, Tree Solutions Now Act of 2021) to direct and fund the Harry Hughes Center for Agro-Ecology at the University of Maryland to conduct a statewide assessment of forest cover and tree canopy changes in Maryland.

In November 2022, the Harry Hughes Center published the Technical Study on Changes in Forest Cover and Tree Canopy in Maryland. Chesapeake Conservancy served as the lead author of the report and co-led the geospatial analysis provided in the report along with the University of Vermont.

Response to NAIOP statements:

"The bill as amended does not align well with the findings of the Hughes Center Technical Study On Forest"
- Counter to NAIOP's statement, Chesapeake Conservancy believes that HB 723 / SB 526 aligns with the findings of the Hughes Study, as clarified in the below responses.

The NAIOP memo states "*The study found that since 2009, Maryland's forest and tree canopy cover **has stabilized**"*
- The forest study does not conclude that Maryland's forest and tree canopy has stabilized, but rather states in the Executive Summary on p. 9 "Forest area has shown a slightly decreasing trend over 5- and 20-year intervals but with **a trend toward stabilizatio**n in the past 10 years." Table ES-1 below shows, in the numbers framed in orange, that all three datasets analyzed for the study agree that forest extent in Maryland continues to decrease, providing high confidence in the direction of the trend.

- **The important distinction is that while the state has made significant progress in reducing the rate of forest loss, the trend remains negative and the no net forest loss goal has not yet been achieved.**

Table ES-1. Forest and tree canopy extent estimates from key data sources.

Source	Initial Year	Extent (thousand acres)	End Year	Extent (thousand acres)	Total % Change (Annual % Change)
Forest[1]					
FIA[2]	1999	2,566 (+/- 770)	2019	2,448 (+/- 108)	-4.6% (-0.23%)
CBPO	2013	2,584	2018	2,566	-0.70% (- 0.14%)
Tree Canopy					
Total Tree Canopy (NLCD)	2001	2,802	2019	2,791	-0.39% (-0.022%)
Within Forest (CBPO)	2013	2,584	2018	2,566	-0.70% (- 0.14%)
Outside Forest (CBPO	2013	523	2018	529	+1.15% (+0.23%)
Total Tree Canopy (CBPO)[3]	2013	3,107	2018	3,095	-0.39% (-0.077%)

- The NAIOP memo cites the study's notation of progress made while population grew by 17%, but omits the following sentence in the study executive summary, that "This represents an opportunity for the state to achieve a net gain of forests and tree canopy in the near future, given continued investment in forest conservation measures and tree planting." Based on this statement in the study, Chesapeake Conservancy finds that the legislation would follow these findings.

The memo next states: *"Despite the Hughes Study findings, HB 723 / SB 526 requires a replanting rate for priority forest double the rate proposed in the 2018 legislation and the replanting of non-priority forest is three times higher in the 2023 bill than in 2018."*

- The forest study executive summary states "While forests exhibit modest recent net change statewide, there are greater amounts of gain and loss and higher local variability than the statewide balance suggests. Some regions demonstrate modest amounts of forest cover gain and others experienced substantial loss...Other observed statewide trends include forest fragmentation and conversion of existing forests for development." **Chesapeake Conservancy finds that there is substantial evidence provided by the study that additional mitigation would be needed to counteract forest loss to development, given the regional findings of continued extensive loss of forest due to development in central Maryland.**

NAIOP states that, *"no net loss"* goal broadened to *"increase"* both forest land and tree canopy.

"In 2013, in response to recommendations from the Task Force to study a No Net Loss of Forest Policy the General Assembly adopted a statewide goal to achieve a no net loss of forest which it defined as 40% of land in Maryland is covered by tree canopy. (Chapter 384 of 2013) According to the Hughes study (page 26) total tree canopy in Maryland varies based on the data set used but the Chesapeake Bay Program Office estimates that forest covers 42% of the state's land area and total tree canopy represents 50% of land area."

- The study found that the extent of forest in Maryland ranges from 39-42%, with estimates of total tree canopy of 50% from the high resolution CBPO dataset. Assessing achievement of the 40% target in the study was complicated by unclear wording with respect to definitions of "forest" and "tree canopy" in the Forest Preservation Act of 2013. Advances in technology, especially with the 1-meter resolution CBPO data, have greatly improved our ability to detect and quantify forest and tree canopy but **do not represent an increase in forest area or total tree canopy since 2013.**

- As cited in table ES-1 above, forest extent numbers in green for the initial measurements from FIA, NLCD, and CBPO datasets vary widely with more recent technological improvements "seeing" far greater forest and tree canopy area than older methods. Due to this we recommend focusing on continued measurements within the same data stream rather than comparisons across them. While the high resolution CBPO data estimated 42% forest and 50% tree canopy in 2018, we believe this does not represent an increase in forest or tree canopy area. In fact, each data stream shows forest area and total tree canopy area decreasing over time. The sole data stream in this set that was available to the state, the FIA data found that the state had 39.7% forest cover in 2013 when the goal was set, and has 39.4% forest cover today.

- A helpful analogy to explain the increased forest and tree canopy extent seen in improving technologies is the public education about our understanding of the universe through improving telescope technology. We have all heard about how the Hubble telescope and now the Webb Space Telescope can observe thousands or millions of new galaxies in the universe, but we know they have already been there. It may be surprising that our ability to measure forest and trees in our state is similarly experiencing rapid technological improvements, but we should keep in mind that this **new technology improves our ability to quantify our forest resources, but does not represent an increase in the extent of forests and tree canopy**.

Summary: Chesapeake Conservancy believes that the findings of the Harry Hughes study indicate a clear need and an opportunity to adjust Maryland law on forest preservation and retention, in accordance with HB 723 under consideration by the Committee. If the Committee has additional questions about the Harry Hughes study, please contact Susan Minnemeyer (202-907-6271 / susan@natureplussolutions.org).