LAND CONSERVATION GOAL

Land Use Methods and Metrics Development Outcome

2025 PROGRESS
ON COURSE

OUTCOME: Continually improve our knowledge of land conversion and the associated impacts throughout the watershed. By December 2021, develop a watershed-wide methodology and local-level metrics for characterizing the rate of farmland, forest and wetland conversion, measuring the extent and rate of change in impervious surface coverage and quantifying the potential impacts of land conversion to water quality, healthy watersheds and communities. Launch a public awareness campaign to share this information with local governments, elected officials and stakeholders.

PROGRESS AS OF 2021: The Land Use Methods and Metrics Development Outcome is on course. The release of the Chesapeake Bay High-Resolution Land Use Project in 2016, the identification of hot spots of change using Landsat satellite data and the accurate, detection of land cover change from 2013 to 2017 have helped to improve the collective knowledge of land conversion and its associated impacts throughout the watershed. The Land Use Workgroup is currently drafting indicators of impervious cover per capita and the change in impervious cover per capita based on the Chesapeake Bay High-Resolution Land Use Project. Over the coming months, more indicators will be developed, including looking at development gain (impervious surfaces + turf + trees over turf), development gain per capita, forest clearing and regrowth, urban tree canopy gain (from new plantings) and loss, and agricultural gain and loss.

BACKGROUND: The outcome was derived from public comments received during the drafting of the most recent *Chesapeake Bay Watershed Agreement* and refined by the Land Use Workgroup and representatives from the Maryland Department of Planning and the Chesapeake Bay Commission. The public felt that the initial *Watershed Agreement* did not sufficiently address the extent and impacts of land use change throughout the watershed at a scale and accuracy level sufficient to inform local decisions. The watershed-wide methodology and local-level metrics for characterizing the rate of farmland, forest and wetland conversion by measuring the extent and rate of change in impervious surface coverage and quantifying the potential impacts of land conversion to water quality, healthy watersheds and communities was originally scheduled for completion in 2016. However, the development of high-resolution land use data for the entire watershed, in addition to the reallocation of resources to support the Chesapeake Bay Total Maximum Daily Load Mid-Point Assessment, led the Land Use Workgroup to re-evaluate the methodology and guidelines for producing metrics associated with this outcome. In January 2020, the Management Board agreed to move the deadline for this outcome to December 2021 and acknowledged that initial metrics would evolve over time with the release of new data and improvements in methods.

BASELINE: The temporal baseline for this outcome is the years 2013 (Delaware, the District of Columbia, Maryland, New York, Pennsylvania) and 2014 (Virginia and West Virginia) for which one-by-one meter resolution land cover data and land use data exist for all counties located within the Bay watershed.

DATA SOURCE: Data for this outcome will be derived from the Chesapeake Bay High-Resolution Land Use Data Project representing four-year intervals: 2013/14 – 2017/18 – 2021/22. Continuing the monitoring of high-resolution landscape change beyond 2021/22 will be further discussed by the Management Board in 2023.