

E3 Proposal for Clean Water Goal Team Discussion

The FWG was asked by the Clean Water Goal Team to define E3-- Everything, Everywhere, Everyone—for forestry practices to inform the development of planning targets for Phase 7.

The E3 Scenario estimates the fullest possible extent of management practice implementation using the following data:

- The current proposal is built on a base year of 2021/2022 to align with our best estimate of Land Use/Land Cover (LULC) from the most recent dataset
- Estimates were derived directly from the LULC dataset rather than the CAST LULC so there may be slight differences when using the CAST land use.
- Riparian land use was evaluated using the [1:24K hydrography](#) for the watershed which is the dataset the partnership is currently using to evaluate progress on riparian forest buffer establishment across the watershed

We compared potential E3 implementation levels with the goals set in the 2025 Watershed Agreement to ensure E3 targets are well above what the Forestry Workgroup considered to be achievable (reflected in the 2025 Watershed Agreement targets)

Urban Sector Forestry BMPs

- *E3 Forest conservation and urban growth reduction: All projected loss of forest from development is retained or planted in forest¹*
- E3 Urban Riparian Forest Buffers BMPs- 30% of turf grass acres (MS4, CSS, Non-Regulated) within the 35 ft riparian area are buffered as forest for each modeled hydrologic segment in the Chesapeake Bay watershed
 - There was 53,948 acres of turf in the 35 ft buffer zone for 21/22, so 30% would represent a conversion of 16,184 acres to forest
 - Only 30% of the 35 ft buffer is being converted due to physical infrastructure constraints present in the urban landscape
- E3 Tree Canopy Expansion and Forest Planting BMPs: 20% of turf grass acres (MS4, CSS, Non-Regulated) and 20% of compacted pervious (PDEV) acres will be converted to Tree Canopy over Turfgrass (TCTG) using the Urban Tree Canopy Expansion BMP, and an additional 20% of turf grass acres and 20% of PDEV acres will be converted to Forest using the Urban Forest Planting BMP.
 - There was ~1.7 million acres of Turf in 21/22, so under this E3, 347,908 acres of turf would go to TCTG and 347,908 acres would go to Forest for a total conversion of 695,815 acres from Turf
 - There was 921,976 acres of PDEV in 21/22, so under this E3, 184,395 acres of PDEV would go to TCTG and 184,395 acres would go to Forest for a total conversion of 368,790 acres from PDEV
 - Between Turf and PDEV, a total of 1,064,605 acres would be converted to TCTG or Forest

¹ Carried over from Phase 6 but may not be needed because the E3 scenario does not project loss

- To put this in context, the 2025 Watershed Agreement set a target to restore 45,000 acres of community tree canopy from a 2014 baseline (36,238 acres from 2022), so E3 represents a 29-fold increase in effort from the Watershed Agreement targets
- Only 40% of turf and PDEV is being converted to allow space for implementation of other BMPs and to allow for physical and site/soil suitability constraints in the urban landscape

Agricultural Sector Forestry BMPs

- E3 Agricultural Riparian Forest Buffer + Grass Buffers: 80% of unbuffered cropland and pastureland within 100 ft of streams/rivers will be converted to forest using the Forest Buffer BMP (crop) and the Forest Buffer with Stream Exclusion Fencing BMP (pasture) and the remaining 20% of unbuffered cropland and pastureland would have Grass Buffers.
 - The 100 ft buffer was used to represent the average reported buffer width in the watershed and the recommended width by the expert panel report to ensure water quality benefits (reducing risk of concentrated flow pathways bypassing the buffer).
 - Buffers should be a minimum of 30 M wide to protect the physical, chemical and biological integrity of small streams ([Sweeney and Newbold 2014](#))
 - Within the 100 ft buffer, there was 226,726 acres of cropland and 290,607 acres of pasture as of 21/22. Converting 80% of crop and pasture within the riparian area would result in the conversion of 413,867 agricultural acres to forest and 430,051 total buffer acres (including urban buffers)
 - Adding grass buffers to allow more flexibility for places where it is not physically appropriate to plant trees in the landscape (for example where there are wetlands or likely to be wetlands in the future)
 - To put this in context, the 2025 Watershed Agreement set a target of 7500 acres a year for a total of 135,00 additional acres between 2040 and 2022, so E3 would represent a 2.2 fold increase over the Watershed Agreement target
- E3 for Agricultural Tree planting + Agroforestry- 3% of crop and pastureland with tree planting, and 10% of of crop and pastureland having agroforestry practices applied (Alley Cropping BMP applied to crop, Silvopasture BMP applied to pasture)
 - 3% of crop and 3% of pasture would amount to 236,060 acres of agricultural tree planting
 - 10% of crop and 10% of pasture would amount to 786,867 acres of agroforestry practice implementation. However, only 25% of the total land footprint for the agroforestry practices converts to forest (with the remaining acres staying in agricultural production), which would amount to 196,717 acres converting to forest.
 - Between agricultural tree planting and agroforestry, 432,777 acres would be converted to forest representing a 2.6-fold increase over the Watershed Agreement target

Natural Sector Forestry BMPs

No net loss of forest

100% Timber harvest BMP implementation on harvested forest lands