Proposed Practice Life and Credit Duration for Forestry BMPs

in the Chesapeake Bay Model

At the September Verification Ad Hoc Team meeting, the Forestry Workgroup agreed to take a new look at Practice Life and Credit Duration that is used in CAST. This was the subject of a presentation at the October FWG meeting where feedback led to this proposal.

Definitions

**Practice Life--** The length of time a practice is expected to persist. This is primarily used to analyze annual cost-benefit. The longer the practice life, the lower the cost of establishment/year as the cost is more spread out.

**Credit Duration**- The length of time a practice can be credited in the model before it needs to be verified. This is important for planning and executing Verification.

**Back Out**-- A procedure done by the modelers when, over time, there are not enough acres of land to hold all the practices that are claimed over time. Back out” is TBD at this time.

Practice Life Background

Once established, forests can grow indefinitely with little maintenance-- even in the event of a natural disaster as they are the natural land cover for this region. BMPs that are intended as “forest plantings” are ag and urban riparian buffers and urban forest plantings. These are distinguished from the “tree planting” practices (ag and urban tree planting) as they have a higher standard of implementation, maintenance, and regeneration. Natural regeneration can be part of forest plantings per Verification protocol.

Tree planting survival primarily depends on site characteristics, quality of planting stock, species selected for planting, weather, and a landowner’s willingness to keep it at that site. Most tree planting in occurs in lawns and community spaces; less often along streets. Agricultural tree planting is distinguished from urban tree planting by occurring in lawns or fields outside developed areas. Trees may be planted as individuals or in a cluster.

These practices occur in all manner of sites. As information on good planting conditions is shared and heeded, the practice life is likely to be extended since site condition is likely the most central to practice survival.

Credit Duration Background

Credit duration is simplified for forest establishment practices because after 10 years, with normal growth, newly established trees and forests can be mapped with high-resolution imagery. The ability to map different aged plantings using the high-resolution for the Bay will be tested in Fall 2020. To distinguish and map forests from trees (or tree canopy) the Land Use Model applies certain decision rules that are agreed upon by the partnership.

Each new delivery of high-resolution data will come with a reckoning for partners about trees and forests that have been lost, and also those that have been gained but not credited. Tree/forest loss is expected to have more of an impact on the Land Use model because it is not part of annual reporting. Tracking and reporting tree/forest planting efforts and initiatives are important for those doing the work on the ground. The first complete change analysis using high-resolution imagery will be available by June 2021. With new imagery slated to happen every 5 years, the next change analysis would be available in 2026.

Riparian forest buffers (agricultural and urban) receive and process effluent from upland acres and therefore are credited for those acres. Therefore, it is important to continue to verify these practices after they are accounted for in the Land Use model so that they stay in NEIEN and continue to be credited by CAST unless they are backed out). The transition from credit duration to Land Use model is important in part because of the additional acreage for this practice and the “back out” that may be attributed.

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| **Forestry BMP** | **Practice Life Span** | | **Credit Duration** | |
| Current | Proposed | Current | Proposed |
| Ag Forest Buffer1 | 40 years | 70 years | 10 years | 15 years |
| Urban Forest Buffer | Undetermined | 70 years | 15 years | No change |
| Tree Planting | Undetermined | *35 years* | 10 years then modeled as Land Use | No change |
| Forest Planting | Undetermined | *70 years* | 10 years then modeled as Land Use | *No change* |
| Forest Harvesting | 3 years | No change | 3 years then reverts to Forest Land Use | No change |

Agricultural Forest Buffers

Agricultural Forest Buffers have been previously determined to last a minimum average of 70 years (Expert Panel 2012). Four reasons are given: 1) Once a forest is established after 15 years, it is unlikely to be removed. 2) The results of multiple landowner surveys have shown that 80-88% of landowners intend to keep the forest indefinitely. 3) Forests are naturally regenerative. 4) the practice life of the forest is not dependent on fencing (fencing is for cows, not trees) and after 15 years of establishment (credit duration) some grazing can occur without impacting buffer function.