DCNR CONCEPT for MULTIFUNCTIONAL RIPARIAN FOREST BUFFERS

Purpose: To help Pennsylvania meet the goal of installing an additional 95,000 acres of forested buffers by 2025.

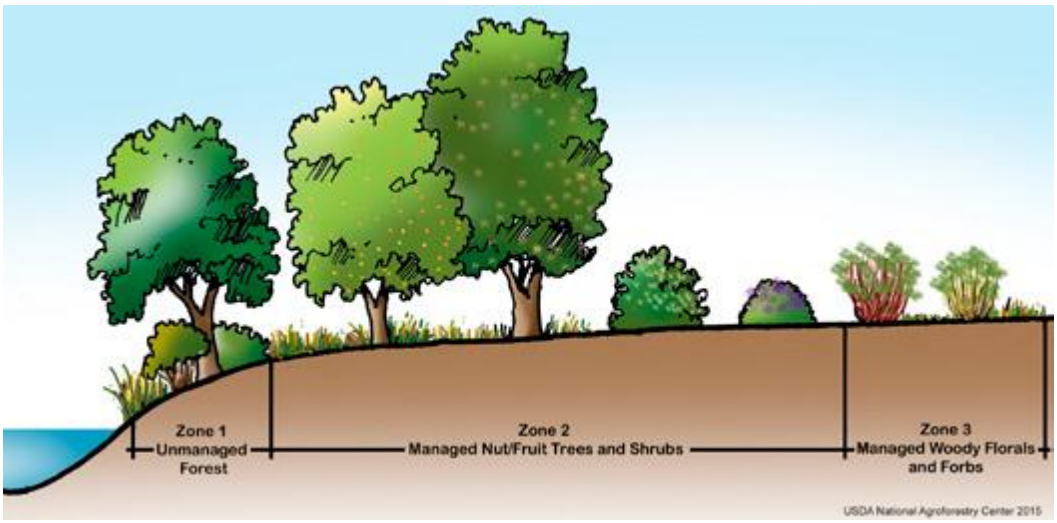
Definition: A riparian forest buffer that provides opportunities for harvesting products such as nuts, berries, woody florals, forbs, and potentially woody biomass. Inputs such as fertilizer or manure would not be permitted, and harvesting would not be permitted in the first 15 feet of the buffer from the edge of the streambank. An overall minimum width of 35 feet is recommended.

Rationale: Pennsylvania has led the nation for many years in establishing forested riparian buffers, but recently, enrollments have declined. Without additional tools beyond what is currently available, Pennsylvania is unlikely to meet its goal. This program offers an additional way to meet the goal.

Adding greater flexibility in landowner eligibility, buffer designs, allowable plant materials, and other elements, without compromising water quality, will reinvigorate interest in riparian buffers and accelerate participation across the Bay watershed. Allowing landowners to produce an income from woody plants that meet DCNR's criteria (see below) provides additional incentives for landowners to establish buffers, maintain them, and remain in the program long-term. No rental payments will be provided, but landowners will be able to keep some or all of the income derived from their buffer plants.

Criteria: Because of the need for greater program flexibility, we are providing limited guidance to ensure that buffers increase water quality and other critical benefits while remaining attractive to more landowners. DCNR recommends a minimum overall buffer with of at least 35 feet (Zone 1 + Zone 2 as described below.)

Planting Zones:



Buffer zoning from USDA National Agroforestry Center (2015)

Zone 1– from stream edge to 15 feet, native riparian forested trees and shrubs, no harvesting zone.

Zone 2 – from edge of Zone 1 out another 20 feet to 35 feet or more, fruit and nut trees and shrubs, non-mechanical harvest allowed.

Zone 3 – from edge of Zone 2 out another 50 to 100+ feet, woody florals and forbs, including biomass crops. Mechanical harvest allowed.

Planting establishment and maintenance:

Zone 1– Herbicide use allowed at site prep and twice annually for maintenance. Spacing and density will vary by species, by site characteristics, and by landowner and third-party installer. Acceptable planting methods include containerized stock, bare-root seedlings, direct seeding, or other approved methods. Site prep and annual maintenance may include use of approved herbicides for riparian areas, but should be minimized.

Zone 2 - Herbicide use allowed at site prep and twice annually for maintenance. Spacing and density will vary by species, by site characteristics, and by landowner and third-party installer. Containerized stock are preferable to generate income production earlier. Buffer widths may vary based on hydrology, soil type and other conditions.

Zone 3 - Herbicide use allowed at site prep and twice annually for maintenance. Spacing and density will vary by species, site characteristics, and landowner and third-party installer. Mechanized planting and harvesting permitted. Live-stakes, in addition to bare-root, direct-seed, and containerized stock, are permitted. Buffer widths may vary based on hydrology, soil type and other conditions.

Monitoring: Monitoring will be established at representative projects to measure nutrient uptake and water quality changes. Landowner observations of buffer wildlife use will also be collected as provided.

Example Multifunctional Buffer Plants and Products:

Zone 1 – see DEP forested riparian buffer guidance document (2010) for approved plant species.

Zone 2 – serviceberry, black walnut, raspberry, elderberry, chokeberry, highbush blueberry, American hazelnut, crabapple, pawpaw, persimmon.

Zone 3 – woody florals: dogwoods, pussy willow, quince, witch hazel, curly willow, hydrangea; chestnut, black locust.