Forest Stewards Guild
putting the forest first

AUGUST 2020

WILDLIFE FORESTRY IN

BOTTOMLAND HARDWOOD FORESTS

WHAT ARE BOTTOMLAND HARDWOOD FORESTS?

Bottomland hardwood forests are found along major and minor river floodplains in low-lying lands across the southern United States and parts of the Midwest where the ecosystem is driven by hydrology. They are seasonally or permanently inundated or saturated by water and support plant species and associated wildlife that are well-adapted to these conditions. Unfortunately, bottomland hardwood forests within the Southeast have been in decline due to incompatible management practices, altered hydrology, and land conversion.

MANAGEMENT TECHNIQUES

- Maintain large blocks of contiguous forested habitat.
- Keep continuous buffers along streams a minimum of 300 feet wide.
- Limit management activities during bird breeding seasons (late March through July) and avoid colonial waterbird nesting sites entirely.
- Leave trees and snags that have cavities of varying sizes and locations on the trunk.
- Maintain a high diversity of fruit, seed, or nut producing tree species (e.g. black cherry, oaks, hollies, hackberries).
- Soften edges between habitats by creating irregular edges or by feathering edges.
- Retain appropriate levels of early successional forest habitat. Patch cuts should comprise no more than 10% of the stand and be limited to 10 acres or less.
- Retain no less than 5% of stands in the **late-successional** phase of stand dynamics, where possible.

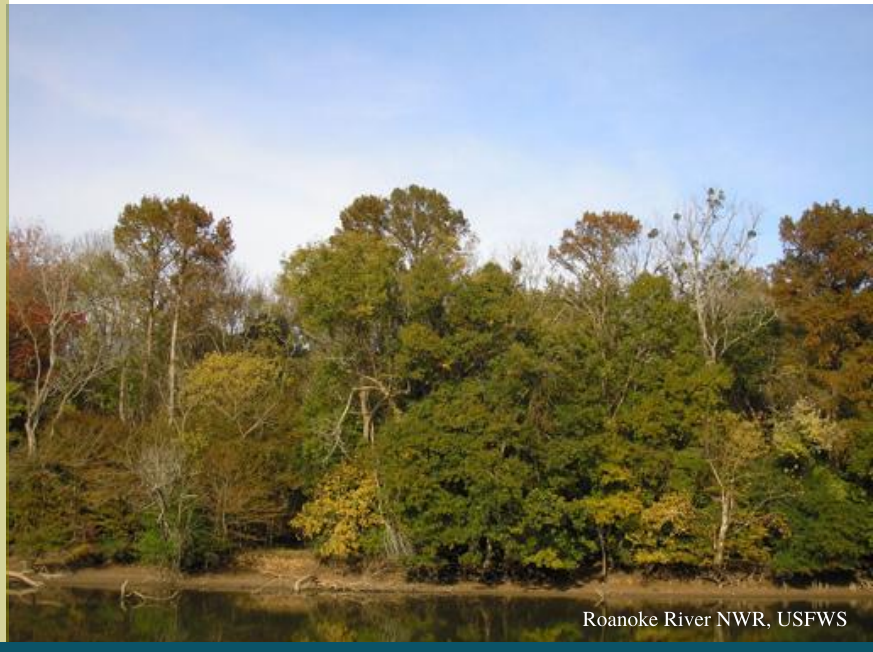
LATE-SUCCESSIONAL BOTTOMLAND FORESTS

While most all sites provide many ecosystem services, late-successional sites are particularly important due to their extremely diverse stand conditions and the biodiversity they support. In general, late-successional stands can be recognized by their structurally diverse vegetation, deep litter layer, existence of large woody material (e.g. large downed logs), and presence of shade tolerant species (e.g. elm-ash-sugarberry).

WILDLIFE FORESTRY

Bottomland hardwood forests provide critical wildlife habitat in the southern United States. With their structural diversity and dense vegetation, these forests provide breeding and nesting habitat for interior songbirds and travel corridors for migratory wildlife, among other services. Wildlife forestry is “applying the principles of forest ecology and silviculture to provide life history needs of wildlife at both landscape- and stand-level scales while improving timber stand conditions, providing for forest regeneration, and producing forest products in an ever-changing environment” (Locascio 2019).

Management in these forests should promote a heterogeneous forest canopy comprised of gaps and complex layering, and should aim to enhance or retain diversity in terms of vertical and horizontal structure, tree species composition, and tree size and age-classes.



Roanoke River NWR, USFWS

SILVICULTURAL RECOMMENDATIONS

For managing bottomland hardwood forests, it's best to mimic the normal range of variation in intensity, severity, and range that would occur through natural disturbances. Within a stand, strive for variability by incorporating a range of silvicultural practices. Harvesting should limit disturbance to the forest understory (plants, soils, and hydrology) and reduce unnecessary damage to residual stems. When available, more site-sensitive harvesting equipment and approaches that reduce ground impacts are preferred in bottomland sites, especially in hydric conditions.

When the goal is to regenerate a stand, appropriate regeneration treatments include individual and group selections, shelterwoods, seedtree, and patch cuts (small clearcuts up to 10 acres). Implemented as a variable retention harvest, such treatments can also include passively managed areas that are not harvested to provide a diversity of conditions across a broad spectrum. Functionally, this mimics natural forest succession, producing a broad range of successional conditions, maintaining a perpetual forest capable of providing many values including long-term revenue for a landowner, and quality habitat for a wide variety of species.


Forest Stewards Guild

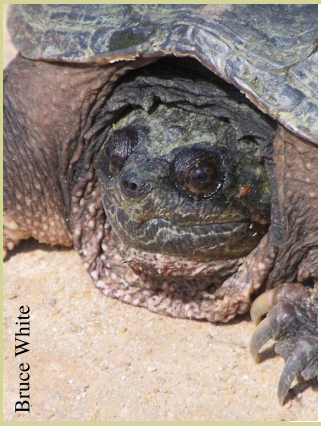
WHAT DO YOU WANT TO SEE IN YOUR WOODS?


Andrew Weitzel

Kentucky Warbler

Implement patch cuts, shelterwoods, and group selections to encourage lush undergrowth habitat.

This management also benefits white-eyed vireo, hooded warbler, and eastern towhee.


Bruce White

Amphibians and Reptiles

Retain coarse woody debris, especially in wetter sites, and maintain adequately sized forested riparian buffers.

Additionally, be sure to adhere to all state recommended BMPs for water quality.


Ken Taylor

Black Bear

Implement variable retention harvest that incorporates groups and individual selections. Leave hard and soft mast tree species such as oaks, sweet pecan, and mulberry as well as fruiting understory species such as blackberry and palmetto.


Nate Swick

Swainson's Warbler

Create small 2-10 acre patch cuts on high bottomland sites to create thick woodland brush. Leave understory thickets when operating in swamps.

FOR MORE INFORMATION SEE:
WWW.FORESTSTEWARDSGUILD.ORG/BOTTOMLAND-HARDWOODS-MANAGEMENT/

Forest Stewards Guild
putting the forest first