BIRD-FRIENDLY RECOMMENDATIONS FOR BOTTOMLAND FORESTS IN THE CAROLINAS

A LOOK BACK FROM 5 YEARS DOWN THE ROAD

2016-2021

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Clemson defeats Alabama to claim first national championship since 1981.
What, When, Where, How & Why?

A Little Background Information to Set the Stage
Where do we work?

ACE/Santee Cooper Lakes Basins

South Lowcountry Basin

COWASEE Basin

CAWS Basin

7 County Pee Dee Region
Traditional Bottomland Hardwood Forestry in South Carolina

Traditional management of bottomland forests was to either:

A. Treat bottomland as sacrosanct, never to be managed.

B. Clearcut without regard to advanced regeneration, often for conversion to pine plantation.
Bird Friendly Bottomland Forestry

Small Patch Clearcuts
2-10 acres with <10% of the bottomland in regenerative state
How the clearcut patches could be arranged was basically at the landowners discretion. And subject only to the constraints of their imagination.

With one important caveat.

“String of Pearls”

“Spokes of a Wheel”

“String of Pearls, Take 2”
Swainson’s Warbler

Swainson's Warbler
*Limnothlypis swainsonii*

Known Range
- **Summer**
- **Winter**
- **Year-round**

Predicted Habitat
- **Summer**
- **Winter**
- **Year-round**

**SE-GAP Project Extent**
- State Boundaries
- County Boundaries

12.2%
Planned harvests at Audubon’s Silver Bluff property on the Savannah River in Aiken Co., SC

2014 Harvests have already closed canopy on the smallest patch and will likely need to be re-entered before 2030. On these sites, the 15 year re-entry cycle looks to be more in the 7-10 year range.
Lesson Learned Number 1.

Never let the stated plan interfere with doing the right thing. Initial plans were to utilize a 15 year re-entry cycle on our site. First, the 1Ac patch was completely enclosed and beginning to shade out by year 5. The 3Ac is there now. A 7-10 year re-entry is looking more feasible for all but the largest patches.
2014-2021 5Ac clearcut stand development
How do we decide where to put these openings?

Indicator species like Palmetto, Switch Cane, Oaks, American Elm, Loblolly Pine and Persimmon are all indicators of higher drier conditions within otherwise wet forests. These sites are the most likely to respond favorably.

Further the presence of “flippable” leaf litter is important for foraging birds.
Lesson Learned Number 2.

Without adequate advanced regeneration of desirable species these patch clearcuts can and likely will develop into stands of lesser economic value than the stand that was just harvested.
Lesson Learned Number 3.

Treat invasives before harvest not after. Chinaberry will sprout vigorously and what was 100 stems can become 1000 after resprouting under full sunlight.
Summer 2021
Regeneration Survey

Chinaberry was not treated prior to harvest.
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Feathered edge of a small patch opening
Brown-headed Cowbird

Preferred habitat is open agriculture or grassland

Prolific! One female can lay as many as 40 eggs a season in the nests of other birds!

Nest parasites that grow larger and compete for adopted mom’s resources

All things equal, thickets as far interior as possible
Bird Friendly Bottomland Forestry

Hardwood Thinning
Thin down to 60-70% canopy Closure

Selection criteria should aim to improve species composition for economic and habitat values
Bird Friendly Bottomland Forestry

Hardwood Thinning
Thin down to 60-70% canopy Closure

Crown spacing is critical for stand development. Trees will rapidly expand into the new gaps.
Lesson Learned Number 4.

Every entry into a stand should be seen as a regeneration opportunity. Pine seedlings come from cardboard boxes in the back of a truck. Hardwood seedlings come from the stand you currently have.
Summer 2021 Regen Survey

2,980 Stems/Ac at least 3’ tall and <4.5” dbh.

2,280 of Desirable Species (green ash, Am elm, sweetgum, sycamore).

700 Undesirable (Chinaberry, privet, boxelder).
Lesson Learned Number 5.

It may be convenient to plan and map the placement for patch clearcuts from your desk. But, the most beneficial ones termed “Group Selections” happen organically. When the site offers a good opportunity for a group selection take advantage of it and adjust the plan.
Epicormic Branching

Epicormic branches are surface branches that arise from adventitious buds on the bole of a tree when it is exposed to full sunlight.

While epicormic branching can degrade log quality, a conservative thinning will close canopy quickly enough to minimize this concern.

Species and location matter. Oaks and Sweetgum are especially prone to epicormics branching.
Vertical Diversity

The extent to which plants are layered within a stand. It is determined by the arrangement of growth forms (trees, vines, shrubs, etc.), different heights of tree species, and different ages of trees of the same species. More diversity = more habitat for priority birds.
Why Does This Matter To Audubon?

Easy, good habitat for birds is good habitat period. And that benefits wildlife and people.
Audubon collaborates with landowners, land managers, government agencies, and private industry across the hemisphere to increase the quality of habitat on privately managed lands.
Audubon engages and involves the public on issues surrounding water rights and water quality; restores habitats along rivers, wetlands, and deltas; and explores and implements market-based solutions that contribute to the achievement of our water goals.
Thank you!