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## Management Plan Template for Wildlife Forestry Practices in Bottomland Forests

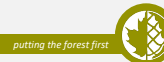


### What is wildlife forestry?

Wildlife forestry is managing forestland to improve wildlife habitat, as well as overall forest health, while improving timber stand conditions, providing for forest regeneration, and producing forest products in an ever-changing environment (Locascio 2019).

### Why create a template?

- Inform and guide foresters, land managers, and landowners on wildlife forestry practices in bottomland hardwood forests.
- Address knowledge gaps
- Provide information in an easily digestible way
- Creates pathway to apply for cost-share funding or forest certification



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## Management Plan Template for Wildlife Forestry Practices in Bottomland Forests

This template was developed by the Forest Stewards Guild with assistance from individuals from:

- National Audubon Society
- US Fish and Wildlife Service
- NC Forest Service
- Natural Resources Conservation Service (NRCS)
- Enviva Biomass
- GFR Forestry Consultants
- Milliken Forestry
- South Carolina Forestry Commission



**Many minds make great work!**



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## Management Plan Template for Wildlife Forestry Practices in Bottomland Forests

This template incorporates information from several leading resources such as:

- *Bird-Friendly BMPs for Bottomland Forests in the Carolinas* by the National Audubon Society (2016)
- *Regenerating and Managing Natural Stands of Bottomland Hardwoods* by Kellison et al (1988)
- *North Carolina Wildlife Action Plan* by NCWRC (2015)



The creation of this template was made possible thanks to the National Fish and Wildlife Foundation.



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## Management Plan Template for Wildlife Forestry Practices in Bottomland Forests

[ENTER FOREST MANAGEMENT PLAN TITLE HERE]

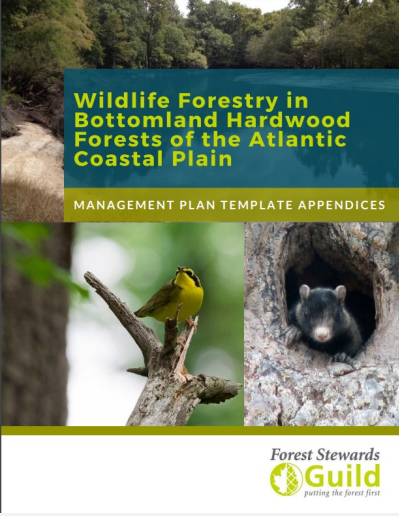
**Owner's Name(s):**

**Plan Time Period:** Click or tap here to enter time period.

**Plan Author:** Click or tap here to enter your name.

**Plan Author's Contact Information:** Click or tap here to enter your contact info.





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## How to Use: the Fillable Template

1. As a land manager, forester, or other natural resource practitioner, you can fill out the information as you would in a standard forest management plan.
2. The fillable template provides guidelines on what information is needed for a plan to be eligible for a number of certification programs, such as Forest Stewardship Council or Tree Farm, as well as cost-share programs such as the Environmental Quality Incentives Program through NRCS.
3. When it comes to management recommendations, the template includes a list of general recommendations for wildlife habitat management. More information can be found in the supporting Appendices.

*Management of Forest Resources*

**Habitat Management Recommendations:** Three key steps in planning the management of bottomland hardwood forests include (1) understanding current forest, hydrological, and environmental conditions; (2) clarifying landowner and landscape objectives (desired forest conditions); and (3) defining economically and operationally feasible actions that will move the stand into the desired condition (Allen et al. 2004). To manage for wildlife in the bottomland hardwood forests of the ACP, there are general guidelines to follow to reach the desired landscape conditions (North Carolina Wildlife Resources Commission 2015; N.C. Wildlife Resources Commission 2012; Brunwig et al. 2016). Additional habitat management recommendations and desired forest conditions can be found in Appendix C.

**General Recommendations for Wildlife Habitat Management:** Check off recommendations as they are incorporated and/or followed in this plan.

- Maintain large blocks of contiguous forested habitat.
- Keep continuous buffers along perennial streams a minimum of 300 feet wide.
- Retain no less than 5 percent of stands in the late-successional phase of stand dynamics, where possible<sup>1</sup>.
- Avoid unnecessary alterations of hydrology, but also work to restore natural hydrology
- Limit management activities during bird breeding seasons (late March through July) when possible and avoid colonial waterbird nesting colonies entirely.
- If compatible with regeneration objectives, retain overstory trees of varying types and sizes when harvesting. Keep trees that produce fruits, seeds, or nuts promoting widespread seasonality of mast production by favoring a diversity of tree species (e.g. black cherry, oaks, hollies, hackberries).
- Leave trees and snags that have cavities of varying sizes and various locations on the trunk. When possible, preserve existing snags to provide two or more >21-inch dbh snags or six or more >10 inch dbh snags per acre of forest.
- Soften edges between habitats. Reduce negative edge effects by creating irregular edges or by feathering edges. An "edge" can be defined as a place where two differing types of

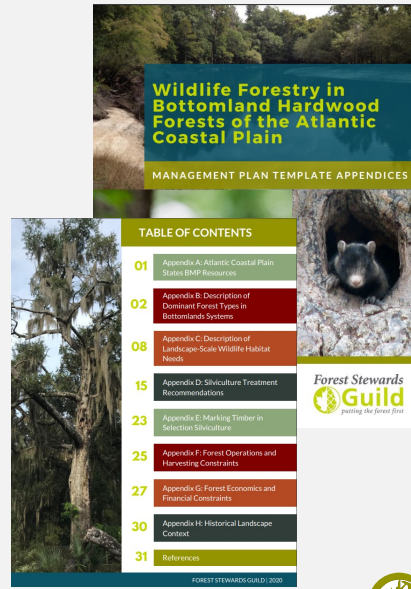
<sup>1</sup> Late successional bottomland hardwood forests are at least 80 years old and have complex heterogeneous characteristics, including high structural diversity, high species diversity, high age class diversity, and diverse diameter distributions, but are not necessarily in the old growth phase of stand dynamics.

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## How to Use: the Appendices

1. The supporting Appendices provide the context for the Template.
2. For practitioners, this guide describes habitat features needed for wildlife in bottomland sites and provides information on how to manage the forest to achieve reaching wildlife goals.
3. As a landowner, this guide will walk you through the kind of questions to ask yourself when determining the goals for your bottomland sites.



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## How to Use: the Appendices



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## How to Use the Appendices: as a landowner

RECOMMENDATIONS BASED ON WILDLIFE

WHAT DO YOU WANT TO SEE IN YOUR WOODS?

RECOMMENDATIONS BASED ON WILDLIFE

Black Bear




**Habitat Description**  
Large, contiguous forested tracts with multiple tree species and structural diversity.

**Management Strategies**  
Variable retention harvest selections.  
Leave hard and soft mast nutberry as well as fruit patches.

RECOMMENDATIONS BASED ON WILDLIFE

Kentucky Warbler

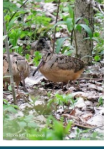


**Habitat Description**  
Moist, bottomland hardwood forests with lush undergrowth habitat.

**Management Strategies**  
Patch cuts, shelterwood, group selections  
Also benefits white-eyed vireo, hooded warbler, and eastern towhee

RECOMMENDATIONS BASED ON WILDLIFE

American Woodcock




**Habitat Description**  
Interspersion of open oak shrubs, and cane and oak

**Management Strategies**  
Variable retention harvest group selections.

RECOMMENDATIONS BASED ON WILDLIFE


Amphibians and Reptiles



**Habitat Description**  
Isolated wetlands and floodplain pools with few trees and areas with abundant coarse woody debris.

**Management Strategies**  
Retain coarse woody debris especially in wetter sites  
Maintain forested riparian buffers

- Management recommendations based on the wildlife you would like to see in your woods.
- First describes the habitat conditions, and then possible management strategies to create/enhance that habitat.



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## How to Use the Appendices: as a practitioner

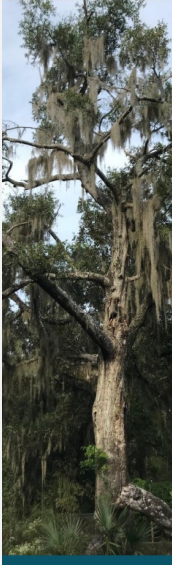




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## How to Use the Appendices: as a practitioner

**Appendix E: Marking Timber in Selection Silviculture**


A guide on how to mark a selection harvest, per our contributors.  
To successfully implement a selection silviculture treatment, a forester must consider the following variables:



Soil: some fragile soils are impossible to log without causing significant damages to soil health, however some tree species require soil disturbance to regenerate.



Group Selection: a group selection regeneration method should happen in the field and occur organically as opportunities present themselves. For example, groups could be formed around patches of advanced regeneration.



Oak: oak work well to forest may be

### STEPS TO MARKING TIMBER

**STEP 1**

**Identify the residual stand species and density.**  
Learn to visualize what your desired forest condition looks like and know going into marking what the stand will look like post-harvest. A pre-harvest is a target post-harvest stand and stock table could help guide the marking operation.

**STEP 2**

**Identify the individual trees to be retained.**  
Identify the individual trees to be retained. First, consider desired tree species, then judge whether it is capable of 3-dimensional growth. If there are multiple trees competing for light determine if they can increase in girth, increase in merchantable height, or increase in diameter. For example, if one tree can only increase in diameter while it's neighbor can put on a second log, then select the neighbor. Free-to-grow crowns on the trees most likely to increase in value (habitat value and financial value) is the goal.

**STEP 3**


**Clear communication to contractors.**  
Communicate to contractors the reason for taking or leaving specific trees and stress the need to avoid damage to the residual stand when felling/skidding.

**STEP 4**

**Be realistic.**  
The contractor is going to fear a loss of production. This will likely require an increase in normal cut-and-haul rates to compensate for the lower per acre production rate.

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- Step-by-step guide on marking timber in selection silviculture.
- Discusses what should be considered about the site, and then details the steps to mark the harvest.



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## How to Access



The screenshot shows the website's navigation menu with 'About Us', 'Our Work', 'Membership and Giving', and 'Events'. The main content area features a large image of a forest and a 'Highlights' section. A red circle highlights the 'Resources' link in the sidebar, which includes a 'Management Plan Template for Wetland Forests in Bottomland Forests'.

1. Visit [foreststewardsguild.org/bottomland-hardwoods-management](https://foreststewardsguild.org/bottomland-hardwoods-management)
2. Click on 'plan template' to download fillable word document, and 'plan template appendices' to download a PDF of the supporting document



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# Questions?

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