



## **The Birder's Dozen**

Identification tips & ecological  
information for 12 focal species  
of Connecticut's forests



# Introduction

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This guide is designed to assist foresters who are interested in silviculture that integrates timber and bird habitat management in Connecticut. Information provided here is intended to support the creation of a bird habitat plan that adds to and enhances a Stewardship plan. Following the bird habitat plan will result in the implementation of on-the-ground, stand-level, management practices that can benefit breeding bird populations while producing timber products.

This guide has been adapted from the Vermont Foresters for the Birds project in consultation with Audubon Vermont. The original Vermont Foresters for the Birds Toolkit was a collaborative project between the Vermont Department of Forests, Parks, and Recreation and Audubon Vermont. This document was created by staff at Audubon Connecticut in consultation with local foresters.

In this guide, we provide considerations and tips for silvicultural options that have the potential to benefit the Focal Bird species, along with information

on bird identification and habitat requirements. This guide is intended to be used in conjunction with its companion document: *Managing Forests for Trees and Birds in Connecticut: A Guide to Habitat Assessments and Silvicultural Practices*.

We assume users of these documents have experience in silviculture for timber production and an interest in managing for bird habitat as well. Our purpose is to provide relevant bird information, and guidance on integrating bird habitat management concepts with accepted and widely applied silvicultural treatments.

## Focal Birds

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The Focal Birds are a great starting place for novice birders. They are also an excellent entry point for those who are interested in managing forests in Connecticut with birds in mind, and help to connect silvicultural practices with important components of forest bird habitat. The 12 species featured in this guide were selected because they:

**Are a conservation priority in the region, or statewide.**

**Are relatively simple to identify by sight and/or sound.**

**Collectively use a wide range of forest types and conditions.**

**Are likely to respond positively to some common silviculture practices.**

## How to use this guide

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Small enough to fit in your pocket, this guide is designed to be a quick field reference that can be used during forest inventory, timber harvest, and operations. It is not a comprehensive field guide or a complete guide to the life history of these XX species. This is also not a silvicultural guide. Instead, it is intended to provide a concentrated dose of bird-by-bird information that is of interest and value to those who manage forests in Connecticut and want to do so with birds in mind.

### **Tips**

Describes the most distinctive and identifying field marks for males of the species during breeding season. Note that coloration and patterning can vary between males and females, juveniles and adults, and breeding and nonbreeding adults.

### **Song**

Describes the most common male song that is used during breeding season to attract a mate and/or defend a territory. Birds often sing more than one song, and individuals may have their own variations or regional dialects. Males and females also often have other vocalizations or calls that can be recognized with additional practice.

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## **Habitat**

Describes the preferred, highest quality breeding habitat of the species where it is likely to have the greatest reproductive success. Birds often use lower quality habitat when high-quality habitat is not available. Species may also change their habitat preferences during different life stages and seasons, such as after fledging, before and after breeding, and during migration.

Drawings of habitat features important to each species are provided, along with a simple breeding habitat schematic that highlights important attributes for a quick visual reference. A key to these habitat icons can be found at the end of the guide on [pages 50-51](#).

## **Territory**

Refers to the area a male defends during the breeding season. Territory size is often dependent on the quality of the habitat, with smaller territories being possible in higher quality habitat. During the breeding season, some species may restrict their movements to stay entirely within their territories. However, most species require a larger area than their territory for foraging. Although potentially very useful for making management decisions, these area requirements are often difficult to calculate since they are dependent on so many variables.

## How to use this guide

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### **Food**

Refers to the main diet and foraging habits and habitats of the species during the breeding season. Diets and foraging habits can vary during different life stages and seasons, such as after fledging, before and after breeding, and during migration.

### **Silvicultural Considerations**

The Desired Condition describes the forest habitat condition that is most desirable for each species and is followed by a table of tips and considerations for silvicultural options that have the potential to create or enhance habitat for the species. This section is meant to be used as a quick reference for foresters in the field who would like ideas for how to protect or enhance habitat for particular species or are wondering how a particular-treatment may impact a species.

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## Non-Native Invasive Plant Species

Non-native, invasive plants, such as bush honeysuckles, Multi-flora rose, autumn olive, and Japanese barberry, present a variety of threats to forest health in Connecticut. Although some species of native forest birds successfully use these shrubby, woody plant species as nesting sites and eat their fruits, the fruits generally have low nutritional value and the invasive plants reduce the diversity of other nesting and foraging options. In some cases, nest success has been shown to be lower in non-natives than in native vegetation. Overall, non-native, invasive plant species degrade the quality of native forest bird habitat in our region. Consideration and control of non-native, invasive plant species should be a management objective for every forester practicing in Connecticut, and may affect opportunities for implementing silvicultural treatments discussed in this publication and its companion document.

## Notes on Connecticut Edition

In 2014 the Massachusetts team adapted the Vermont Foresters for the Birds documents to address the conservation needs in forests of Massachusetts west of the Connecticut River. In 2016 the program expanded statewide, and this edition includes a few additional Focal Birds to better represent the conservation needs of each region. Also, silvicultural options have been simplified and grouped into three levels of harvest intensity, giving foresters more flexibility to achieve timber and habitat management goals as they see fit. Suggestions within each category of harvest intensity are listed under Compatible Silvicultural Treatments.



## How to use this guide

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### References

Fish, J., W. Sweetser Ferris, P. Grima, J. Morse, S. Sylvester, F. Clark, M. Downey, D. Hutcheson, A. Wright-Hunter, M. Servison, J. Walsh, and W. Petersen.

2014. "Birds with Silviculture in Mind: Birder's Dozen Pocket Guide for Massachusetts Foresters." Mass Audubon, Massachusetts Department of Conservation and Recreation.

Hagenbuch, S., K. Manaras, J. Shallow, K. Sharpless, J. Shallow, and M. Snyder. 2011. "Birds with Silviculture in Mind: Birder's Dozen Pocket Guide for Vermont Foresters." Audubon Vermont and the Vermont Department of Forests, Parks and Recreation.

The bird identification and habitat information in this guide was taken primarily from The Birds of North America, a web resource

managed by the Cornell Lab of Ornithology. The information in the Silvicultural Considerations section reflects our own application of the research in bird habitat requirements and their responses to silviculture, along with our personal knowledge developed from field experience. By nature, research of these topics is ongoing, and there are still many unanswered questions. This information represents our best estimate of how silvicultural treatments will influence and benefit the Focal Birds. We anticipate that recommendations will evolve as our understanding of how birds respond to silvicultural treatments advances.

Please contact Audubon Sharon for a complete list of references used in the creation of this guide.

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## Acknowledgements

Funding for adapting this publication to Massachusetts was provided through the DCR Working Forest Initiative.

The original project on which this publication was based was supported by the Northeastern Area State and Private Forestry, U.S. Forest Service, and TogetherGreen, a National Audubon program with funding from Toyota. Thanks to all of the foresters participating in the Foresters for the Birds program, who provided feedback on the original document.

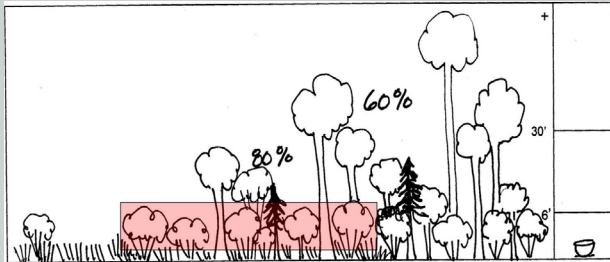
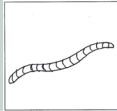
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Drawings were done by Margaret Fowle with inspiration from Laura French.

# American Woodcock

## AMWO



**ID Tips** A plump bird with a long bill, no neck, and short legs; mottled cryptic coloration.

**Song** A nasal beeping peent heard mostly at dusk; also twittering wing sound when in flight.

**Habitat** Hardwood or mixed wood forest matrix with a mix of openings and young forest in early stages of regeneration (<20 years old). Uses habitats in the following categories depending on activity, time of day, and season: *see opposite >*

**Territory** Males defend peenting areas in singing grounds with average spacing between birds >150 feet. Birds form small clusters in other habitats and are non-territorial.

**Nest** Scrape on ground in dead leaves.

**Food** Primarily earthworms; also eats various insects and larvae, snails, millipedes, centipedes, and seeds.

**Silvicultural Considerations**

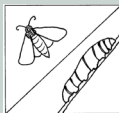
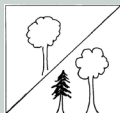
**Desired Condition** Maintain or create hardwood or mixedwood forest matrix with a mix of openings and young forest in early stages of regeneration (<20 years old), shrub wetlands, preferably with alder

Due to the complexity of the habitat requirements and options for management for AMWO, please refer to the Woodcock Conservation Plan prepared by the Wildlife Management Institute available at [www.timberdoodle.org](http://www.timberdoodle.org) for silvicultural guidelines.

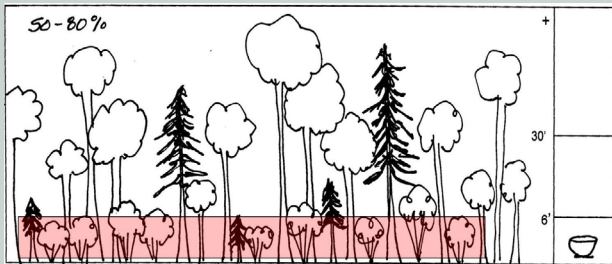
	Habitat
Singing grounds	Forest openings, fields, and regenerating fields that are at least 0.5 acre in size and less than 300 feet from diurnal cover. Here males perform display and courtship activities in the spring.
Diurnal cover	Hardwood or mixedwood forest with moderately open canopy (about 60% cover) and dense shrub layer (about 80% cover). Prefers sites with alder, birch, and aspen species near singing grounds with moist soil and an abundance of earthworms.
Nocturnal cover	Regenerating fields and pastures at least 3 - 5 acres in size with shrubby, dense cover for roosting.
Nesting and brood-rearing habitat	Young, dense hardwood sapling stands near singing grounds and diurnal cover with moist soil and an abundance of earthworms.

# Black-throated Blue Warbler

BTBW



250+ ACRES



**ID Tips** Deep blue on top with black mask and throat; white wing-patch “handkerchief.”

**Song** A thick and buzzy “beer, beer, beer, BEEE” with endnote rising.

**Habitat** Large, continuous tracts (250+ acres) of hardwood or mixedwood with 50-80% canopy cover and a dense understory (0'-5' layer) of mountain laurel, and/or small saplings of sugar maple, and softwoods.

**Nest** Open cup of bark strips held together with spider web and saliva placed in the fork of a sapling or shrub in 0'-5' layer.

**Food** Insectivorous, feeding largely on moth and butterfly larvae and adults.

**Silvicultural Considerations**

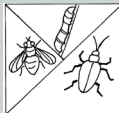
**Desired Condition** Maintain or create hardwood and mixedwood stands with 50%-80% canopy cover and a dense understory of native species (0'-5' layer).

**Management decisions will be based on existing conditions**

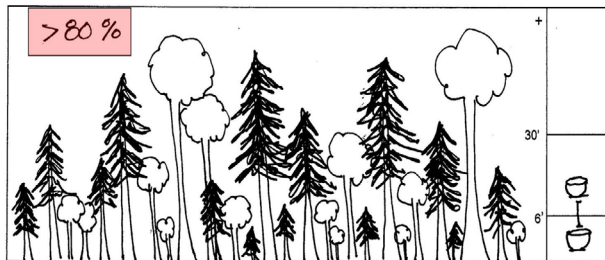
Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Control invasive plants</li></ul>	
<b>Option 1</b> Low intensity	<ul style="list-style-type: none"><li>• Crop Tree Release with Gap Formation</li><li>• Small Group and Single Tree Selection</li><li>• Variable Retention Thinning</li></ul>	Keep group width <2x the canopy height, protect advanced regeneration.
<b>Option 2</b> Moderate Intensity	<ul style="list-style-type: none"><li>• Small Group Selection</li><li>• Shelterwood with Reserves</li><li>• Expanding Gap Shelterwood</li></ul>	Greatest increase in understory density occurs between seed and removal cuttings. Maintain >50% canopy cover.

# Black-throated Green Warbler

BTNW



250+ ACRES



**ID Tips** Bright yellow face, olive head and back; black throat drips down sides onto white belly; two white wing-bars.

**Song** To attract females, males sing zee-zee-zee-zoo-zee (also known as *I'm-black-throated-green*); to defend territorial boundaries zoo-zee-zoo-zoo-zee (also known as *trees-trees-murmuring-trees*).

**Habitat** Prefers large, continuous tracts (250+ acres) of closed-canopy (>80% cover) softwood or mixedwood forests. Often strongly associated with eastern hemlock.

**Territory** Average of 1.6 acres in hemlock- beech forest in New York. Smaller in dense, softwood stands than in mixed-wood stands.

**Nest** Open cup placed close to the trunk in a small tree or sapling, typically 3-10 feet off ground.

**Food** Insectivorous; gleans from small branches and needles on conifers.

**Silvicultural Considerations**

**Desired Condition** Maintain or create well-stocked, uneven-aged mixedwood and softwood sawtimber stands with >80% canopy cover.

- △ BTNW avoids road edges and forested openings up to ~650 feet from edge or opening.
- △ Consider attempting to regenerate softwoods on sites dominated by red maple that may be present as a result of heavy softwood cutting in the past.
- △ Retain softwood inclusions in hardwood stands;

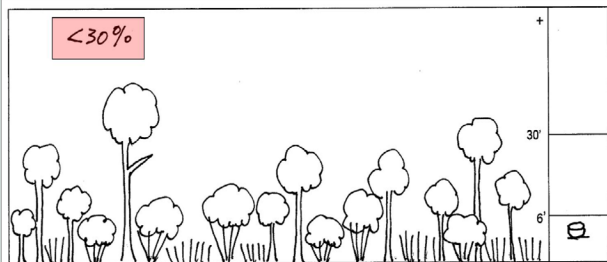
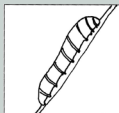
**Management decisions will be based on existing conditions**

Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Control invasive plants</li></ul>	
<b>Option 1</b> Low intensity	<ul style="list-style-type: none"><li>• Crop Tree Release with Gap Formation</li><li>• Small Group and Single Tree Selection</li><li>• Variable Retention Thinning</li></ul>	Enhance weak softwood component or regenerate new softwood. Enhance uneven-aged structure.



# Chestnut-sided Warbler

CSWA



**ID Tips** Yellow crown, black moustache stripe, and chestnut sides following contour of wings; tail held cocked above wingtips.

**Song** Fast *Please-please-pleased-to-meet-CHA* with emphatic ending.

**Habitat** Young (5-15 years old) hardwood forest with <30% canopy cover and dense shrubs and saplings 3-10 feet high for nesting and foraging. Some larger saplings used as singing perches and to obscure nests.

**Territory** 2-2.5 acres.

**Nest** Open cup placed in crotch of small shrub or within a group of small-diameter, vertical stems less than 6.5 feet off the ground.

**Food** Insectivorous; prefers caterpillars and fly larvae.

### Silvicultural Considerations

**Desired Condition** Maintain or create well-stocked hardwood seedling/sapling stands  $\geq 1$  acre in size with  $<30\%$  canopy cover.

△ Areas that will be maintained as open-canopy, early successional habitat should be cut on a 7-10 year cycle.

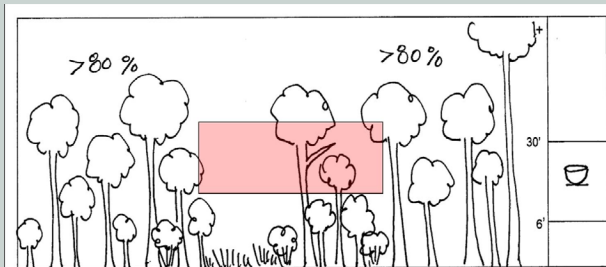
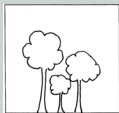
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### Management decisions will be based on existing conditions

Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Control invasive plants</li></ul>	
<b>Option 2</b> Moderate Intensity	<ul style="list-style-type: none"><li>• Group Selection</li><li>• Shelterwood with Reserves</li><li>• Shelterwood</li></ul>	Openings of at least 1 acre in size are more likely to attract a nesting pair. Most appropriate in hardwood or mixedwood stands. Desired condition may persist for several years postremoval cuttings.
<b>Option 3</b> High Intensity	<ul style="list-style-type: none"><li>• Clearcut</li><li>• Clearcut with Reserves</li></ul>	Retain native shrubs for nesting structure, and small scattered trees for singing perches.

# Eastern Wood-Pewee

EAWP



**ID Tips** A flycatcher; slender, small headed, and grayish-olive above with dull, white wing-bars; "sallies" for insects (flying out from perch and then back again).

**Song** Plaintive *pee-ahh-weee*.

**Habitat** Hardwood forests with closed (>80%) canopy cover and open midstory (6'-30' layer) near openings and edges.

**Territory** Variable: 1.4-3.1 acres in lowland forest in Illinois and average of 19.3 acres in forest stands in Wisconsin.

**Nest** Shallow cup of woven grass covered on outside with lichens placed on the horizontal limb of a tree.

**Food** Insectivorous, primarily catches flying insects taken in the air on forays from a prominent perch.

## Silvicultural Considerations

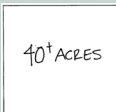
**Desired Condition** Maintain or create hardwood pole/sawtimber stands with >80% canopy cover, gaps, and open midstory (6'-30' layer) near forest openings and edges.

**Management decisions will be based on existing conditions**

Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Control invasive plants</li></ul>	
<b>Option 1</b> Low intensity	<ul style="list-style-type: none"><li>• Crop Tree Release with Gap Formation</li><li>• Variable Retention Thinning</li></ul>	Gaps and/or open midstory create foraging opportunities
<b>Option 2</b> Moderate Intensity	<ul style="list-style-type: none"><li>• Group and Single Tree Selection</li><li>• Expanding Gap Shelterwood</li></ul>	

# Scarlet Tanager

## SCTA



**ID Tips** Slim, bright red bird with jet black wings and tail ("A black-winged red bird").

**Song** Like a robin with a sore throat; call an abrupt *chick-burr*.

**Habitat** Interior, hardwood forests with >80% canopy cover – especially those with a significant oak component.

**Territory** Variable depending on size of forest area, location, and vegetation type. Males defend mating, nesting and foraging areas. Foraging areas are much larger than mating and nesting area

**Nest** Flimsy, shallow cup usually placed among a cluster of leaves on a nearly horizontal branch in the canopy well away from the trunk. Prefers hardwood trees, particularly oaks.

**Food** Mostly insectivorous; eats a wide variety of adult flying and non-flying insects, insect larvae, and spiders.

Silvicultural Considerations

**Desired Condition** Maintain or create well-stocked, uneven-aged, hardwood sawtimber stands with >80% canopy cover.

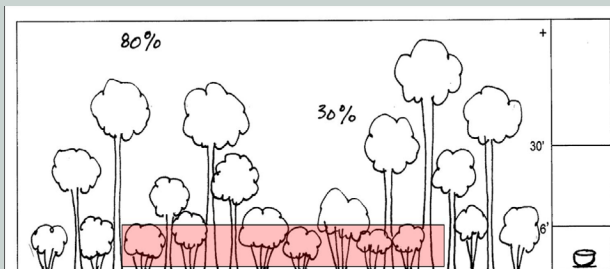
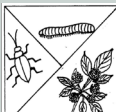
△ SCTA are area sensitive. In a heavily forested (70+%) landscape, a patch of at least 40 acres is needed for successful breeding. Larger patches are needed in less forested landscapes.

Management decisions will be based on existing conditions

Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Control invasive plants</li></ul>	
<b>Option 1</b> Low intensity	<ul style="list-style-type: none"><li>• Crop Tree Release with Gap Formation</li><li>• Variable Retention Thinning</li></ul>	<p>Favor oaks and maples for crop tree management.</p> <p>Favor vigorous oaks &amp; maples.</p>

Veery

VEER



**ID Tips** Tawny-brown above, weakly spotted on breast; least spotted of all the thrushes.

**Song** Flute-like and ethereal; ball spiraling down a tube; call an emphatic *veer!*

**Habitat** Damp, hardwood forest with intermediate (30%-80%) canopy cover and a dense understory (0'-5' layer). Often associated with riparian areas, regenerating forests, and beaver wetlands.

**Nest** Cup of dead leaves, bark, and mud-like leaf mold lined with fine fibers placed on ground or in a low shrub or brush pile.

**Food** Insects, spiders, centipedes, pill bugs, and fruits. Primarily forages on the ground, but also in the foliage.

**Silvicultural Considerations**

**Desired Condition** Maintain or create hardwood stands with 30%-80% canopy cover and a dense understory (0'-5' layer) proximate to wetlands and/or riparian areas.

- △ Maintain closed-canopy buffers along beaver ponds, wetlands, and riparian areas.
- △ Leave as much slash, stumps, tip-ups, and woody material on-site as possible to provide shelter and nest sites; delimb trees where felled.

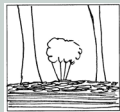
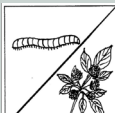
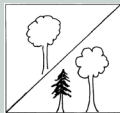
**Management decisions will be based on existing conditions**

Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Supplemental planting of soft mast</li><li>• Control invasive plants</li></ul>	
<b>Option 1</b> Low intensity	<ul style="list-style-type: none"><li>• Crop Tree Release with Gap Formation</li><li>• Small Group and Single Tree Selection</li></ul>	Take all opportunities to protect advanced regeneration.
<b>Option 2</b> Moderate Intensity	<ul style="list-style-type: none"><li>• Shelterwood with Reserves</li><li>• Expanding Gap Shelterwood</li></ul>	Greatest increase in understory density occurs between seed and removal cuttings. Encourage coppicing if appropriate to enhance understory.

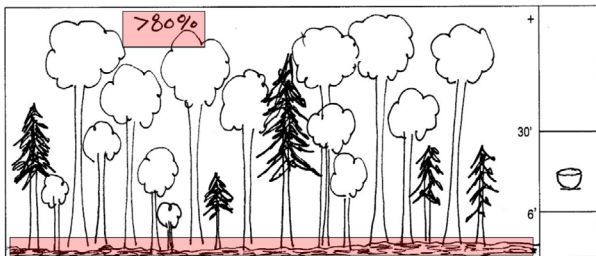


## Wood Thrush

## WOTH



70+ ACRES



**ID Tips** Brown back, heavily spotted on white breast; large thrush a little smaller than an American Robin.

**Song** A flute-like *ee-oh-layyy*, ending in a sound like shattering glass.

**Habitat** Interior and edges of hardwood and mixedwood forest. Prefers stands with canopy >50 feet in height, a diversity of hardwood tree species, moderate midstory closure and shrub density, shade, fairly open forest floor, moist soil, and decaying leaf litter.

**Territory** 0.2-7 acres.

**Nest** Open cup of leaves and grasses lined with mud, placed on lower limb of a tree or shrub 10-13 feet off the ground and well-hidden among leaves in a shady area.

**Food** Mostly soil invertebrates; some fruits. Primarily forages on ground in leaf litter or on semi-bare ground under forest canopy.

**Silvicultural Considerations**

**Desired Condition** Maintain or create well-stocked, uneven-aged, sawtimber hardwood stands with >80% canopy cover and moist leaf litter.

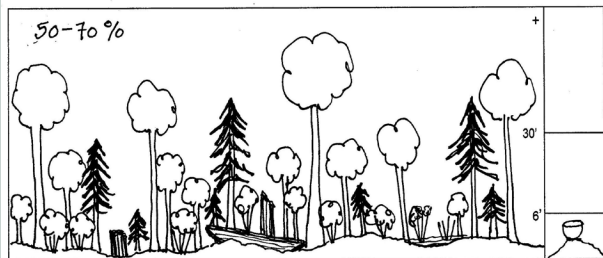
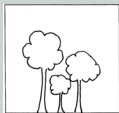
- △ WOTH are area sensitive. In a heavily forested (90+%) landscape, a patch of at least 70 acres is needed for successful breeding. Larger patches are needed in less forested landscapes.
- △ Avoid disturbance and desiccation of leaf litter and soil conditions; consider operating in winter.

**Management decisions will be based on existing conditions**

Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Promote or plant soft mast</li><li>• Control invasive plants</li></ul>	
<b>Option 1</b> Low intensity	<ul style="list-style-type: none"><li>• Crop Tree Release with Gap Formation</li><li>• Small Group and Single Tree Selection</li><li>• Variable Retention Thinning</li></ul>	Favor or retain a diversity of hardwood species.

# Louisiana Waterthrush

## LOWA



**ID Tips** Light brown back, heavily streaked on white breast; often bobs tail when perched.

**Song** A slurred whistle  
*"Hey, hey, hey, watch where you're going"*

**Habitat** Forages along woodland streams, nests adjacent to stumps and other woody material, prefers a nearly closed canopy.

**Territory** Linear riparian, from as little as 300 feet to as long as 2,800 feet. Typically do not defend woodland around stream, but will have disputes with rivals at both ends of territory

**Nest** Cup nest, constructed of stems, needles and leaves, and built into recesses along stream banks.

**Food** Wide variety of insects and small vertebrates, mostly all found on freshwater streams. Most food taken by stabbing with sharp bill while flipping over leaves along streams.

Silvicultural Considerations

**Desired Condition** Maintain hardwood stands with >80% canopy cover and a dense understory (0'-5' layer) proximate to riparian areas.

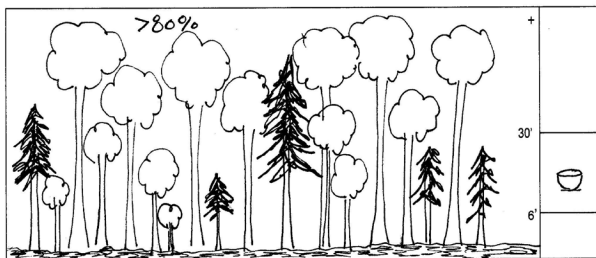
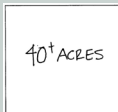
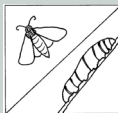
- △ Maintain closed-canopy buffers along riparian areas.
- △ Leave as much slash, stumps, tip-ups, and woody material on-site as possible to provide shelter and nest sites; delimb trees where felled.

Management decisions will be based on existing conditions

Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Promote or plant soft mast</li><li>• Control invasive plants</li></ul>	
<b>Option 1</b> Low intensity	<ul style="list-style-type: none"><li>• Crop Tree Release with Gap Formation</li><li>• Small Group and Single Tree Selection</li><li>• Variable Retention Thinning</li></ul>	Favor or retain a diversity of hardwood species.

## Red-Eyed Vireo

## REVI



**ID Tips** Olive brown back, pale underneath. Gray cap, white supercilium and distinct black line through the red eye.

**Song** Short phrases separated by pauses "Here I am...Where are you?"

**Habitat** Requires moderate understory vegetation. Forages in the mid-story and canopy. Often found near canopy gaps.

**Territory** Males defend a territory of 2-8 acres. Territory size is density dependent, as when more males inhabit an area, their individual territory sizes shrink.

**Nest** An open cup placed in the fork of a branch of the midstory, avg 10-15 feet off the ground. Uses a variety of materials including wasp-nest paper, bark strips, pine needles, and spider webs.

**Food** Mostly insectivorous; eats a wide variety of adult flying and non-flying insects, insect larvae, and spiders.

Silvicultural Considerations

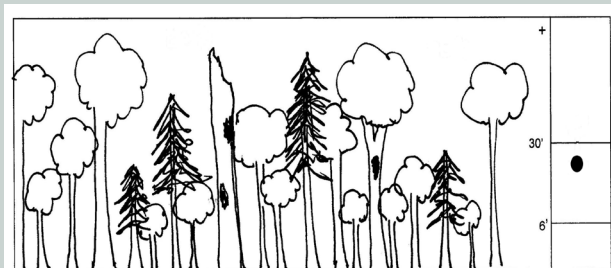
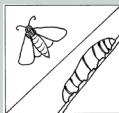
**Desired Condition** Maintain or create well-stocked, uneven-aged, hardwood or mixed sawtimber stands with >80% canopy cover, and moderate understory vegetation.

Management decisions will be based on existing conditions

Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Control invasive plants</li></ul>	
<b>Option 1</b> Low intensity	<ul style="list-style-type: none"><li>• Crop Tree Release with Gap Formation</li><li>• Variable Retention Thinning</li></ul>	Use to enhance uneven-aged structure.

# Pileated Woodpecker

PIWO



**ID Tips** Large woodpecker with striking red crest. Black with some white overall. Long, chisel-like bill roughly the same length as head. Broad wings with white patches in flight.

**Song** Drum is slow and deep, typically lasting 3 seconds or so. Call is a high, clear series of piping notes. Also give short *wuk*, *wuk* or *cuk*, *cuk* calls to defend territory boundary or give alarm

**Habitat** Requires moderate understory vegetation. Forages in the mid-story and canopy. Often found near canopy gaps

**Territory** Monogamous breeders that hold large interior forest territories, typically over 300 acres

**Nest** Nest tree typically dead and found in mature stand of deciduous or coniferous trees. Oblong entrance hole with wood chips used to line.

**Food** Main diet is carpenter ants found in dead trees. Also forage for other insects and sometimes fruits and nuts.

## Silvicultural Considerations

**Desired Condition** Maintain or create well-stocked, uneven-aged, hardwood sawtimber stands with >80% canopy cover, and moderate understory vegetation.

Management decisions will be based on existing conditions

Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Control invasive plants</li></ul>	
<b>Option 1</b> Low intensity	<ul style="list-style-type: none"><li>• Crop Tree Release with Gap Formation</li><li>• Variable Retention Thinning</li></ul>	Use to enhance uneven-aged structure.



## Focal Species Disturbance Associations

Natural Disturbance Regime	Management Objective	Canopy Cover	Deciduous to Mixed F
Stand-replacing disturbances >2.5 acres in size	Maintain patches of young forest, 5-15 years old, >2.5 acres in size	Open (0-30%)	Eastern Towhee Chestnut-sided Warb Ruffed Grouse American Woodcock Brown Thrasher Northern Flicker
Canopy gaps and pockets of regeneration 0.25-0.75 acres in size	Create canopy gaps to encourage dense regeneration in pockets 0.25-0.75 acres in size	Intermediate (30%-80%)	Black-and-white War Black-throated Blue V Hooded Warbler Eastern Wood-Pewee Ruffed Grouse Veery Northern Flicker
Small and infrequent disturbances that maintain an average of >80% canopy cover	Minimize gap size and frequency. Favor large, old trees and snags. Maintain >80% average canopy cover in the stand.	Closed (80%-100%)	Black-and-white War Black-throated Blue V Ovenbird Eastern Wood-pewee Wood Thrush Yellow-bellied Sapsu

Forest	Coniferous to Mixed Forest
Warbler	
Warbler Warbler	Pine Warbler
Warbler Warbler	Black-throated Green Warbler
Warbler	

## Table of Connecticut Nesting Dates

Note that there are other forest songbird species that begin breeding earlier or end breeding later than those shown here.

Reference: Connecticut Bird Atlas Project

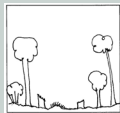
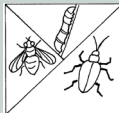
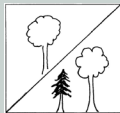
Bird Species	Nesting Dates	April	May	June	July	August
American Woodcock	4/15-7/15					
Black-throated Blue Warbler	5/25-8/10					
Black-throated Green Warbler	5/25-8/5					
Chestnut-sided Warbler	5/25-8/1					
Eastern Wood-Pewee	6/5-8/1					
Louisiana Waterthrush	5/10-7/20					

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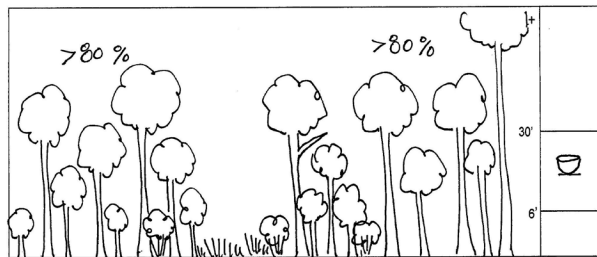
Bird Species	Nesting Dates	April	May	June	July	August
Pileated Woodpecker	4/1-6/30					
Red-eyed Vireo	6/1-8/10					
Scarlet Tanager	5/25-8/10					
Veery	5/25-8/10					
Wood Thrush	5/25-8/10					
Worm-eating Warbler	5/20-8/1					

## Worm-eating Warbler

## WEWA



250+ ACRES



**ID Tips** Small songbird with buffy head and underparts. Brown to olive brown back with black head stripe and black stripe through eye.

**Song** Rapid, dry trill, often insect-like

**Habitat** Mature deciduous or mixed deciduous-coniferous forest with patches of dense understory, usually on steep hillside

**Territory** Linear riparian, from as little as 300 feet to as long as 2,800 feet. Typically do not defend woodland around stream, but will have disputes with rivals at both ends of territory

**Nest** Ground nest made of skeletonized leaves lined with moss, often at base of sapling or among roots.

**Food** Athropods, spiders, slugs and especially caterpillars gleaned from low shrubs. Also probes into dead hanging leaves.

Silvicultural Considerations

**Desired Condition** Maintain hardwood stands with >80% canopy cover and a dense understory (0'-5' layer) proximate to riparian areas.

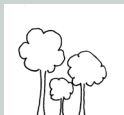
- △ Maintain closed-canopy buffers along riparian areas.
- △ Leave as much slash, stumps, tip-ups, and woody material on-site as possible to provide shelter and nest sites; delimb trees where felled.

Management decisions will be based on existing conditions

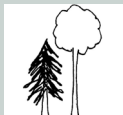
Silvicultural Options	Compatible Silvicultural Treatments	Tips and Considerations
<b>Option 0</b> Do nothing	<ul style="list-style-type: none"><li>• Increase dead woody material</li><li>• Control invasive plants</li></ul>	
<b>Option 1</b> Low intensity	<ul style="list-style-type: none"><li>• Crop Tree Release with Gap Formation</li><li>• Group and Single Tree Selection</li><li>• Variable Retention Thinning</li></ul>	Favor or retain a diversity of hardwood species.

## Key to Habitat Feature Icons

### Forest Type



hardwood



mixedwood

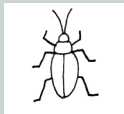


softwood

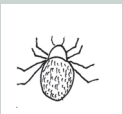


early suc-

### Food



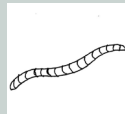
beetles



carpenter  
ants



caterpillars



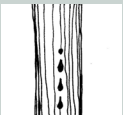
earthworms



flying insects



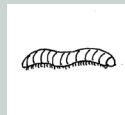
moths and  
butterflies



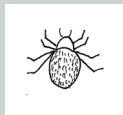
sap and  
cambium



soft mast



soil  
invertebrates



spiders

## Associated Wood Species



alder, birch,  
and aspen



hobblebush



oak

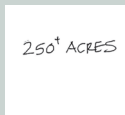


spruce and  
eastern hemlock

## Other



requires  
multiple habi-  
tat types near  
each other



area sensitive;  
requires large  
forest tracts



beaver  
wetlands



forested  
wetlands



1+ acre opening  
in forest matrix



opening/edge



perch on edge  
of opening



singing perch in  
opening



snag or cavity  
tree



thick leaf litter



uneven forest  
floor