

Vermont is home to a variety of forest dependent birds whose habitat needs vary from species to species. This list of management practices is designed to cover a range of forest conditions that you may want to consider when planning how to manage, or harvest products from, your forest. Each practice you implement will depend on your individual property conditions and management goals. Best used with Birder's Dozen Fact Sheet.

- 1) **Create/Enhance Vertical Structure** – Vertical structure refers to the variety of plant or tree heights, from the canopy to the forest floor. Different birds use different parts of the forest for breeding and foraging. Encourage a diverse vertical structure that pays attention to the four layers typically found in the forest; herbaceous layer, shrub layer, subcanopy and canopy. One method for enhancing vertical structure is single tree or small group selection removal. Keep these openings less than 1.25 acres in general, and preferably 0.25 acres.
- 2) **Limit Management Activities During the Breeding Season** – Most Vermont birds breed during the spring & early summer; from April until about August. Winter, late summer or fall harvesting is preferred to protect breeding birds and forest soils. Choosing to delay harvesting in the summer until after August 10th allows breeding birds the opportunity to fledge both first and second broods of young.
- 3) **Keep Forest Buffers Along Streams** – Riparian forest buffers, along streams and rivers, provide key habitat for a great diversity of plant & animal life. Birds use riparian buffers during migration, as well as during the breeding season. Some birds, like the Louisiana Waterthrush forage & nest only along streams. Where no buffers exist, re-establish them. Buffers greater than 200-300 feet have the greatest use to songbirds, although buffers of at least 50 feet wide will provide baseline habitat needs for songbirds. **Note:** Vermont's Acceptable Management Practices give further guidance on maintaining riparian buffers.
- 4) **Retain Overstory Trees When Harvesting** – Leaving large-canopied trees of varying type and size will allow birds the ability to perch, nest, and forage. Keep trees that produce fruits, seeds, or nuts like serviceberry, beech, black cherry, and oak. These trees will be of particular interest to birds during fall migration and to resident birds during the winter. Small clusters of conifers left in harvested areas provide shelter and food for resident birds during the winter.
- 5) **Retain Deadwood** – Snags and downed trees all have significant wildlife value. Dead or dying trees will provide roosting, perching, foraging and nesting sites for roughly 40 species of birds. Let sleeping logs lie- as they are also good for forest regeneration. Retain at least six snags per acre on average with one exceeding 18 inches in diameter at breast height (DBH) and three exceeding 16 inches DBH. Leave trees that have cavities of varying sizes and are located in the upper trunk of the tree. Give priority to hardwood trees with cavities, rather than softwood, as they remain intact longer. **Note:** A professional forester can advise you on how to select trees that will maximize the safety of having snags on your property.

- 6) Soften Edges Between Habitats** – An “edge” can be defined as a place where two differing types of vegetation meet, i.e. deciduous forest meets grassland. Sharp edges, or an abrupt change between habitats often have negative impacts on songbirds; these impacts are known as “edge effects”. Nest predation (by animals such as cats, skunks, raccoons) and nest parasitism (by cowbirds) are greatest within about 150 feet of the forest edge. These negative edge effects can be reduced by creating irregular edges or by feathering edges. Feathered edges have more trees closer to the uncut forest and gradually fewer trees closer to the harvested area.
- 7) Minimize Linear Openings** – Linear openings (like straight roads or ATV trails) in a forest block can serve as pathways for increased predation by animals and parasitism by cowbirds. Minimize the width, number and extent of truck/skidder roads when harvesting. Larger trails and woods roads introduce sunlight into the forest interior that can dry out leaf litter and reduce moist habitat for invertebrates consumed by ground nesting birds. Wherever possible, maintain forest canopy closure over trails and woods roads.
- 8) Maximize Forest Interior** – Forest patches that are large (50 acres or more) will increase the diversity of birds your woodlot can support. Forest interior is defined as habitat that occurs in unbroken forest at least 200-300 feet from the habitat edge. Increasing forest interior will benefit birds like the Scarlet Tanager, Black-throated Green Warbler and Eastern Wood-pewee. Look at the shape of your stand; circular and square-shaped patches have a greater ratio of interior to edge than stands that are oblong, rectangular or irregularly shaped. When harvesting, strive to leave the largest possible patch intact.
- 9) Retain Early Successional Forest Habitat** – Early successional habitat is young forest habitat comprised of tree seedlings and saplings between one and fifteen years of age. If you have a lot of openings already, you may not need more. Early successional habitat may be accomplished through patch cutting or managing abandoned agricultural land as it grows and reverts back to forest. Taking care to avoid fragmenting interior forest blocks, patch cuts made to forest blocks should be at least two acres in size in order to provide enough habitat for breeding birds like the Chestnut-sided Warbler.