

Planning for Forest Birds

BLUE MOUNTAIN—
KITTATINNY RIDGE
CONSERVATION
PROJECT

A host of forest-nesting birds find prime habitat among the contiguous forests of the Kittatinny Ridge (or Blue Mountain). Maintaining populations of these critical species should be a primary objective of the municipal planning process, as they act as indicators of the overall health of the forested environment. Many species, including the brilliant Scarlet Tanager (below), are area-sensitive, meaning they nest in higher densities in larger habitat blocks than in similar smaller habitat blocks. Maintaining forest patches large enough for these species should be a key consideration for municipal and county planners.



DID YOU KNOW?

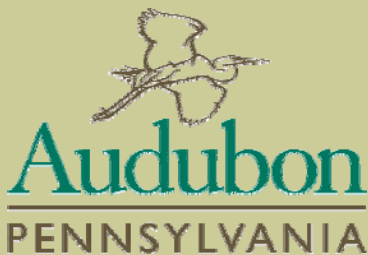
Pennsylvania is home to nearly 1 out every 6 Scarlet Tanagers in the world during nesting season. Maintaining large unbroken forest tracts is critical to upholding Pennsylvania's responsibility to steward this gem of the eastern forest.

How large does a woodland need to be to support forest-nesting birds like Scarlet Tanager, Wood Thrush, and Veery?

There are a number of factors that go into determining the suitability of a woodland for birds, but size is one of the most critical. Large-scale studies carried out by citizen scientists have provided our best opportunity to provide planners with acreage requirements for species of conservation concern.

The area required for a woodland to provide habitat for nesting birds varies with the amount of forested land in the surrounding landscape. For example, in a 70% forested landscape, Scarlet Tanagers will find woodlands of any size highly suitable; in a 30% forested landscape, it takes nearly 150 acres to create prime tanager habitat. Veeries similarly adjust their needs to the landscape: in a 70% forested landscape moderate habitat quality can be found in patches as small as 26 acres, but in a 30% forested region, over 700 acres are needed to provide the same quality habitat. Forest patches of 200 acres or more are preferred by Wood Thrushes.

Planners should aim to maintain areas where the landscape is more than 70% forested, and avoid fragmenting the largest woodlands. In lesser-forested regions, protecting the largest remaining fragments provides habitat for some nesting birds, many migrant birds, and leaves open the possibility of re-establishing habitat corridors in the future.



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Planning for Forest Birds (cont'd)

RESOURCES FOR MORE INFORMATION

Rosenberg, K.V., et al. 1999. A land managers guide to improving habitat for scarlet tanagers and other forest-interior birds. The Cornell Lab of Ornithology. Available free at <http://www.birds.cornell.edu/conservation/tanager/tanager.pdf>

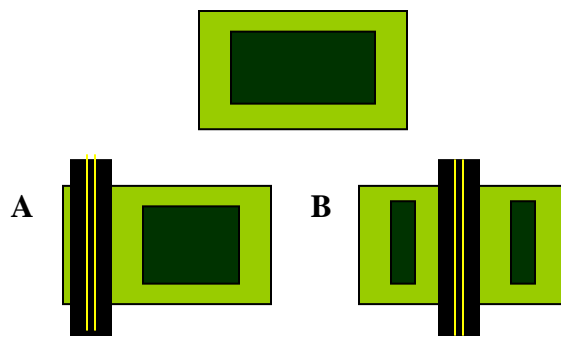
Rosenberg, K.V., et al. 2003. A land manager's guide to improving habitat for forest thrushes. The Cornell Lab of Ornithology. Available free at <http://www.birds.cornell.edu/conservation/thrush/thrushguide.pdf>

Does the location of a woodland matter to nesting birds?

Yes. Small woodlands are much more likely to be used by nesting birds if they are close to a larger woodland. As the distance to the nearest large woodland (of several hundred acres) increases, the probability of a small woodland hosting forest birds decreases. Small woodlands of less than 100 acres that are within 1/4 mile to 1/2 mile of a large forest (especially a protected large forest) should be prioritized for protection. These areas are likely to provide nesting habitat, and provide the opportunity for future habitat re-connections.

Does the shape of a forest matter?

Yes. Many bird species will only nest successfully in "interior" forest habitat, meaning areas that are at least one hundred yards away from the nearest forest edge. Roads, power lines, agricultural fields and other non-forested habitats create these edges and introduce challenges to nesting birds, including increased nest predators and brood parasitism by the Brown-headed Cowbird. Circular and square forest tracts have a much higher ratio of interior habitat to edge habitat than similarly-sized tracts that are linear, or irregularly shaped.



INTERIOR FOREST AND FOREST FRAGMENTATION

A woodland (top) contains a significant amount of interior forest habitat (dark green). In this example it is determined that this property is the only option for siting a critical new road. Option A, removing primarily edge habitat, maintains a larger core of interior forest than Option B, which bisects the tract.

What if fragmenting a forest can't be avoided?

Efforts should always be made to avoid fragmenting a forest, but if it can't be avoided choose an option that has the least impact on the amount of interior forest habitat that will remain afterwards. By siting fragmenting features like roads closer to existing forest edges, more of the interior forest, which provides prime bird nesting habitat, is left untouched. See figure above.

What are the key planning tools that can be used to maintain forest cover and protect large forest blocks?

Municipal planners can utilize a number of tools to maintain forest coverage, conserve the largest remaining woodlands, and decrease fragmentation. These include implementation of agricultural and conservation zoning, woodland overlay zones, and riparian buffer and steep slope ordinances. Critical woodlands can be featured on an official map.

County and regional planners should consider the location of large forested landscapes when determining preferred locations for future infrastructure, including roads and transmission lines.