

## Wildlife habitat structure in open pine woodlands

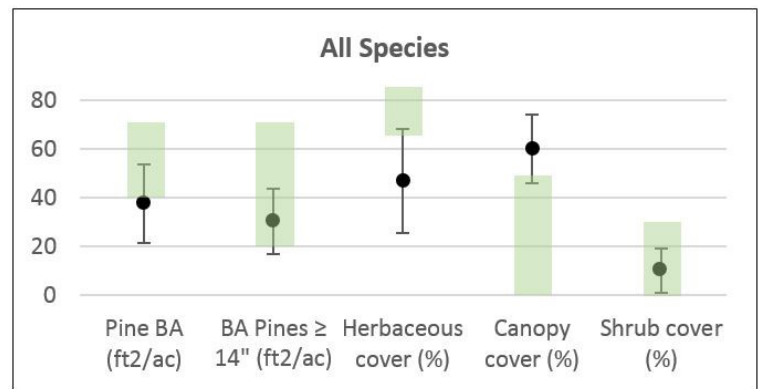
Longleaf pine and other open pine woodlands are a focus of conservation and restoration efforts across the southeastern U.S. Much of this interest is driven by the unique suite of wildlife species associated with open pine woodlands, many of which are rare and declining, such as the gopher tortoise, pine snake species, Bachman's sparrow, and others. As land managers and conservation practitioners work to restore habitat for these wildlife communities, guidance is needed to help define targets for vegetation structure.

Open pine woodlands are characterized by a moderate stocking of overstory pine, relatively few midstory shrubs, and groundcover dominated by grasses and forbs. Over the years, recommendations for desired conditions of vegetation structure have been developed based more on literature survey and expert opinion rather than field data.

Metric	Recommended Condition
Basal area of pines	40-70 ft <sup>2</sup> /ac
Basal area of pines ≥ 14"	≥ 20 ft <sup>2</sup> /ac
Canopy cover	< 50 %
Herbaceous understory cover	> 65 %
Midstory hardwood cover	< 20 %
Shrub cover	< 30 %

We used thousands of locations obtained from 17 wildlife species that are considered to be open pine specialists and that were studied on Ichauway over the last 20 years. We then quantified the vegetation characteristics at each of these locations using our long-term vegetation monitoring plots. We used these results to determine how existing recommendations matched the animals' use of open pine habitat onsite.

We found that existing recommendations for shrub cover and basal area of large pines (≥14" dbh) fit well with data from all wildlife species. However, mean basal area of all pines and herbaceous groundcover at sites used by wildlife were lower than the recommended range, whereas canopy cover was well



Recommended ranges (green boxes) and actual wildlife use on Ichauway (black dots and SD ranges)

above existing recommendations, suggesting these ranges should be expanded. These findings could provide managers of open pine ecosystems greater flexibility, allowing them to incorporate a broader suite of objectives in their management while still providing habitat for wildlife species of concern.

### MORE INFORMATION

McIntyre, R.K., Conner, L.M., Jack, S.B., Schlimm, E.M. and Smith, L.L., 2019. Wildlife habitat condition in open pine woodlands: Field data to refine management targets. *Forest ecology and management*, 437, pp.282-294.

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### KEY POINTS

Land managers need guidance on desired vegetation structure as they work to create habitat for wildlife species considered open pine specialists.

Existing vegetation guidelines were tested against field data from wildlife research and vegetation monitoring collected over the last 20 years at a high-quality longleaf pine site.

This study showed that on this site, open pine wildlife were more tolerant of higher canopy cover and lower coverage of herbaceous understory, providing managers greater flexibility.