



## North Carolina Forest Service

*To protect, manage, and promote forest resources for the citizens of North Carolina*

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### Are Lightning-Season Prescribed Burns for the Birds?

Many land managers are advocating growing season burns because they are more effective to restore and maintain native forbs, control shrubs and hardwood intrusion, create seedbed conditions for natural regeneration, and they increase the acres burned each year by extending the burn season window. Lots of wildlife including many ground nesting birds thrive in the conditions created by frequent low intensity fires.

Many hunters and landowners are of the opinion that nothing is more destructive to ground nesting birds than spring fire. They feel that burning does more harm than good and should never be done. Some turkey and quail supporters are particularly adamant.

The Tall Timbers Research Station published a paper in 2008 titled “Lightning-Season Burning: Friend or Foe of Breeding Birds?”. The booklet reviews research on the benefits of spring burns “in hopes of providing balance to the debate” on the threat burning poses to breeding birds. The paper provides an easy to understand look at lightning-season burn effects overall and specifically for six rapidly declining species of the southern pinelands as well as the wild turkey.

Some major points from the paper:

- Overall, the effect of fire on nesting birds is not as severe as many think and that the long-term benefits of frequent burning outweigh short-term impacts.
- Approximately one-third of the over 100 birds that occur in the southern pine woodlands nest or forage near the ground and several are threatened.
- Many species prefer to nest in areas burned within the last 18-24 months, so the number of nests found within new burns are small relative to the total nests made.
- Birds often re-nest soon after the burn.
- Better habitat from frequent fire improves adult and juvenile survival offsetting the loss of a nest..
- May burns provide time for some birds to fledge, but is early enough to miss peak nesting activity for quail.
- Preferred fire frequency is every two-to-three years.
- Other threats to bird populations such as, possums, raccoons, dogs, cats, coyotes, foxes, snakes, ants, rain, drought occur every year and are just as significant but do not provide habitat benefits fire does.
- Maintaining a one to three year fire return interval is the most important goal. Fire should be set when it will be successful.

### Conclusions

*Birds associated with southern pinelands have faced the benefits and perils of fire for eons. If lightning-season fires were as common historically as data suggest (Huffman 2006), pineland birds could survive only if they developed methods for adjusting to the temporary set-backs created by fire. The most direct impact of lightning-season burning typically is loss of a nest, but recent studies suggest the number of nests potentially affected by lightning-season burning is smaller than many believe. Among the studies considered here, lightning-season fires destroyed less than 10% of the nests of ground-nesting species that were monitored. Loss of a nest to fire also is similar to the losses created by predators and bad weather, and few long-term consequences are likely to occur for nesting birds when lightning-season burns are incorporated into a comprehensive burn program on large managed areas. Many benefits also can be shown that include improved breeding habitats in subsequent years, increases in fall food availability, potential improvements to adult and juvenile survival, and decreases in woody shrubs, saw palmetto, and ground-level clutter.*

*In addition, declining birds that are associated with southern pinelands are heavily dependent on prescribed fire for their continued existence. Northern Bobwhite, Bachman’s Sparrow, and Loggerhead Shrike disappear if fire is suppressed for three or more years (Engstrom et al. 1984), and the steep population declines these animals are experiencing on many public lands are directly linked to the absence of prescribed fire (Brennan et al. 1997). To halt these declines, the application of prescribed fire must increase on conservation lands. The lightning season may not be the primary season in which most of this acreage is treated, but chances of achieving appropriate fire intervals of one to three years are greatly improved if the season of burning is expanded beyond a six-week period from March to early April.*

*Finally, southern pinelands are part of a complex of fire maintained communities that are highly imperiled within United States (Noss et al. 1995). Scores of other species benefit from increased burning, while fire exclusion and infrequent fire frequencies both lead to degraded conditions that can be difficult to restore. Maintaining a three-year fire interval for a 20,000-acre tract requires burning approximately 7,000 acres each year. To meet this need, we must be ready to apply fire at varied seasons with an emphasis on late spring and early summer at scales that are both practical and also based on the long-term ecological needs of pineland species.*

The booklet can be found at the link below:

<https://talltimbers.org/images/pubs/FireBreedingBirdsBooklet-small.pdf>