Ecosystem Effects of Fire in the South. (S07-vanlear084315-Oral)

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Abstract:

Anthropogenic burning and lightning-ignited fires have shaped southern ecosystems since the end of the Pleistocene. Pine forests of the Coastal Plain, oak-hickory-pine forests of the Piedmont, and oak-chestnut forests of the southern Appalachian Mountains were maintained in large part by periodic fires. Frequently burned landscapes were a rich mosaic of prairies, savannahs, and woodlands intermixed with dense forests where fire was infrequent. Herbaceous vegetation in the form of grasses and forbs, including numerous legumes, was favored by frequent fire and maintained relatively high soil nutrient and organic matter levels. The dense, fibrous root systems of herbaceous plants, plus their quick recovery after topkill, prevented erosion where fire was frequent, even in steep terrain, and streams flowed clear. European settlers continued to use many of the burning practices of Native Americans and it was not until the 1930s that fire exclusion became general policy in the South. Attempts to exclude fire has resulted in many unintended consequences, including loss of habitat, reduced species abundance, unwanted forest type conversions, expansion of weedy species, loss of aesthetic qualities, and possibly reduced productivity of forest soils.

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