

Restoring Longleaf Pine Community Integrity¹

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ABSTRACT

Longleaf pine community integrity has been altered by a sequence of events that spans four centuries of European land use: the introduction of cattle and hogs, increased burning beyond natural and indigenous levels of ignition, turpentine, pine harvesting, fire exclusion/suppression, and land conversion and landscape fragmentation. What we see today are landscapes ranging from those that bear no resemblance to what they use to be, to those few remnants that fit our vision of what longleaf pine forests should be. If the basic components remain, restoring community integrity usually involves a series of prescribed burns applied to 1) ensure the survival of longleaf pine seed trees, 2) remove decades of litter accumulation, 3) kill "off-site" trees and shrubs, 4) reduce the density and stature of "on-site" trees and shrubs, 5) prepare the longleaf pine seedbed, 6) allow for longleaf pine seedling survival, and 7) stimulate groundcover flowering, regeneration, and growth. Achieving each of these objectives requires an understanding of the natural variability within the longleaf pine ecosystem, knowledge of the life history of target species and their responses to fire, an appreciation of how given fire regimes can create predictable landscape images, the development of an ecological model that defines the restoration goal for a particular site, and the application of a management prescription to maintain the restored site. Reintroduction efforts are needed if any community components are missing. Any restoration effort should consider the role of longleaf pine community-generated fires in maintaining transition zones and ancillary habitats.

¹ Abstract only; no paper submitted.