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Diameter Caps: Conservation Solution or Restoration Restraint?

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Thinning is one of the key strategies for restoring overly dense stands of ponderosa pine in the Southwest. Most everyone agrees that thinning is needed to restore forest health, reduce the threat of crown fire, and create conditions for greater understory growth and the return of low-severity ground fires. However, there is vigorous disagreement about thinning relatively large trees (generally those trees 16 inches in diameter or more), and, in some situations, diameter caps have been adopted that restrict cutting such trees. People who favor diameter caps cite the ecological importance of large trees and their concern that cutting large-diameter trees will allow economics to drive ecological restoration projects. Opponents of diameter caps point out that removing young, large trees is often necessary to restore openings and understory—the elements that provide the greatest biological diversity in ponderosa pine forests. They also argue that leaving excess trees will only mean future thinnings and disturbance.

A recent article ("Diameter caps for thinning southwestern ponderosa pine forests: Viewpoints, effects, and tradeoffs") in the *Journal of Forestry* by **Scott Abella** (ERI '06, now at the University of Nevada-Las Vegas), **Pete Fulé**, and **Wally Covington** describes and outlines the different perspectives of the diameter-cap debate. The authors also use data from experimental plots near Flagstaff to determine and explain that diameter caps cause restorationists to leave too many large trees when there are many (42) large trees per acre, and have no effect when there are few (9) large trees per acre.

The authors, recognizing that restoration decisions are driven by human and organizational values, site conditions and disturbance history as well as management goals and objectives, also provide an extremely important and largely objective overview of the ecosystem and economic tradeoffs implicit when considering the use of diameter caps. They cover a wide range of topics including canopy openings, understory vegetation, snags, wildlife habitat, pine regeneration, timber production, Gambel oak vigor, soil and water issues, fire behavior, and economics.

This article is a must read for anyone interested in forest restoration in the Southwest. You can access it at the ERI Library by clicking here.