

UNEVEN-AGED DOUGLAS-FIR/ TANOAK EXPERIMENT ACROSS NORTHERN CALIFORNIA

A McIntire-Stennis supported project
(2022-2025)



Previously, with state funding, we designed and implemented a replicated field experiment across 120+ acres at four sites located along a north-south gradient throughout the coast range of northern California. We implemented different combinations of silvicultural treatment options that favor fast-growing conifers over hardwoods. Treatment combinations tested in this large, long-term experiment include various retention levels of aggregated or dispersed retention, with and without hack-n-squirt herbicide frill treatment of hardwoods. Subsequent underplanting with conifer seedlings created a new age-class of trees.

With McIntire-Stennis funding, we re-visited the experiment after 5-7 years and re-measured trees and regeneration to assess treatment responses. Mixed-effects regression analysis of these data revealed substantial and surprising differences and interactions among treatments, and we plan to conduct a follow-on study where we simulate the potential impacts of wildfire with the goal of identifying forest and fuels treatments that mitigate wildfire impacts while also sustaining timber production and viable regeneration of a new age class of tree seedlings.



About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.



COLLABORATION



4

Project partners comprising private industry, NGO, and CA State actively involved.

Students marked partial harvest treatments under supervision and mentorship of PI and licensed foresters representing owners of 4 actively managed forests across region; a valuable demonstration of harvest and veg. mgmt. treatments side-by-side for annual silviculture class visits and other field tours.

IMPACT

Very little was known about how different silvicultural approaches affect forest regeneration and potential wildfire behavior in this important widespread California forest type.



1000+

Seedlings of two species planted, mapped, and monitored across treatments.



2

Conference presentations delivered by master's student using project funds.



500+

Students marked timber, planted seedlings, re-measured, and/or visited sites.