



BIODIVERSITY AND FOREST MANAGEMENT IN YOUNG DOUGLAS-FIR FORESTS

A McIntire-Stennis supported project

PROJECT

Early seral, or young forests are an important part of the landscape and ecological makeup of the Pacific Northwest. Understanding how contemporary post-fire forest management on federal lands and the intensification of forest management on private lands affects young forests is critical for characterizing their biodiversity. Recent fire years and a growing demand for wood and fiber amplify the need to understand variability in early seral forest biodiversity in the region.

Oregon State University Associate Professor Meg Krawchuk and Doctoral student Graham Frank are researching what happens to biodiversity in young forests as a result of different types of stand-replacing events, including intensive forest management, high-severity wildfire, and post-fire salvage logging.

Krawchuk and Frank are using a suite of biodiversity indicators including pollinator bees, carabid ground beetles, bird communities, plant communities, and forest conditions to compare biodiversity at various sites in young Douglas-fir forests in southwestern Oregon. They are quantifying how biodiversity changes over time in the three disturbance treatments – by looking at stands of different ages, from under six years old up to 20 years old. Recent years of extensive fire in the Pacific Northwest underscore that forest industry professionals must increasingly make decisions about early seral forest management in the context of post-fire environments, in addition to green tree harvesting. These decisions are relevant to the Sustainable Forestry Initiative certification, which requires managers to demonstrate how practices contribute to maintaining biological diversity. This project will help inform forest practitioners and decision-makers about biodiversity in young forests, with a particular focus on understanding the degree to which plantation forestry emulates its nearest natural counterpart – wildland fire.

COLLABORATION

Oregon State University is collaborating with forest industry partners in the region, the United States Forest Service and Bureau of Land Management, and The National Council for Air and Stream Improvement.



IMPACT

This research project will provide forest managers with information about how different types of stand-replacing disturbances affect biodiversity in young forests. This will offer valuable insights for making decisions about how to manage both industrial and federal lands.

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.

