

Developed and proposed by: The Biobased Products and Bioeconomy Program Team and the Forestry and Upper Watershed System Program Team.

Position title: Woody Biomass and Forest Products Advisor

Headquarter location and coverage area: The proposed headquarters for this position is the UCCE Mendocino County Office. The Mendocino County office is strategically located within forested regions on the North Bay/North Coast region and provides sufficient administrative support and access to various timberlands and wood processing facilities. Proposed coverage area includes Mendocino, Marin, and Sonoma Counties, with programmatic responsibilities extending throughout the greater North Coast as needed. The region contains millions of acres of working forests that are actively engaged in wildfire resilience, fuels reduction, biomass utilization, and forest products innovation, and locating this position within this region places the advisor near key stakeholders such as private landowners, facility owners, manufacturers, public agencies, and nonprofit organizations. This advisor would bridge the gap in research and extension focusing on woody biomass utilization in the region while complementing existing UCCE forestry and community development programs.

Position overview, briefly describe: This position will implement an innovative extension and applied research program around the integration of fuels reduction efforts, woody biomass utilization, forest products innovation, and community resilience. The advisor will focus on enabling successful biomass businesses and wood product innovation through technical assistance for the development and implementation of biomass utilization and economic development projects in the North Bay/North Coast region.

Applicants for this position should hold a minimum of a master's degree in forestry, wood science, or in engineering or marketing related to forest products, or related field by the time of appointment. Specialty and/or professional experience must demonstrate capacity or potential to accomplish team-based research and education programs consistent with the values of Cooperative Extension.

Justification: California's North Coast is the home to some of the state's most extensive forests and is one of the primary regions for fuels reduction and forest restoration. Local government, private landowners, community organizations, and industry partners are closely engaged in these efforts, but the utilization and treatment of low-value wood materials generated during these activities remain a major challenge. Stakeholders throughout the region have identified the need for research and assistance related to biomass treatment options, new products development, workforce training, and market opportunities. Emerging opportunities in biochar application, engineered wood products, bioenergy, and biofuels offer promising pathways for creating value from restoration byproducts while supporting environmental and economic goals. However, significant knowledge gaps remain regarding feedstock availability, workforce development, market opportunities, economic feasibility, and adoption of innovative technologies, hindering the progress of wildfire reduction and climate goals throughout the region.

This position will help develop strategic pathways for biomass utilization and improve community resilience through research and extension, which are expected to contribute to the expansion of market for low-value wood materials, adoption of biomass and innovative wood products, and development of forest-based economies. Success over the next 20 years will be reflected in improved community knowledge and resilience, increased biomass utilization pathways, stronger wood products market demand and adoption. This position also supports UC ANR Strategic Vision 2040 priorities related to climate resilience, sustainable natural resource management, and economic prosperity by advancing science-based solutions for woody biomass utilization and forest products innovation.

Extension: Potential clientele groups include companies and facilities in bioenergy, wood processing, manufacturing, and forest-derived biomass products, private forest landowners, nonprofit organizations, and

policy makers, as well as residents in the counties of responsibility. Expected extension activities include educational workshops, seminars, field trips, and webinars that focus on dismantling research outcomes and enhancing clientele knowledge on biomass utilization opportunities.

Research: Key research areas include forest products manufacturing optimization, new products development, supply chains evaluation, biochar utilization practices, and the economic feasibility of wood utilization projects. Additional areas may include mass timber market opportunities, carbon benefits of wood products, and workforce needs within the forest sector. The advisor will collaborate across disciplines including forestry, engineering, economics, fire science, and community development. Research outputs will include peer-reviewed publications, ANR publications, technical reports, and extension-focused educational materials.

UC ANR network: UC ANR's Biobased Products and Bioeconomy Program Team has the priority of supporting statewide bioeconomy development goals, which require addition research and extension efforts throughout the state. UCCE currently has two county-based advisors focusing exclusively on biomass and forest products innovation – One in the Central Sierra-Nevada region and the other in the Riverside/San Bernardino region. Although both advisors dedicated a portion of their time to statewide programmatic efforts, there is currently limited dedicated capacity focused on biomass utilization and forest products in the North Coast region.

The advisor will collaborate with UCCE advisors and specialists in forestry, wildfire, natural resources, biomass, forest products, and community development, as well as program teams and labs currently focusing on related areas, including the Berkeley Wood Lab, Verde Innovation Network for Entrepreneurship (VINE), Hopland Research and Extension Center, Forestry and Upper Watershed System Program Team, Labor and Workforce Development Program Team, and Fire Management, Policy, and Resiliency Program Team. In addition, a network of UC-affiliated academics has formed a Woody Biomass Utilization Workgroup, which provides a platform for internal collaboration and information sharing.

UCCE has a network of forestry and natural resources experts in the region. While existing advisors and specialists address issues related to forest health and management, there is an urgent need to link forest resilience goals with product development and market opportunities.

Network external to UC ANR: External collaborators and partnering organizations include local job boards, Resource Conservation Districts (RCDs), CalFire units, Firewise communities, Forest Stewardship Program participants, and local wood processing facilities.

Support: The Area Director for Mendocino and Lake Counties has confirmed support for this position and will provide office space, office supplies, and administrative support. The Area Director for Sonoma, Napa, and Marin Counties also confirmed support for this position.

Other support: Key funding sources for this position include the U.S. Forest Service, CalFire, and the Joint Institute for Wood Products Innovation. These agencies have various grant funding programs specifically supporting projects related to forest-derived bioproducts manufacturing and innovation. Other funding sources include the National Science Foundation and the U. S. Endowment for Forestry and Communities. Funding is also available from local agencies for conducting community-scale projects.