

**Cooperative Extension Forest and Fuels Management Specialist  
UC Berkeley Campus – College of Natural Resources**

**Forest and Fire Management Specialist:** This position is expected to provide statewide leadership in forestry and fuels management in the fire prone areas of California from urban forests to headwater forests.

**Position:**

The position will work in the area of fire prone forest ecosystem management. A Ph.D. in environmental sciences, forest ecology, or relevant degree is required. A strong educational background and professional experience in the broad areas of forestry, vegetation and fuels management is required, to allow for licensing as a Registered Professional Forester (RPF) by the State of California. The position will be housed in the Department of Environmental Science, Policy and Management (ESPM) at UC Berkeley.

**Justification:**

The fire trends are clear: fire probabilities in California's forests have increased 50% to 200% depending on ownership and fire agency since the 1960s. The headwater forests that protect our complex water systems, supply the wood we build our homes with, provide key wildlife habitats, and host millions of recreational visitors are at increasing risk. In addition, more people are living near and within flammable landscapes, and are not aware of the risks until it is too late. With California's increasing population and changing climate, more people are living in harm's way in terms of direct risk from fires including particulate pollution and water degradation.

Vegetation management choices, fire fighting strategies, and a highly variable climate, have resulted in forest stands and landscapes that often have high levels of physiological stress and catastrophic rates of mortality.. Public agencies are increasing fire fighting expenditures while often experiencing reductions in resource management staffing and have limited experience in engaging forest landowners who would benefit from innovative practices.

Recent reports from the Public Policy Institute of California and the Little Hoover Commission highlighted the need for new and more innovative approaches. After more than two decades of larger and larger fires in more remote areas, the deadly fires of 2017 are finally driving new interest from the California Legislature and the Administration in financially supporting more innovative approaches. In 2018, the Governor also tasked a new task force on forest and fires to develop forward-looking policies. The 2018 state budget will most probably include more than \$200 million of cap-and-trade funding for healthy forests and increased fire related public safety. This proposed position is conditional on the successful agreement between the legislative and the administration to fund innovative approaches that would include long term funding for California research universities such as the University of California.

Matching resources to risks will require working across many public and private entities, developing innovative approaches and spreading them to similar areas, and developing coordinated communication and education programs that reaches and connects all of the relevant public and private parties. In all of these areas, increasing the 'fire resiliency' or 'fire hardening' of both the vegetation and the homes will be necessary – but the optimal approaches will be very different. Geographically appropriate actions such as the increased use of prescribed fire in areas with lower population densities or piloting new technologies to quickly identify and help extinguish new wildfires will be required.

Increasing losses to mortality from severe wildfires, insect outbreaks, and drought have become common in the interior forests of California. Extensive mortality threatens the ability of forest landowners to continue to provide a wide range of revenue generating and non-revenue generating ecosystem services while reducing public health risks. Management approaches such as prescribed fire, thinnings to improve biodiversity while reducing insect attack susceptibility and water stress have been implemented on research forests but have rarely been

implemented on a scale that encompasses multiple landowners that could substantially reduce mortality losses and conserve forests at the landscape scale. A fundamental challenge has been how to learn from experimentation and innovation at scales that vary from smaller sites to large watersheds that include the key water storage areas in California. This requires working with landowners individually and with organizations to apply mutually beneficial strategies.

**Extension:** The Forest/Fire Specialist is expected to work closely with family forest owners, professional resource managers, local planning and land use professionals, a wide variety of forest interest groups, regulators, and policy makers. Extension activities with these groups include development of workshops, symposia, field days, webinars, and technical publications (online and hardcopy). It is also expected that there will be creative use of online methods to extend information to these groups.

**Research:** The Specialist would be expected to publish original findings in journals such as *Forest Science*, *Forest Ecology and Management*, *Canadian Journal of Forest Research*, *Ecosphere*, *Global Environmental Change*, *Landscape Ecology*, *Ecological Applications*, *Environmental Research Letters*, *Fire Ecology*, *California Agriculture*, and *Forestry*. Other important outlets include proceedings of various conferences including those of regional land use professionals, professional or landowner publications such as ANR leaflets and manuals, and trade or organizational journals.

**Network External to ANR:** The specialist would build on existing networks of scientists within state and federal agencies as well as land use and planning specialists at the local and state levels. The specialists would also work closely with the professional staff at local, state and federal levels who manage regulatory and cost-share programs. The Specialist would be expected to develop relationships with each of these external groups. NGO's such as the Nature Conservancy, Sierra Forest Legacy and Sierra Club would also be interested in this specialist.

**Support:** The Specialist would have an office and laboratory space on the Berkeley Campus. It is also anticipated that there would be opportunities for a field office/laboratory at one of the Center for Forestry research forests if desired. A startup package would be used to allow the purchase of field sampling equipment, computers, and lab equipment. Travel and S&E would be provided, consistent with levels provided to other CE Specialists. It is expected that the Specialist would compete for extramural funding grants from USDA (NIFA, Forest Service), EPA, NSF, and other federal sources such as the Joint Fire Sciences Program. Within California, it is anticipated that the Specialist would compete for the large source of forestry related grants funded by the Greenhouse Gas program, timber tax, and fire mitigation funds. The various ANR competitive grants through the Core Issues Program, and the Renewable Resources Extension Act are other sources of funding. It is also expected that various NGOs and forest industry groups would provide grants or gifts in support of research by the Specialist.

**Location:** The position will be housed on the Berkeley Campus in the Department of Environmental Science, Policy and Management. The College of Natural Resources at Berkeley has the largest collection of faculty and specialists in forestry within the UC system, is the home of the Center for Forestry, Center for Fire Research and Outreach, and has the only forestry degree program within UC (a Society of American Foresters accredited program in professional forestry).

**Developed and proposed by:** The ANR Forest and Rangeland Systems Program Team and ESPM jointly developed this position. The California Forestry Association, Forest Landowners of California, California Licensed Foresters Association, California Farm Bureau Federation, Calfire, the USDA Forest Service (Region 5 and PSW Research Station), National Resource Conservation Service (NRCS), Forest Pest Council, and the Board of Forestry provided input into this position.