

## 2021 UC ANR CE Position Template (Advisor/Specialist)

*Hover mouse over headings to see descriptions.*

### Position Title

Environmental Horticulture and Forestry Area Advisor - Placer/Nevada

### Position: Briefly describe

With a growing urban population in Placer and Nevada Counties, the Environmental Horticulture and Forestry Advisor would develop and extend research and education through a variety of activities that would compliment the programmatic contributions of other area advisors. Specifically, the Advisor would develop and extend research-based information that identifies drought-, heat-, and fire-resistant landscape species and management systems that mitigate climate change and cool urban heat islands in growing urban communities. The Advisor would also provide research-based information to urban foresters and landscapers that promotes the longevity of urban landscapes to maximize their ecosystem services (canopy cover, carbon sequestration, etc.). Finally, the position would provide oversight for growing Master Gardener programs in both counties.

### Justification

The intersection of climate change-induced increases in wildfire, water shortages, urban heat islands, and invasive pests, combined with a growing urban footprint and population, make this position critical for Placer and Nevada Counties. Demographic and land use changes are driving increased demand for landscape water use efficiency and heat, fire, and pest tolerant plants; and reducing the threat/impacts of fire in the wildland-urban interface (WUI) as well as in forested urban landscapes. The position supports the increased interest in home gardening resulting from COVID-19, and provides a first line of response for addressing invasive pests.

Properly selected and maintained urban trees mitigate the impacts of climate change by cooling urban heat islands, reducing energy use, providing shade, and sequestering carbon dioxide. Trees reduce surface temperature of urban heat islands in inland and desert cities in California up to 68°F and air temperatures up to 25°F directly under trees. Due to climate change and urbanization, the rate, intensity, and duration of heat waves in these urbanized areas are increasing, as is the number of heat-related deaths.

Placer County's urban footprint includes over 66,000 acres within incorporated city limits; Nevada County's urban footprint is just over 26,000 acres. More than a half million people reside in Placer and Nevada Counties combined. Placer County's urban population grew by more than 21% between 2010 and 2020; over 72% of Placer County residents live in urban areas. While Nevada County's population grew more slowly and represents a lower proportion of total population (3.5% and 33%, respectively), the challenges of addressing urban needs/problems in the context of WUI-related fire issues, invasive pests, and urban pesticide use are more pronounced.

This position would affect a variety of UCANR-critical condition changes, including improved access to positive built and natural environments, community health and wellness, increased climate resiliency, increased water use efficiency, and improved air quality.

**Extension**

Provide research-based information on selection and care of recommended drought-, heat-, and fire-resistant landscape trees and other plants that mitigate climate change, cool urban heat islands, and provide other societal and ecosystem benefits to urban foresters, public and private landscapers, park and recreation staff, ornamental plant producers, and other green industry professionals. Provide oversight and direction to local Master Gardener programs.

**Research**

Implement an innovative and applied problem-solving research program to maximize the plant and human health benefits related to mitigating climate change. The advisor's applied research will be relevant to all five ANR Strategic Initiatives and will increase the sustainability and health of our urban environments. Specifically, the advisor's research activities will include identifying drought-, heat-, and fire-resistant species that cool urban heat islands, sequester carbon dioxide, and lead to other benefits related to community-based urban forest health, fire-resistant landscaping, and urban water use efficiency.

**ANR Network**

One of 8 positions included in the EH PT cohort due to its statewide and local importance, and strong potential for meaningful impacts across all 5 Strategic Initiatives. Will also work with Fire, Climate Change, CA Communities, Water Resources, Pest Management, and Master Gardeners.

**Network External to ANR**

County/city parks, city planners, city/county foresters, urban health non-profit networks, resource conservation districts, NGOs (land trusts, trails, tree advocates, garden clubs), Fire Safe Councils.

**Support**

Placer County will provide office space, office technology, administrative support, and travel support. Nevada County will provide administrative and travel support.

**Other support**

Synergy with current advisors (livestock and natural resources, horticulture and small farms, 4-H youth development, forestry and fire, local food systems) will expand the local ANR network.

**Headquarters and Coverage Area**

Headquartered in Auburn, CA  
Coverage area: Placer and Nevada Counties

**Developed and proposed by**

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