Position Title: Natural Resource Specialist – Sustainable Oak Woodland Ecosystems and Restoration

Justification:
ANR's program in oak woodland conservation has three general goals: 1) Promote healthy and sustainable woodland ecosystems; 2) Provide leadership and promote policies to foster oak woodland conservation; and 3) Maintain hardwood rangelands as working landscapes with sustainable economies. These goals are consistent with two ANR strategic initiatives, namely "Sustainable Natural Ecosystems" and "Sustainable Food Systems."

Currently, oak conservation programs include four regionally assigned CE Specialists, seven CE Advisors. The disciplinary backgrounds and coverage of the specialists are in the general area of natural resource biology with primary expertise in Conservation Biology and Forestry. The affiliated advisors are all in the general area of natural resources with expertise in range management, watershed management, wildlife, forestry, and animal management. Personnel have developed increasing expertise in land use planning and policy issues have become more important program components. There is an expected gap in the area of stand regeneration and sustainability of oak resources, with a focus on woody plant restoration.

This proposed new CE Specialist would focus on an integrated approach to understanding sustainable production and restoration, and would significantly enhance the capability of ANR as well as maintain capability for the specific mission goals.

Position Description:
This position will focus on the identification of the relationships between vegetation, productivity, and sustainability in oak woodland ecosystems. Productivity in natural and agricultural ecosystems depends on natural biological processes as influenced by purchased inputs and associated regulations. These processes or services include outputs of clean water, nutrient and biological cycling in soil, and provision of habitat for plants, animals and people.

The incumbent would examine the relationships among natural biological processes, purchased inputs, and technology development in oak woodland ecosystems. These processes contribute to the provision of clean air and water, the closure of biogeochemical cycles, conservation of soils, and the maintenance of species diversity. In woodland landscapes of the future, these ecosystem services must co-occur with human use and management of these ecosystems for the production of vital wood fiber for biofuels, forage, lumber, and other goods. Balancing the productive capital of woodlands and associated forests with the provision of ecosystem services is a pressing and challenging academic question. The answers will not only advance the conceptual understanding of natural

ecosystems but also inform policy regarding the stewardship of California's unique natural resources.

An individual might approach this area through investigation of rangeland or forest health, applied genetics, landscape restoration, resource utilization, inventory and monitoring, Required is expertise in ecosystem sustainability as it applies to productive oak woodland ecosystems. Combinations of strong skills in terrestrial ecology, genetics, silviculture, GIS, remote sensing, modeling, and resource management are required. A degree in a natural resource management field with an emphasis on range or woodland ecosystems is required. The individual would be expected to qualify for professional certification in a natural resource discipline such as Forestry, Range Management, Ecological Restoration, or Wildlife Management.