**Title**
**Intermountain Irrigated Grass Systems Advisor- Modoc, Shasta, and Lassen Counties**

**Description:** This Advisor position will provide programmatic leadership in irrigated grass production systems throughout the intermountain area. Cool season perennial grasses grown for hay and pasture are the most common irrigated crop grown in the intermountain region. The type and composition of irrigated pastures and hay land vary significantly between location with some being intensively managed for maximum grass production and others being managed with minimal human input. Limitations related to climate, soils, and irrigation water availability also play a major role in irrigated pasture production and management throughout the region.

Water use associated with irrigated grass production has become a regionally significant issue in a wide array of contexts including surface water rights and availability, winter groundwater recharge, groundwater pumping, non-point source pollution, and migratory bird habitat. A changing climate and frequent droughts have amplified water issues. This position will focus research and extension activity at the intersection of irrigated grass production and the complex array of interrelated water issues and associated ecosystem services including the potential to increase carbon storage. California's 30X30 initiative to "promote nature-based solutions to solve climate change goals by setting aside natural and working landscapes" dovetails with water use as a central component of irrigated grass production systems. Effective integrated management strategies are needed to support economic crop production and the associated habitat and ecosystem values across the region.

**Justification:** The Intermountain region is the most significant perennial grass production area in the state, with over 150,000 acres of irrigated grassland. These lands produce high value grass hays (orchard grass and timothy) and irrigated pasture for livestock. Perennial grass hays are an important cash crop and are marketed across the western United States and internationally. Pastures are of critical importance to California's livestock industry especially in summer and fall when annual grassland forage is scarce.

Irrigated grass pastures provide habitat to a variety of wildlife including migratory birds. They also play a large role in carbon storage and groundwater recharge. The Southern-Oregon Northeastern California (SONEC) region is one of two regions identified for their continental-scale significance to migratory birds in the North American Wetlands Conservation Act (NAWCA) most which are working wetlands in the intermountain region. These lands are posed to have an even larger role as California aims to become carbon neutral and works towards forming the 30x30 initiative.

There is a clear need for research and extension programs that integrate forage production viability with resource conservation values. Growers in this region rely heavily on UCANR for information because there are few commercial pest control advisors, production consultants, and commodity-funded research.. State and federal agencies, county government, and NGO's also need research-based information to assist them in recommending production practices or managing regulatory programs.

**Extension:** The Advisor will work with and extend information to several clientele groups in the intermountain area including livestock producers, grass-hay farmers, several regional NGOs, as well as state agencies such as Department of Water Resources, California Department of Fish and Wildlife, and Central Valley Regional Water Quality Control Board.

**Research:** The Advisor will conduct an applied research program focused on:

- Develop new practices for improved irrigation, variety selection, nutrient and harvest management, including improvement in field-scale irrigation efficiency and timing.

- Study water management from a watershed perspective by examining the interaction between surface water applications and groundwater recharge within priority ground water basins.

- Quantify potential environment benefits from irrigated pasture production such as carbon storage in managed grass systems as part of an overall carbon neutral strategy.

- Develop and improve understanding between the connection of actively managed irrigated grass production and migratory bird and waterfowl habitat

**ANR Network:** Currently no UC academic has a singular focus on irrigated pasture, grass hay and grazing crops. This Advisor will bring expertise and programmatic leadership that is complimentary to the existing intermountain regional team of advisors and staff. The Intermountain REC provides a nearby resource for field research, extension and connection with the new ag engineering advisor position. This network provides excellent opportunities for regional collaboration and leverage of resources. In this program area, the advisor will also develop strong relationships with the numerous campus specialists and AES faculty working in forage, irrigation, range/pasture, wildlife, and water.

**Network External to ANR:** This position is expected to work closely with the local USDA NRCS offices, several Resource Conservation Districts and local commodity organizations. Shasta College and CSU Chico are also possible partners. Oregon State University and OSU Cooperative Extension offices in Klamath and Lake Counties are also potential partners as well as being part of the Western Alfalfa and Forages team.

**Support:** There is strong county and community support for this position including sufficient office and storage space, clerical support, a 4WD pickup and an appropriate budget for communication, supplies and travel. Inter-county support is available from both the Shasta and Lassen County offices.

**Other support:** Funding and in-kind support is available from numerous local and regional organizations including Northeastern California Water Association, resource conservation districts, Lassen/Modoc Flood Control District, and county Cattlemen's and Farm Bureau associations. External grant funding opportunities are available from California Department of Water Resources, California Department of Food and Agriculture, Western SARE, Sierra Nevada Conservancy, and Intermountain West Joint Venture among others.

**Location:** The CE office in Modoc is the proposed headquarters for the position but it will serve the entire intermountain region.

**Developed and Proposed by:** Laura Snell, Larry Forero, David Lile, and Rob Wilson. This proposed position was one of the seven advisor positions prioritized by the water program team and a quarter of team members ranked among the top three. External input and support from Modoc County,