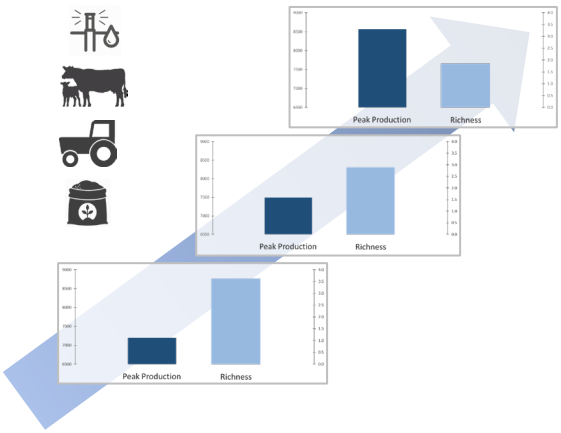
California's irrigated pastureland includes valley, foothill, and mountain meadow pastures and accounts for nearly 500,000 acres across the state. Irrigated pasture is 3rd among agricultural water users statewide and is increasingly scrutinized.

Irrigated pastures are a critical resource for livestock producers. As a key component of the annual forage calendar they provide high quality forage, management flexibility, and short-term alternatives in drought. Enhancing adoption of sustainable management strategies and efficiency of inputs on irrigated pasturelands is critical to farming and ranching economic viability, and environmental quality.

Irrigated Pastureland Enhancement Project Overview

- Cross-sectional survey of ***on-ranch*** strategies
- 35 sites, 23 producers (4,000 acres total) across California
- Gradient of management intensity
  - **Irrigation**: wild flood – pivot
  - **Grazing/harvest**: set stock – rotation/haying – stocking rates
  - **Nutrient**: none (most) – annual fertilization



Nearly 50% of pastures surveyed in the study were deficient in plant available nitrogen and phosphorus necessary for maximizing biomass production goals. Improving soil nutrient management and applying appropriate rates of fertilizer can increase water use efficiency. However, we also observed a negative relationship between increasing water use efficiency-forage production and levels of plant species richness, native plants and total organic carbon in the soil. This is an important tradeoff to consider when converting flood irrigated pastures to more efficient systems.