

## **Sierra Foothills Field Station (SFT)**

**Contacts:** Arthur L. Craigmill (530) 639-8803 [alcraigmill@ucdavis.edu](mailto:alcraigmill@ucdavis.edu)

**Location:** 39.28 -121.30

**Elevation:** 67 - 616 m

**Vegetation:** oak woodland and savanna, grassland, shrubland, springs

Located in Northern California's Sierra foothills, 60 miles northeast of Sacramento, it is one of nine agricultural research and extension centers administered by the University of California, Agriculture & Natural Resources. It provides land, labor, facilities and management for agricultural research and assists in public education in matters relating to agriculture. Dormitory with cooking and sleeping facilities for researchers and students; office building; meeting rooms; storage and maintenance buildings including shops for repair and fabrication of equipment; cattle barns; cattle handling facilities at several locations; over 20 miles of improved roads to most service areas of the Center. In addition to facilities, maintenance, and care of the Center rangeland and livestock, Center staff is available to provide direct support to approved research projects. About 6000 labor hours are allocated to research projects each year.

Research collaborators at the site maintain a long-term study and database on the impact of rangeland management on water quality and study nutrient dynamics in oak woodlands and grasslands. They are determining effectiveness of vegetative buffers and wetlands to reduce microbial and organic C pollutant loads contained in runoff from irrigated pasture under a range of buffer sizes and management, irrigation application rates, and grazing conditions. Relationships of pasture scale irrigation and grazing management factors to microbial and organic C pollutant loads in runoff are being determined and measurement are underway to assess wetlands' abilities to attenuate microbial and organic C pollutant loads contained in that runoff. The overall fate of DOC and nutrients in natural and managed watersheds is being documented. Extensive data bases of oak regeneration, mycorrhizal diversity, and native and annual grass populations are available. Researchers at UC Berkeley are estimating total annual net primary productivity (NPP) for three oak woodland watersheds while incorporating spatial and temporal variability inherent to this type. NPP estimates will be partitioned into life form, above- and belowground, and tissue quality categories. Researchers at UC Davis are investigating spatial and temporal fine root dynamics of perennial ectomycorrhizal oaks and annual endomycorrhizal grasses, to learn how these two different plant types coexist and acquire water and nutrients. They are also studying the structure and function of common mycorrhizal networks (CMN) in oak woodlands. In particular, the importance of CMNs for oak seedling survival and ecology. These are just a sampling of the many ongoing research projects underway at the site.

Vegetation is mainly blue oak woodland and grasslands with many other oak species and riparian areas also present. The site borders the Yuba River and includes numerous small springs and watersheds, both perennial and ephemeral.