

## **Narratives for Ongoing California-BLM Research Projects**

### **Lokern Grazing Study**

The Lokern grazing study is a cooperative program funded by USGS, BLM, US Fish and Wildlife Service, U.S. Bureau of Reclamation, California Department of Fish and Game, Occidental of Elk Hills, Chevron USA, and other contributors to evaluate cattle grazing as a management tool to reduce non-native herbaceous vegetation for the benefit of several state and federal listed species. The listed species include: giant kangaroo rat (*Dipodomys ingens*); blunt-nosed leopard lizard (*Gambelia sila*), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), and Kern mallow (*Eremalche kernensis*). This is a paired plot design that evaluates four ungrazed control plots (500 meters square) and four one square mile treatment pasture plots grazed at BLM's season of use and residual dry matter management guidelines. The study was initiated in 1997, and has produced seven years of data on small mammal abundance, lizard abundance, avian species abundance, invertebrate abundance, vegetation composition, residual dry matter, and Kern mallow abundance and reproduction. The project has also included radio telemetry studies of habitat use and home range sizes of blunt-nosed leopard lizards and San Joaquin antelope squirrels. Due to variation in the annual precipitation and resulting vegetation, complications resulting from an extensive wildfire in the study area, and the need to collect data through a cycle of "wet" and "dry" years, the cooperating agencies plan to continue data collection through the next three years.

### **Case Mountain Giant Sequoia Study**

This study includes an integrated resources inventory conducted by the U.S. Forest Service (FS) on BLM lands (Bakersfield Field Office) to determine stand density, understory, vegetation composition, dead trees, dead and downed material, fuel loading, and hydrologic parameters in the study area. Data will be used to develop strategies to apply prescribed fire as a means to maintain giant sequoia grove health while reducing fuel hazards. Fire prescriptions are being determined from this data. Additional data include inventories of bats, spotted owls, reptiles and amphibians. Handline construction and inventories of giant sequoia trees on BLM land and cooperating adjacent private lands are now complete. These studies were conducted in cooperation with the National Park Service (NPS) and FS in order to develop management prescriptions for giant sequoia stands within BLM, FS, NPS, and private lands.

### **Atwell Island Restoration Study**

The Atwell Island restoration study is testing methods for restoring cultivated lands back to native vegetation. Activities include native seed collection, native seed propagation, various methods of site preparation, various irrigation methods, and other restoration actions. The project is part of the land retirement demonstration project. Successful restoration techniques will be utilized to restore additional lands. To date, the importance of use of seed of local genotype has been demonstrated. Seeding rate is an important factor and we are currently working on determining the optimum seeding rate for native plantings.