

# Conserving Unique Resources at Pine Hill Preserve

## A Geologically and Botanically Unique Area

Located in El Dorado County, California, the Bureau of Land Management's Pine Hill Preserve was established to protect rare native plants that occur on a particular soil type known as gabbro soils. Gabbro soils have unusual properties derived from the underlying gabbro rock; they are generally red, mildly acidic, rich in iron and magnesium, and often contain other heavy metals such as chromium. At Pine Hill Preserve, BLM staff and partners manage about 5,000 acres of non-contiguous lands where several rare and/or endemic plant species exist. Five of these species are protected under Federal and State laws, seven are BLM sensitive species, and several more are listed as rare plants by the California Native Plant Society.



## Partnering to Help a Habitat under Threat

Pine Hill Preserve is dominated by a shrubby plant community called chaparral that is home to birds and animals including mountain lions and black bears. Chaparral is a hardy habitat type that has evolved and adapted to wildfires and summer droughts. Fire is a requirement for the viability of some chaparral native plant species because it removes layers of woody vegetation and decaying organic material. Some plants have adapted to have seeds that sprout in large numbers only after fires. The suppression of natural fire regimes, habitat destruction, and fragmentation have contributed to the general decline of diversity in the area. Pine Hill Preserve places an emphasis on collecting local plant materials to represent the genetic diversity of this unique area and to increase the probability of restoration success by maintaining this local diversity.

Pine Hill Preserve has a variety of partners working together for the protection of rare plant habitat: American River Conservancy, Bureau of Land Management, Bureau of Reclamation, California Department of Forestry and Fire Protection, California Department of Fish and Wildlife, California

*Left to right: Pine Hill Preserve staff and a Conservation and Land Management intern collect Whiteleaf Manzanita (*Arctostaphylos viscida*) fruits; Some of the native plants targeted for seed collection found at Pine Hill Preserve: Mexicali Onion (*Allium peninsulare*), White Fairy-Lantern (*Calochortus albus*), Orange Bush Monkeyflower (*Diplacus aurantiacus* ssp. *aurantiacus*), Common Woolly Sunflower (*Eriophyllum lanatum*), Harvest Brodiaea (*Brodiaea elegans*), and Pipestem Clematis (*Clematis lasiantha*). (BLM Pine Hill Preserve)*





Left to right: A Conservation and Land Management intern collects Chamise (*Adenostoma fasciculatum*) seeds at the Pine Hill Preserve; A Conservation and Land Management intern contributing to a taxonomic study for the rare Bisbee Peak Rush-Rose (*Helianthemum scoparium*). (BLM Pine Hill Preserve)

Native Plant Society, Chicago Botanic Garden's Conservation and Land Management Intern Program, El Dorado County Planning Department, El Dorado Irrigation District, El Dorado County Water Agency, and U.S. Fish and Wildlife Service.

Utilizing funding from the BLM Plant Conservation Program, Conservation and Land Management (CLM) interns are hired to work with BLM and its partners to protect, restore, and manage habitat for the gabbro soil rare plants and to ensure the persistence of the biodiversity present there. Since 2008, CLM interns have collected native seed, propagated plants, completed rare plant surveys, restored habitat, participated in education and outreach activities, and performed research projects. CLM interns and volunteers have and continue to conduct research projects that include plant genetic and taxonomic studies. They also help monitor fuel reduction treatments, wildlife populations, and rare plant populations in restored areas.

Equally important are education and outreach efforts directed at local Native Americans, students, and botany enthusiasts. Throughout the year, local and regional visitors explore the different Pine Hill Preserve sites, and public tours are conducted by staff, interns, and volunteers during the spring. These efforts have increased local and regional public awareness of the unique soil and plant resources at Pine Hill Preserve and of the responsibility to help achieve recovery of the rare plants. Education and outreach has also promoted understanding of the ecological and economic implications of protected lands and engaged neighbors, students, and other interested parties in participating in native plant conservation.

### **Expanding Efforts in the Future**

Among new conservation activities to be implemented on Pine Hill Preserve lands is the propagation of plant species to support pollinator diversity and help with the recovery of federally listed plant species. With help from the BLM Plant Conservation Program, activities conducted at the Pine Hill Preserve will continue to contribute to the general conservation and diversity of native plants.

*For more information on the native plant work being done by the BLM Mother Lode Field Office at Pine Hill Preserve or by the national Plant Conservation Program, contact:*

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