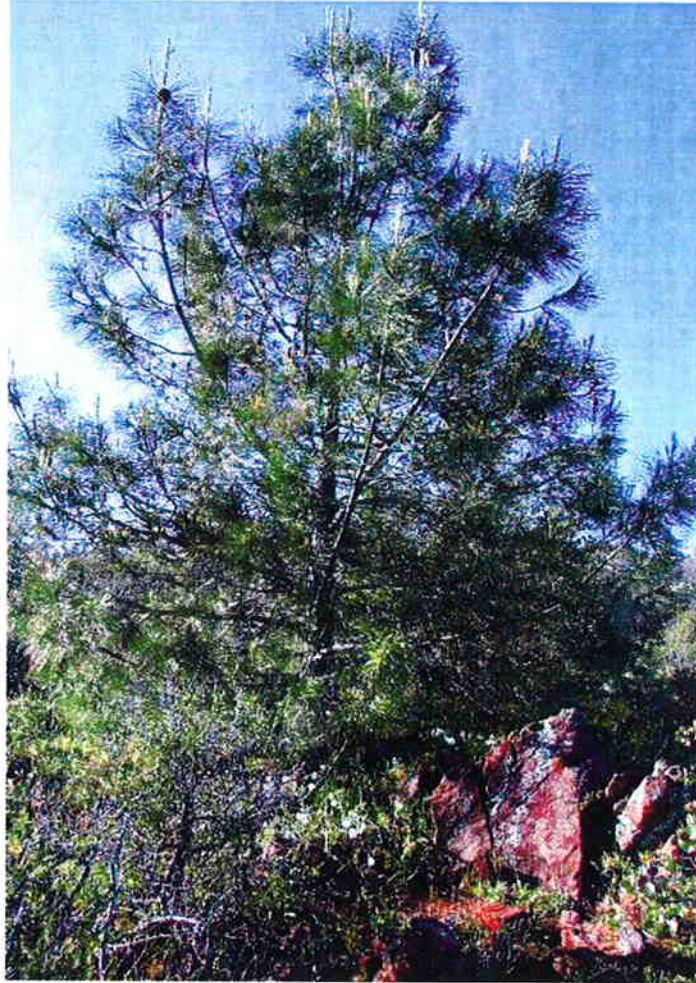


Pine Hill Preserve Management Plan



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I. INTRODUCTION

The Pine Hill Preserve (Preserve) was established in April 2001 to ensure that habitat for eight rare plant species, growing on gabbro soils at western El Dorado County (EDC), would be protected from factors threatening survival and recovery of the rare plants.

The gabbro is a unique soil formation in western EDC that supports chaparral, woodland and grassland habitat types. The soil, rolling topography, and Mediterranean climate in the area combine to sustain about 10% of the total California plant diversity.

In addition to plant species richness, several rare and endemic plant species exist in the habitat types of the gabbro soil formation. Five of the eight rare plant species protected at the Preserve are listed under the Federal Endangered Species Act and/or the California Endangered Species Act. Four of the eight rare plants are also endemic to gabbro soils in western EDC.

Habitat destruction and fragmentation due to housing and commercial development, and the alteration of favorable fire regimes in western EDC are the two main threats for the rare plants and their habitats. Currently, the Preserve provides protection and management for 4,042 acres of rare plant habitat, and 3,154 of these acres lie within a US Fish and Wildlife Service (FWS) 5,000-acre area designated for the recovery of the federally listed rare plants.

A Cooperative Management Agreement (Agreement) among nine local, State and federal agencies and one private organization enables the Preserve to work in coordination with the different partners to increase protection of rare plant habitat and to provide the best management alternatives to maintain the rare plant populations' viability.

Although this Management Plan (Plan) focuses on publicly owned lands within the Pine Hill Preserve boundaries, it may also serve as a guide for management of adjacent public and privately owned lands within the gabbro soil formation that can be set aside and/or

managed for rare plant conservation purposes. This Plan was reviewed by the different parties of the Agreement and a draft Environmental Assessment document for the Plan will be presented for public review during the Summer, 2007. After comments are received and addressed, the final Plan will be approved by all the parties of the Agreement, who will become signatory parties of this Plan.

Mission of the Pine Hill Preserve

The mission of the Preserve is to conserve in perpetuity the rare plant species and plant communities of the western EDC gabbro soil formation.

Purpose of this Management Plan

This Plan will coordinate management activities at the Preserve with actions undertaken by federal, State and local agencies, conservation organizations and private land owners to fulfill the mission of the Preserve. The Plan will also guide management activities at the Preserve and will serve as basis for future consultation with State and federal wildlife agencies to evaluate impacts of management on the rare plants.

This Plan describes physical and biological characteristics of the Preserve. It also identifies management challenges and funding needs, outlines implementation of management activities and proposes strategies designed to conserve the rare plants and their habitats. This Plan will be updated a minimum of every five years or more frequently, as needed, to allow for changes in management strategies as identified through monitoring and research projects and evaluation of implemented management activities.

Preserve Goals

- 1) Protect and manage gabbro soil rare plant habitat areas in western EDC to ensure their conservation and recovery.

- 2) Promote and conduct research to find the best management techniques to aid in the conservation and recovery of the gabbro soil rare plants.

3) Manage vegetation to maintain adequate fuel loads, provide functional habitat for the rare gabbro soil plant species, and reduce the risks of wildfire damage to human life and property in areas adjacent to the Preserve.

4) Provide the local community and public in general with recreational, educational and outreach opportunities concerning rare plants and their habitats.

5) Establish a consistent, long-term mechanism for funding management activities at the Preserve.

Management Objectives

A) Promote the protection of areas that will add to the Preserve system, with emphasis in areas where the rare plants are present, areas adjacent to the Preserve lands and areas that will facilitate habitat connectivity and management.

B) Conduct plant surveys to determine rare plant distribution and estimated population numbers to evaluate the degree of protection afforded to five federally listed plant species in relation to the FWS Recovery Plan for Gabbro Soil Plants of the Central Sierra Nevada Foothills recovery targets (USFWS 2002).

C) Conduct research and monitoring of the rare plants and their associated habitat to determine the best habitat conditions and management needs that will help achieve the Preserve mission.

D) Institute a fire/fuels and vegetation management program to promote the viability of the rare plant species at the Preserve, reduce the threat of wildfire, and increase the protection of properties and structures adjacent to the Preserve.

E) Communicate to the public the benefits and risks of fuels management and prescribed fire.

F) Accommodate and facilitate recreational, educational and outreach activities among public users, including guided and non-guided tours, teaching, interpretation, research implementation, volunteer coordination and other activities compatible with the Preserve mission.

G) Identify and quantify funding needs that will include management tasks, schedule of activities, designate responsible parties and determine sources of funding.

II. PROTECTED RARE PLANTS

The eight rare plant species targeted for protection at the Preserve are Stebbins' morning-glory (*Calystegia stebbinsii*) (Figure 1), Pine Hill ceanothus (*Ceanothus roderickii*) (Figure 2), El Dorado bedstraw (*Galium californicum* ssp. *sierrae*) (Figure 3), Pine Hill flannelbush (*Fremontodendron californicum* ssp. *decumbens*, previously *F. decumbens*) (Figure 4) Layne's butterweed (*Packera layneae*, previously *Senecio layneae*) (Figure 5), Red Hills soaproot (*Chlorogalum grandiflorum*) (Figure 6), Bisbee Peak rush-rose (*Helianthemum suffrutescens*) (Figure 7) and El Dorado mule-ears (*Wyethia reticulata*) (Figure 8). Naming conventions follow Jepson Flora Project: Index to California Plant Names (Rosatti 2006).

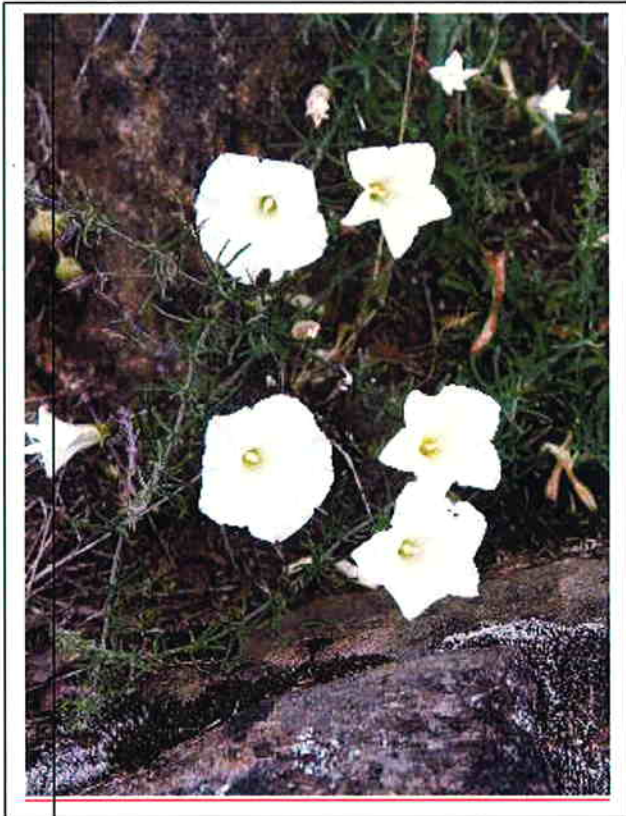


Figure 1. Stebbins' morning glory.



Figure 2. Pine Hill ceanothus.

Photos by Graciela Hinshaw.



Figure 3. Pine Hill flannelbush.



Figure 4. El Dorado bedstraw.

Photos by Al Franklin.



Figure 5. Layne's butterweed. Photo by Al Franklin.



Figure 6. Red Hill soaproot. Photo by George W. Hartwell.



Fig. 7. Bisbee Peak rush-rose. Photo by George W. Hartwell.



Figure 8. El Dorado mule-ears. Photo by Graciela Hinshaw.

Rare Plant Status and Endemism

Five of the eight rare plants, Stebbins' morning-glory, Pine Hill ceanothus, El Dorado bedstraw, Pine Hill flannelbush and Layne's butterweed are protected by federal and/or State laws (Table 1). Red Hills soaproot and Bisbee Peak rush-rose are listed as rare by the California Native Plant Society (CNPS) and El Dorado mule-ears is considered by the BLM as a species of concern (Table 1).

Pine Hill ceanothus, El Dorado bedstraw, Pine Hill flannelbush and El Dorado mule-ears are endemic to the Pine Hill area, and are not known to exist under natural conditions anywhere else.

Table I. Rare plant species at the Pine Hill Preserve and their status.

Species	Federal and State Status	CNPS Status
Stebbins' morning-glory	Endangered (federal and State)	1B.1 Rare, threatened or endangered in California and elsewhere. Seriously endangered in California (CNPS 2007).
Pine Hill ceanothus	Endangered (federal) and rare (State)	1B.2 (Rare, threatened or endangered in California and elsewhere. Fairly endangered in California.)
El Dorado bedstraw	Endangered (federal) and rare (State)	1B.2
Pine Hill flannelbush	Endangered (federal) and rare (State)	1B.2
Layne's butterweed	Threatened (federal) and rare (State)	1B.2
Red Hills soaproot	Species of Concern (Bureau of Land Management)	1B.2
Bisbee Peak rush-rose	None	3.2 Plants about which we need more information- Review list. Fairly endangered in California.
El Dorado mule-ears	Species of Concern (Bureau of Land Management)	1B.2

Existing Laws and Conservation Programs

Protection for the eight rare plant species at the Preserve is aided by the status provided by the federal and state laws and regulations, by the CNPS listing, and by EDC General Plan adopted policies.