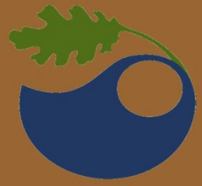




# Conservation Planning and Policies for California Grasslands

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## Why Grasslands?

approximately 11% of California, or 11 million acres. The vast majority of privately owned (see below). Despite the large area covered by this ecosystem, it is largely overlooked by conservation policies and environmental advocates, with only a small area in reserve status.

heavily altered ecosystem. Most of the grasslands in California are now dominated by non-native annual grasses rather than the native perennial grasses that were dominant in the past. Despite this, grasslands provide habitat for many species, including native species such as the San Joaquin kit fox and Kaweah brodiaea.

designed to examine the current policies that are affecting grassland conservation. This report relates these findings as a chapter in an upcoming University of California Press book, *Ecology and Management of California Grasslands*.

## Methods

Analyzed existing GIS data to determine current distribution, ownership and management of grasslands.

Reviewed county general plans, policy documents and federal and state statutes.

Contacted county planners by phone and e-mail to discuss findings and interpretations.

Incorporated reviewers' feedback on initial draft.

Grassland Area (acres)	Percent of Total Grasslands in California
9,462,200	88.08%
759,427	7.07%
227,305	2.12%
131,517	1.22%
162,819	1.52%

California grasslands based on GIS analysis.



Grassland distribution and counties surveyed

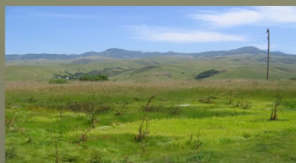
Grassland Area (acres)	Percent
7,831,093	53.25%
2,991,640	20.34%
1,888,981	12.84%
1,316,524	8.95%
14,467,465	4.62%

California grasslands based on GIS analysis.

## Examples of California Grassland Habitats



San Luis Obispo County, CA



Vernal Pool Habitat, San Luis Obispo County, CA

Images: Mark Stromberg, Oran Young, Gail Osherenko, Jeff Onsted, Carla D'Antonio, Jeffrey Corbin

## What Policies are Important for Grasslands In California?

Grassland protection originates from several levels of government. Federal, state and local governments all have unique ways of approaching grassland conservation. Examples of these measures are included in the table below.

- Federal statutes (ESA, CWA) focus on distinctive biological features such as endangered species or vernal pool (seasonal wetland) habitats.
- CESA complements the Federal ESA by protecting species that are not covered by the ESA.
- CEQA requires mitigation for impacts to sensitive, threatened, and endangered species and communities. As such, it provides protection for certain native grassland types.
- California's Williamson Act provides tax incentives to land owners to encourage farm land conservation thereby protecting grassland, classified as rangeland, from development.
- County level policies such as general plans and zoning ordinances often function by restricting land uses, e.g. limiting housing densities.
- Private incentives such as easements can be used to protect grassland habitats. These incentives tend to work as tax incentives, which are provided in exchange for an agreement to limit land uses. Easements are often in perpetuity, unlike the Williamson Act.

	Mechanism	Features
Federal	Endangered Species Act (ESA)	Prohibits take or destruction of critical habitat for federally listed grassland associated species.
	Clean Water Act (CWA)	Can protect vernal pool habitat, if under federal jurisdiction.
State	California Endangered Species Act (CESA)	Prohibits take or destruction of critical habitat for state listed grassland associated species.
	California Environmental Quality Act (CEQA)	Evaluates environmental effects of projects and requires mitigation for significant impacts.
County	Williamson Act	Prohibits development on agricultural land for at least 10 years.
	General Plan	Recognition of the biological importance of grasslands in general plans can set the stage for increased conservation.
	Agricultural zoning	Prevents housing development and some agricultural uses are compatible with grassland habitat.
	Open space zoning	Provides weak controls on development, though a small amount of this land is strongly protected (e.g. conservation easements, etc.).

## How Effective Are These Policies?

- The protection of endangered grassland species with large area requirements, like the San Joaquin kit fox and Stephens' Kangaroo Rat, results in large areas of grassland conserved in the HCP/NCCP process. One HCP for the Stephens' Kangaroo Rat in Riverside County covers 540,000 acres, which includes significant amounts of grassland.
- A survey of publicly available Williamson Act data for eight counties showed that Williamson Act contracts covered between 32% and 99% of county grasslands. These grasslands are protected from development for at least 10 years, but are subject to agricultural uses that may be incompatible with use by some species.
- CEQA, while providing protection for native grassland communities, currently provides few protections for non-native grasslands. It is difficult to quantify the effects of CEQA.
- Grassland habitats are rarely recognized for their biological value at the county level. More often they are valued as agricultural and grazing land and are managed as such.
- Zoning designations, including agriculture, open space and low density residential, cover about 95% of grasslands. These designations can prevent development of grassland habitat, but like the Williamson Act may include land uses incompatible with grassland species requirements.

Purple Needlegrass, a native perennial grass found in CA.



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## Chapter Citation

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## What Does This Mean for Grassland Conservation?



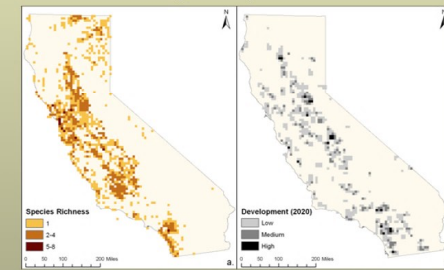
Carrizo Plain, San Luis Obispo County, CA

Counties rarely provide special protection for associated species; most grassland protection is at the level of government. This makes Federal protection under the Endangered Species Act and the California Environmental Quality Act the most directed and long term protections for grassland conservation.

Compared to protections for ecosystems like wetlands, oak woodlands, and prime farmland, little special protection. This can lead to protection of grassland habitat, but can also push development into grasslands.

County zoning ordinances can prevent development by regulating land use. While it does provide some protection, it is remembered that zoning ordinances do not always protect the ecological integrity of grasslands.

As California grows, threatened and endangered species will likely determine much of the future extent of grassland protection.



a.) Grassland associated species richness b.) Amount of development projected for the year 2020

## Information Needs and Issues

- Improve accessibility and/or availability of general plan documents.
- Better access to Williamson Act data would help in determining its significance for grassland conservation.
- Studies are needed on the effects of different types of protection and management on the ecological condition of grasslands.
- More information on different levels of policy enforcement would help in further evaluation of grassland conservation status.

## Future Directions for Grassland Conservation

- Explore the potential for setting significance thresholds to determine impacts to non-native grassland species for protection for native grassland species.
- Expansion and improvement of programs which provide protection.

## Some Grassland Associated Threatened and Endangered Species

San Joaquin Kit Fox (*Vulpes macrotis mutica*)



Dr. Lloyd Glenn Ingles © California Academy of Sciences

Juvenile California Condor (*Gymnogyps californianus*)

