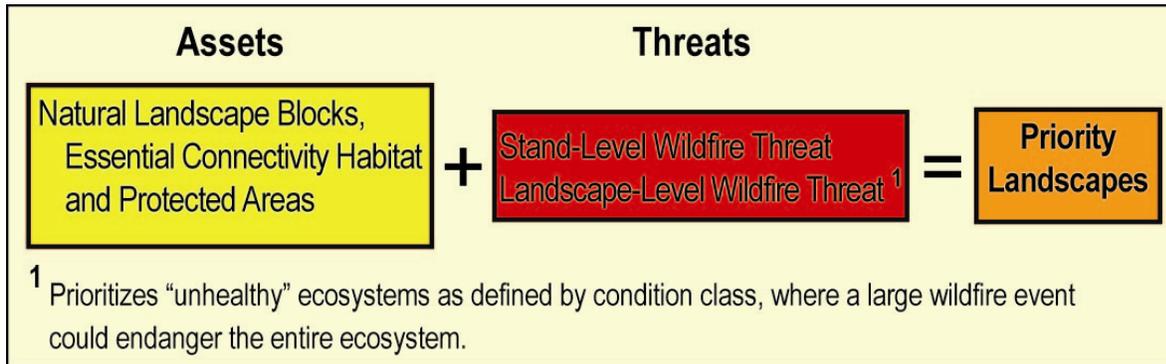


**Plant, Wildlife and Fish Habitat Protection,
Conservation and Enhancement**

Methodology

Analysis #1: Wildfire Threat to Areas Protected for Habitat



Threat 1: Landscape level wildfire threat

Threat 2: Stand-level wildfire threat

For a detailed discussion of these threats, see the methods document for *Wildfire Threat to Ecosystem Health and Community Safety* (2.1 Methods).

Stand-Level Wildfire Threat and built from FRAP’s Fire Threat dataset compiled in 2005. It is based on fuel conditions, observed fire frequency and expected fire weather conditions.

The Landscape-Level Wildfire Threat captures the threat of damage to ecosystems at the landscape scale. This is derived by calculating the percentage of each vegetation type in each unique tree seed zone that is “unhealthy”, based on being in a condition class that indicates significant deviation from historical fire regimes -- specifically the proportion of a given ecosystem that is in either condition class 2 or 3. This approach recognizes that stand-level threats have elevated importance if cumulatively they have potential to do damage to broader landscape-level ecosystems. While stand-level impacts can result in loss of timber volume or wildlife habitat, a landscape-level event can have a significant impact on larger systems, for example loss of genetic diversity for a given tree species, or decline of a particular wildlife species.

The two threat layers were combined to create a composite threat layer as follows:

Landscape-Level Wildfire threat score	Stand-Level wildfire threat score	Composite threat rank ¹
0	1	unranked
0	2	unranked
0	3	unranked

1	0	unranked
1	1	L
1	2	L
1	3	M
2	0	unranked
2	1	L
2	2	M
2	3	M
2	3	H
3	0	unranked
3	1	M
3	2	M
3	2	H
3	3	H

1. For certain special cases, such as areas that are in poor condition from too frequent burning, this basic scoring system did not yield reasonable rankings, and ranks for unique vegetation (WHR) types were applied. See the methodology document for *Wildfire Threat to Ecosystem Health and Community Safety* (2.1Methods).

Asset 1: Protected Areas

For the purposes of this analysis, protected areas are defined as land that is legally established in public ownership, private land trusts, or in similar status that provides habitat values and is likely to remain as habitat into perpetuity.

Mapping the Protected Areas Asset

Areas of three designations were combined to produce the GIS coverage of the habitat asset layer:

- The [California Protected Areas Database \(CPAD\)](#). The protected areas asset layer used for this analysis was derived from the California Protected Areas Database (GreenInfo Network, 2009). Department of Defense lands were added from Public Conservation Trust Lands (California Resources Agency Legacy Project, 2005) to the protected areas asset layer as some DOD lands have significant natural resources.
- Natural habitat blocks, and essential corridor habitat defined by the California Essential Habitat Connectivity Project (CEHCP) where also included in the asset layer. The CEHCP (Spencer et. al. 2010) delineated natural landscape blocks and essential connectivity areas deemed important to facilitate the movement and long-term viability of wildlife populations throughout the state.

Ranking the Protected Areas Asset

This analysis gives all protected areas the same rank, regardless of their ecological health and level of management, assuming that all protected lands offer habitat, or have the potential to offer habitat once improved or restored.

Priority Landscape

The overlay of the protected area asset and wildfire threat layer produced a priority landscape. The priority landscape is ranked the same as the composite threat layer (H=3 M=2 L=1), because the asset layer simply acted as a mask, selecting out protected lands. All unprotected areas are unranked, since their capacity to provide future habitat is uncertain.

Data Used in the Analysis

The datasets used in this analysis are available at http://frap.fire.ca.gov/assessment2010/3.5_wildlife.html. These are provided to document the analysis, and to provide the potential to replicate results. Updated versions of these datasets may be available from the various data providers.

Table 1: Data Used in Analysis 1

Analysis: Wildfire Threat to Areas Protected for Habitat			
Data theme		Dataset name	Purpose
THREATS			
THREAT 1: Landscape level wildfire threat		thr_wfireLSrisk09_1.gdb	Ranks areas based on the percent of the ecosystem that is in an "unhealthy" condition.
Inputs	Vegetation	input_fveg06_2.gdb	Input to wildfire threat depicting vegetation,
	Tree seed zones	input_seedzones_09_1	Input to wildfire threat depicting unique stands.
	Condition Class	cafrcc03_2.gdb	Input dataset used to define condition class for calculating percent of each ecosystem that is in an "unhealthy" condition
THREAT 2: Stand-level wildlife threat		thr_wfireSTrisk09_1.gdb	Wildfire threat ranks based on expected fire frequency and severity
Inputs	Fire threat	input_fthreat05_1.gdb	Fire threat based on fuel rank and fire rotation
ASSETS			
ASSET 1: Natural Landscape Blocks, Essential Connectivity Habitat and Protected Areas		ast_protected_areas10_2.gdb	Areas representing natural landscape blocks, protected areas and connectivity.
Inputs	California Protected Areas Database/ DOD/ BIA	CPAD_DOD_BIA10_1.gdb	Used to depict Bureau of Indian Affairs lands.
	California Protected Areas Database	CPAD_Fee_March09.gdb	Used to depict protected areas.
	California Public Conservation Trust Lands	Pct105_2.gdb	Used to depict Department of Defense lands.
	Essential habitat connectivity	CEHCP.gdb	Input to show essential habitat corridors for wildlife.

Priority Landscape		
PL: Wildfire Threat to Areas Protected for Habitat	pl_t35_a109_3.gdb	Priority landscape for wildlife
OTHER DATA		
Bioregions	INACCBioreg04_1.gdb	Reporting unit for summarizing results

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Data and Analysis Limitations

Data Quality

Data Element ¹	Date	Source	Purpose	Currency ²	Completeness	Detail	Consistency	Relevance	Limitations
Protected Areas	2005, 2009	CPAD, PCTL	Identify protected land	E	G	G	G	G	Does not specifically identify land by habitat quality; generally focuses on game species population dynamics models and surveys, location and trend data for Threatened and Endangered species is difficult to obtain. Most data are gathered on public lands.
Fire Threat	2003	FRAP	Estimate future risk from wildfire	G	E	F	G	E	See <i>Wildfire Threats to Ecosystem Health and Community Safety</i>
Wildlife Population Statics	Various	CDFG and others	Identify Population Trends	P	P	G	P	G	accuracy, limited species surveyed, Most data gathered on subset of entire range, Trend information on populations of special-status species requires intensive, multi-year efforts; Population trends are subject to environmental conditions - resulting in large population shifts on a year to year basis

1. Other data sources used to create the above data layers: fire perimeters, vegetation, land ownership

2. E = Excellent; F = Fair; G = Good; P = Poor