

HOW CNPS DEVELOPED A POLICY ON NATIVE PLANTS AND FIRE SAFETY

by *Betsey Landis*

The CNPS policy on Native Plants and Fire Safety, adopted March 13, 2010, is the culmination of years of discussions among CNPS members about reports of increasing wildfire frequency, extensive urban encroachment into native plant habitat, flagrant clearing of native vegetation, including into public parklands, and the consequent invasion of these bare, eroded areas by highly flammable weeds.

The policy process began September 8, 2007 at the annual CNPS Conservation Conference. Sue Britting had organized a session on chaparral management issues. Max Moritz, assistant cooperative extension specialist in wildland fire and adjunct assistant professor at UC Berkeley, spoke about his research in chaparral ecology and fire. Ernylee Chamlee, chief

of wildland fire prevention engineering for the California Department of Forestry and Fire Protection, presented the State regulatory aspects on fuel management in chaparral. The last speaker, Betsey Landis, Los Angeles/Santa Monica Mountains Chapter of CNPS, discussed the chapter perspective on the impacts of current fuel reduction practices on maintenance of healthy chaparral habitat.

In her presentation, Ernylee Chamlee reported that about five million people live in a wildland-urban interface (WUI) in California. She indicated that the management of these lands for fuels, plants, vegetation types, and safety will be an enormous issue for our state. Notably, all general plans (specifically those sections addressing fire issues) needed to be updated by

2010, and it was emphasized that this process allows organizations and individuals to get involved. The question was then posed as to whether we, CNPS, should have a policy statement regarding fuels management and “living with fire.” The discussion that ensued involved what that policy might include, how specific it should be, how it would be disseminated, and who would be responsible for bringing it to fruition.¹

In 2008 a fire policy subcommittee of the Chapter Council Policy Committee was formally constituted with Celia Kutcher (Orange County) as chair, Betsey Landis (Los Angeles/Santa Monica Mountains) as vice chair, Jim Bishop (Mt. Lassen) as Chapter Council Policy Committee advisor, and Chuck Williams (Sanhedrin). Frank Landis (San Diego)

and Kevin Bryant (Santa Clara) joined the committee in 2009.

As many as 100 people contributed comments and information as the policy evolved into a document applicable to the whole state. Every chapter was sent drafts for review, and revisions were discussed at Chapter Council meetings. A special session on fire-management topics was held at the January 2009 CNPS Conference.

Jim Bishop then sent out a survey to all chapters asking three questions: 1) What are the fire risk reduction practices in your area

As a fire precaution, native vegetation was cleared to bare dirt and sparse annual grass cover out to 100 feet from this house. The result? Serious erosion, including slumping, soil liquefaction, and sliding during the rainy season. Photograph by M. Witter.



SOME PLANTS TO AVOID WHEN LANDSCAPING IN FIRE-PRONE AREAS

The following plants are either flammable, invasive, or both, and should not be used in areas of high fire danger.

Scientific Name	Common Name
<i>Acacia</i> species	acacia (trees and shrubs)
<i>Ageratina adenophora</i>	eupatory
<i>Ailanthus altissima</i>	tree of heaven
<i>Bougainvillea</i>	bougainvillea
<i>Cedrus</i> species	cedar
<i>Cortaderia selloana</i> , <i>Cortaderia jubata</i>	pampas grass
<i>Cupressus</i> species	cypress
<i>Delairea odorata</i>	cape ivy, German ivy
<i>Dimorphotheca sinuata</i>	African daisy
<i>Dodonea viscosa</i>	hopseed bush
<i>Eucalyptus</i> species	eucalyptus, gum tree
<i>Fraxinus uhdei</i>	Shamel ash
<i>Gelsemium sempervirens</i>	Carolina jessamine
<i>Hakea suaveolens</i>	hakea
<i>Hedera</i> species	ivy
<i>Juniperus</i> species	juniper
<i>Lobularia maritima</i>	sweet alyssum
<i>Myoporum laetum</i>	myoporum
<i>Pennisetum</i> species	fountain grass
<i>Phoenix canariensis</i>	Canary Island date palm
<i>Picea</i> species	spruce
<i>Pinus</i> species	pine
<i>Ricinus communis</i>	castor bean
<i>Schinus molle</i>	Peruvian pepper tree (or "California" pepper tree)
<i>Schinus terebinthifolius</i>	Brazilian pepper tree
<i>Spartium junceum</i>	Spanish broom
<i>Taxus</i> species	yew
<i>Thuja</i> species	arborvitae
<i>Tropaeolum majus</i>	nasturtium
<i>Vinca major</i> , <i>Vinca minor</i>	periwinkle
<i>Washingtonia</i> spp.	Californian and Mexican fan palms

Sources: Santa Monica Mountains Community Wildfire Protection Plan, ForEverGreen Forestry. Recommended List of Native Plants for Landscaping in the Santa Monica Mountains, Los Angeles/Santa Monica Mountains Chapter, CNPS.

that are most detrimental to native plants and habitats? 2) What are better approaches, ones that will reduce fire risk without hurting native plants? 3) What agencies are the key to getting practices implemented?

The answers revealed layers of inconsistent, often contradictory,

regulations about fire and fuel management practices, as well as a lot of confusion around the state about which level of regulatory authority was responsible for which regulation.

Finally in February 2009, the draft policy was submitted to the Chapter Council Policy Committee,

which made a few editorial changes. The fire policy subcommittee and the Chapter Council Policy Committee then approved the final draft. The Native Plants and Fire Safety Policy was presented to the Chapter Council March 13, 2010 and was adopted by unanimous vote.

NEGATIVE IMPACTS AND POSSIBLE SOLUTIONS:

FEDERAL LEVEL

At the federal level, southern California Chapters reported problems with the prescribed burns that are an integral part of fuel management in the Healthy Forests Restoration Act of 2003 (HFRA). Fuel management plans utilizing prescribed burns in the southern California National Forests, which have large areas of chaparral, have resulted in uncontrolled wildfires, too frequent burning, and conversion to weedy, flammable, erodable slopes. The HFRA allows fuel reduction in the WUI (wildlands/urban interface) of up to 1 1/2 miles from structures. Other fuel management methods include mastication, crushing, and building fuel breaks, all of which destroy the intricate root matrix native plant communities create to knit the fragile watersheds together. In heavy rainfalls, mudslides are inevitable. Loss of healthy topsoil leads to non-native shallow-rooted grasslands, which in turn lead to more frequent early season wildfires.

Suggestions for preventing further damage to these chaparral forests ranged from rewriting the Healthy Forests Restoration Act to excluding its application to southern California National Forests.

STATE LEVEL

At the state level, there were no general complaints about the State Fire Code (PRC 4291, CCR 1299, General Guidelines, or Chapter 7



Building Code for Wildfire Areas, except that the definition of “Brush Clearance” needs to be removed and replaced with a new term, perhaps “Fuel Management.” Currently State Cal Fire rarely uses the term “Brush Clearance,” although fire authorities at the county or city level still do. The Code requires 100 feet of fuel reduction around structures, with the most rigorous fuel reduction and vegetation control occurring in the first 30 feet from the structures.

California FAIR Plan (CFP) is a state-mandated pool of private insurance companies. All insurance companies insuring properties in California in high-risk (high fire hazard) areas must belong to this pool. Chapters have received complaints from members and others owning homes in fire areas about the unreasonable requirements placed on them for clearing vegetation around their homes. CFP requires 200 feet minimum of clearance and may require more (3,000 feet clearance was reported in one instance in Riverside County!). If



TOP: A former fuel break has turned into a major weed-infested area that is now more susceptible to wildfire than it was before the native vegetation was removed. Photograph by R.S. Taylor. • BOTTOM: An example of excessive vegetation clearance around a house in the wildland-urban interface near San Diego. Photograph by R. Halsey.

the property owner cannot clear that far due to property lines, CFP will insist that the property owner somehow compel the adjacent owner to clear the land.

The penalty for not clearing land to CFP’s satisfaction is a large surcharge on the first property owner. CFP does not show as much concern about proper fuel clearance of

ornamental trees, shrubs, and vines in the first 30 feet from the home, which is considered by experts to be the more important defensible area. Since the adjacent property owner is often the public (i.e., parks and preserves), political pressure by property owners and homeowner associations results in park authorities clearing protected natural resources on a yearly basis, resulting in losses of native habitat and major erosion in natural watershed areas. The suggested recourse is to work with the State Insurance Commissioner and the State Legislature to require the insurance pool to ad-

here to the State Fire Code, and to supply mudslide insurance along with the fire insurance.

CalTrans has its own fuel modification regulations that seem to work better in some counties than others. Problems are in protecting rare native plants that may grow along roads, especially in areas where farmlands have removed much of the usual habitat for these native plants. It needs better management oversight, as does the Transportation Corridor Authority.

Each California state park has its own management plan, which may or may not consider protection

of native habitat as a major concern. Their maintenance plans for trails and recreation areas should contain location data of any rare native plants and how to avoid damaging their habitats or causing weed invasions at those locations. All parks should have regulations promoting fire-safe construction of all structures and adjacent landscapes.

The building of fire/fuel breaks, at whatever level of government, is a statewide problem. Some are necessary, having been built during a wildfire, but others are not. In state parks, biologists may be present at the fire command post during a wildfire. A biologist will go out with the bulldozer operator if a fuel break is required in an area known to have rare plants. The biologist will direct the bulldozer operator around larger plants or will request that the operator lift the blade as the machine moves over smaller plants. Often the bulldozers are sent out to carve a fuel break straight up and down slopes. This usually results in heavy infestations of weeds after the fire is over. Recovery of the area may take years.

Some developments on flat land use large, bulldozed fuel breaks to protect structures from fire. Questions were posed by CNPS members about the wisdom and value of such fuel breaks.

COUNTY LEVEL

At the county level, fire authorities may be County Fire Departments or Fire Districts, and may include paid staff, volunteers, or a combination of both. Many of these fire authorities require more than 100 feet clearance of all native vegetation from the structures in fire areas while allowing non-native, ornamental, often highly flammable plants to remain around the houses. Many county codes do not require fire-safe construction for fire areas. Due to water restrictions, irrigation may be allowed in the first 30 feet from the house, but prohibited beyond

TOP: The downslope area adjacent to this residence has been denuded of all vegetation and is eroding. Meanwhile, fire hazards including a wooden fence and pine trees remain next to the house. • BOTTOM: Typical of many new developments in wild areas of Southern California, these houses were built too close to each other, and are surrounded by flammable trees. Their risk for damage from a wildfire is high. Photographs by R. Halsey.



LAYERS OF AUTHORITY FOR FIRE AND FUEL MANAGEMENT REGULATIONS

LEVEL OF JURISDICTION	RESPONSIBLE ENTITY
<i>Federal</i>	<i>Congress (Acts)</i>
Federal	Dept. of Interior: Natl. Parks, BLM, Natl. Cooperative Land & Wildlife Area USDA: Natl. Forests
Indian Reservations	Dept. of Indian Affairs, Tribal Councils
State of California	Legislature (Codes)
State of California	CalFire, State Fire Marshal's Office
State of California	State Insurance Commissioner
State of California	State Parks & Wilderness Areas
State of California	Dept. of Fish and Game, DFG Preserves
State of California	Caltrans
State of California	UC Reserves
Counties	Boards of Supervisors, Planning Depts., Commissions
Counties	County Fire Departments or Fire Districts
Counties	County Water Districts
Counties	NCCP, HCP, MCP
Counties	Transportation Corridors, Road Depts.
Counties	Weed Management Areas
Counties	County Parks and Recreation Areas
Cities	City Councils, Planning Depts., Building & Safety Depts., Commissions
Cities	City Parks and Recreation Areas
Cities	Municipal Water and Power Depts.
Private	Lumber Companies, Mining Companies
Private	Land Trusts
Private	Utilities (Water, Power, Gas, Communications)
Private	Homeowner Associations

Source: CNPS Chapter Council Fire Policy Subcommittee, CNPS conservation chairs, other CNPS members, and Web searches.

that point, even in times of drought. The cost of wildfires is greater than the cost to the homeowner for fire-safe construction and the cost to maintain a healthy landscape to the property line, even if occasional watering beyond the first 30 feet is necessitated by dry winters.

A continuing problem—especially when volunteer fire departments are involved—is the lack of coordination between rural fire districts, or between adjacent cities,

counties, and perhaps other landowners—when fighting a large wildfire covering several jurisdictions. The people concerned with good fire response need to step forward and organize communications and resources in these jurisdictions.

Many of the same concerns apply at both the county and city level, where CNPS members comment in public hearings on General Plans about environmental issues involving native plants and invasive weeds,

and in CEQA processes that involve impacts on native vegetation. With human activity in natural areas comes a greater chance of wildfire ignition. General Plans should reflect the increased hazards of increasing populations living in fire areas: to the residents and rate payers, in the economic costs of fighting fires, in the resulting losses in natural resources (especially in watershed and percolation areas), and in damage caused by erosion. Local jurisdictions should require fire-safe building codes for homes, power networks and grids, transmission towers, and for fire-safe landscaping, and require enforcement of those codes.

WHAT CNPS CHAPTERS CAN DO

Below are some suggestions of things CNPS chapters and members can do to protect both native habitat and homes.

- Join the local County Weed Management Area to assist in identifying best management practices for protecting native plant resources, by removing invasive non-native plants from native habitat areas or in the vicinity of rare plant populations.
- If the CNPS chapter has members living in wildfire areas, those members may be involved in a local Fire Safe Council. If not, encourage members to explore the concept of Fire Safe Councils. Either assist a Fire Safe Council to design a plan that protects native plant resources and properly manages those resources, or organize a new Fire Safe Council, utilizing chapter native plant expertise to create a plan that protects both human residents and native habitats.

¹ Conference proceedings link: <http://www.cnps.org/cnps/conservation/conference/2007/index.php>

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NATIVE PLANTS AND FIRE SAFETY POLICY

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THE POLICY

Statement:

The California Native Plant Society opposes the unnecessary destruction of California's native plant heritage for the purpose of wildfire fuel management. The California Native Plant Society supports protecting human lives, property, and California's native plants from poor fuel management practices. California's superbly diverse native plants are its most valuable resource for erosion control and water conservation, and are vital to the long-term health of California.

Intent:

To provide an authoritative policy that California Native Plant Society and others can use to persuade legislators and regulators to approve fire-safe practices that maximize conservation of native plants and native plant ecosystems, while protecting citizens, firefighters, and property.

SUPPORTING MATERIALS

Rationale:

Siting development in or adjacent to native plant communities increases the risk to structures from wildfire, the potential for additional human-caused ignitions, and the need for more fuel management. The best land-use planning practices minimize placing development in locations that increase the risk of property exposure or of ignitions. The best fire-safe building codes reduce the risk of the structure being ignited, or spreading fire, during a wildfire.

Fuel management practices to protect urban development generally have been ineffective and/or counter-productive, severely impacting that native vegetation. Public ordinances and bureaucratic regulations often require fuel-removal practices in excess of 2006 California Public Resource Code 4291, causing severe damage to native plant ecosystems without reducing wildfire risk. These requirements should be replaced with proven fuel-management practices that minimize the wildfire threat and do not devastate native plant ecosystems.

California is large and diverse, and different fuel systems require different solutions for minimizing the impacts of fuel management and fire control practices on native vegetation. That diversity, as exemplified in two cases noted here, requires the development of implementation guidelines that fit the affected area.

Examples:

- In some areas, especially shrublands, shortened fire-return cycles have converted native plant communities into non-native grasslands. These faster-burning invasive non-native plant species in turn fuel early-season wildfires, preventing regrowth of native vegetation and diminishing resource value.
- In certain forested areas, wildfire suppression has caused a lengthened fire-return cycle, which can allow an accumulation of dead material and an increased likelihood of high-intensity wildfires. This modification of natural cycles has led to losses in native forest species diversity, erosion, increased wildfire management costs, and greater risks to property and people.

Implementation:

The California Native Plant Society supports:

- Fuel management plans that minimize the risk to human life and property while maximizing protection of native plants and their habitats. These plans should be locally adapted and account for all combustible materials, including building materials, ornamental vegetation, other landscaping materials, and adjacent native plant ecosystems.
- Building codes and ordinances that require structures and landscaping in high-fire-risk areas to be situated, constructed, retrofitted, and maintained using materials and practices that minimize the ignition and spread of wildfires.

- The creation of laws, regulations, and land-use policies that discourage new development in areas of high-fire danger.

There are many different fire environments and property-development settings throughout the state. The California Native Plant Society will develop specific guidelines for implementation, supported by current applicable fire science and botanical knowledge, to fit the particular wildfire environment and property-development patterns of a given area. These detailed guidelines will be supplemental to this policy, and can be created, modified, or removed by approval of the California Native Plant Society Chapter Council.

DEFINITIONS CODIFIED IN STATE LAW OR LOCAL ORDINANCES

Brush—All native vegetation (especially shrubs), all vegetation in undeveloped lands. *Sources:* California FAIR Plan 2010; Los Angeles City Fire Department 2010.

Brush areas—Wildlands, undeveloped lands. *Synonyms:* Brush hazard areas, brush/wildfire areas. *Source:* California FAIR Plan 2010.

Brush clearance—Treatments or thinning of vegetation to reduce fire hazards. *Synonyms:* Fire clearance, fuel clearance. *Source:* Los Angeles City Fire Department 2000.

California FAIR Plan—“The California Fair Access to Insurance Requirements (FAIR) Plan was created by state legislation in July 1968 following the 1960s brush fires and riots. It is an insurance pool established to assure the availability of basic property insurance to people who own insurable property in the State of California and who, beyond their control, have been unable to obtain insurance in the voluntary insurance market. The FAIR Plan is a private association based in Los Angeles comprised of all insurers licensed to write property insurance in California. The FAIR Plan is not a state agency.” *Source:* California FAIR Plan 2010.

Defensible space—An area extending 100 feet from a structure in which “Fuels shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure” (PRC 4291). The defensible space zone consists of an innermost 30 feet in which the fuels are maintained as “lean and green,” and an outermost 70 feet as the “reduced fuel zone” in which fuels are reduced, limbed up, and thinned. *Source:* Cal Fire 2010a.

GENERAL GUIDELINES

Public Resource Code 4291, Excerpt from General Guidelines (pages 5-6):

C. Fuel Treatment Guidelines

The following fuel treatment guidelines comply with the requirements of 14 CCR 1299 and PRC 4291. All persons using these guidelines to comply with CCR 1299 and PRC 4291 shall implement General Guidelines 1, 2, 3, and either 4a or 4b, as described below.

1. Maintain a firebreak by removing and clearing away all flammable vegetation and other combustible growth within 30 feet of each building or structure, with certain exceptions pursuant to PRC 4291(a). Single specimens of trees or other vegetation may be retained provided they are well spaced, well pruned, and create a condition that avoids spread of fire to other vegetation or to a building or structure.
2. Dead and dying woody surface fuels and aerial fuels within the Reduced Fuel Zone shall be removed. Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a depth of 3 inches. This guideline is primarily intended to eliminate trees, bushes, shrubs, and surface debris that are completely dead, or with substantial amounts of dead branches or leaves/needles that would readily burn.
3. Down logs or stumps anywhere within 100 feet from the building or structure, when embedded in the soil, may be retained when isolated from other vegetation. Occasional (approximately one per acre) standing dead trees (snags) that are well-spaced from other vegetation and which will not fall on buildings or structures or on roadways/driveways may be retained.
4. Within the Reduced Fuel Zone, one of the following fuel treatments (4a or 4b) shall be implemented. Properties with greater fire hazards will require greater clearing treatments. Combinations of the methods may be acceptable under 1299(c) as long as the intent of these guidelines is met.
 - 4a. Reduced Fuel Zone: Fuel Separation

In conjunction with General Guidelines 1, 2, and 3, above, minimum clearance between fuels surrounding each building or structure will range from 4 feet to 40 feet in all directions, both horizontally and vertically. Clearance distances between vegetation will depend on the slope, vegetation size, vegetation type (brush, grass, trees), and other fuel characteristics (fuel compaction, chemical content, etc.). Properties with greater fire hazards will require greater separation between fuels. For example, properties on steep slopes having large-sized vegetation will require greater spacing between individual trees and bushes. Groups of vegetation (numerous plants growing together less than 10 feet in total foliage width) may be treated as a single plant. For example, three individual manzanita plants growing together with a total foliage width of 8 feet can be “grouped” and considered as one plant, and spaced according to the Plant Spacing Guidelines in this document.

4b. Reduced Fuel Zone: Defensible Space with Continuous Tree Canopy

To achieve defensible space while retaining a stand of larger trees with a continuous tree canopy, apply the following treatments:

- Generally, remove all surface fuels greater than 4 inches in height. Single specimens of trees or other vegetation may be retained, provided they are well-spaced, well-pruned, and create a condition that avoids spread of fire to other vegetation or to a building or structure.
- Remove lower limbs of trees (prune) to at least 6 feet up to 15 feet (or the lower 1/3 branches for small trees). Properties with greater fire hazards, such as steeper slopes or more severe fire danger, will require pruning heights in the upper end of this range.

Source: Cal Fire. 2006

GLOSSARY OF TERMS

Community—Any ecologically integrated group of species of microorganisms, plants, and animals inhabiting a given area. *Source:* Purves, Orians, Heller, Sadava (1998).

Ecosystem—The organisms of a particular habitat, together with the physical environment in which they live. *Source:* Purves, Orians, Heller, Sadava (1998).

Environment—An organism’s surroundings, both living and nonliving; includes temperature, light intensity, and all other species that influence the focal organism. *Source:* Purves, Orians, Heller, Sadava (1998).

Fire management—Strategies for controlling and extinguishing fires/wildfires. *Source:* Carle (2008).

Fire-safe landscaping—Designing a defensible space by using well-spaced fire-resistant plants and hardscape elements such as brick or stone walls to prevent heat and flames from reaching the structure. *Source:* SAFE Landscapes (2009).

Fuel—Any combustible material, both man-made—such as wood fences, lumber, furniture, plastic, awnings, and cloth—and vegetative—such as grass, leaves, ground litter, plants, shrubs, and trees—that feeds a fire. *Sources:* For vegetation: Carle (2008); for man-made materials as fuel: Los Angeles City Fire Department (2000).

Fuel management—Manipulating fuels to reduce the likelihood of ignition, reduce fire behavior, and/or lessen potential damage and resistance to control. *Synonyms:* fuel modification, fuel reduction, wildfire fuel management. *Source:* Carle (2008).

Habitat—The environment in which an organism lives. *Source:* Purves, Orians, Heller, Sadava (1998).

Native—Occurring naturally in an area, not as either a direct or indirect consequence of human activity; indigenous; not alien. *Source:* Hickman (1993). Note: Plants documented or assumed to have been in California at the advent of European exploration of the west coast of North America—around 1500 A.D.—are generally considered to be “native plants.”

Plant community—An assemblage of individuals of one to many plant species distinct in structure and composition from other adjacent such groupings. *Source:* Sawyer, Keeler-Wolf, and Evens (2009).

Vegetation—All the plant species in a region and the way they are arranged. *Source:* Sawyer, Keeler-Wolf, and Evens (2009).

Vegetation management—Manipulation of plant species by humans to attain a goal or goals such as esthetics, economics, maintenance, restoration, pest/weed eradication, and/or fuel modification. *Sources:* Carle (2008); Sawyer, Keeler-Wolf, and Evens (2009).

Wildland-urban interface (WUI)—The area where structures and other human development meet undeveloped wildlands and their fuels.

Source: Carle (2008). Note: WUI is easy to define qualitatively but it is so site-specific that WUI cannot be used to create quantitative regulations defining the width of fuel clearance zones in general.

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