

**A WORKSHOP FOR
COMMUNITY WILDFIRE
PROTECTION PLAN PROJECTS**

**Featuring How to Comply With Environmental
Regulations**

**San Diego County, CA
November 12, 2008
Cabrillo National Monument**



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Introduction

San Diego County is one of the two most biologically diverse counties in the USA. Many plant and wildlife species have declined radically in response to the high human development in southern California, which has reduced and altered their habitats. Laws, such as the Migratory Bird Treaty Act and the Endangered Species Act, exist to ensure that wildlife species are considered and managed to provide for their continued existence. The US Fish & Wildlife Service and the California Department of Fish and Game are responsible for administering these laws and for looking ahead to prevent wildlife population declines that would lead to them becoming endangered.



Along with the increase in human development, came an associated increased danger of wildland fire damage to properties. One method of reducing fire risk is to reduce the vectors for fire spread by managing vegetation around homes and communities. Local governments and fire agencies have developed Habitat Conservation Plans and Brush Management Guidelines for reducing fire hazards, and grants are available through the Grants Clearinghouse to fund fuel reduction projects. Vegetation treatments usually translate to wildlife habitat removal, and can add up to losses of thousands of acres of habitat as homes and communities across the county implement vegetation treatment projects. Thus, each project is responsible for complying with environmental laws for endangered species, in order to qualify for and obtain grant funding.

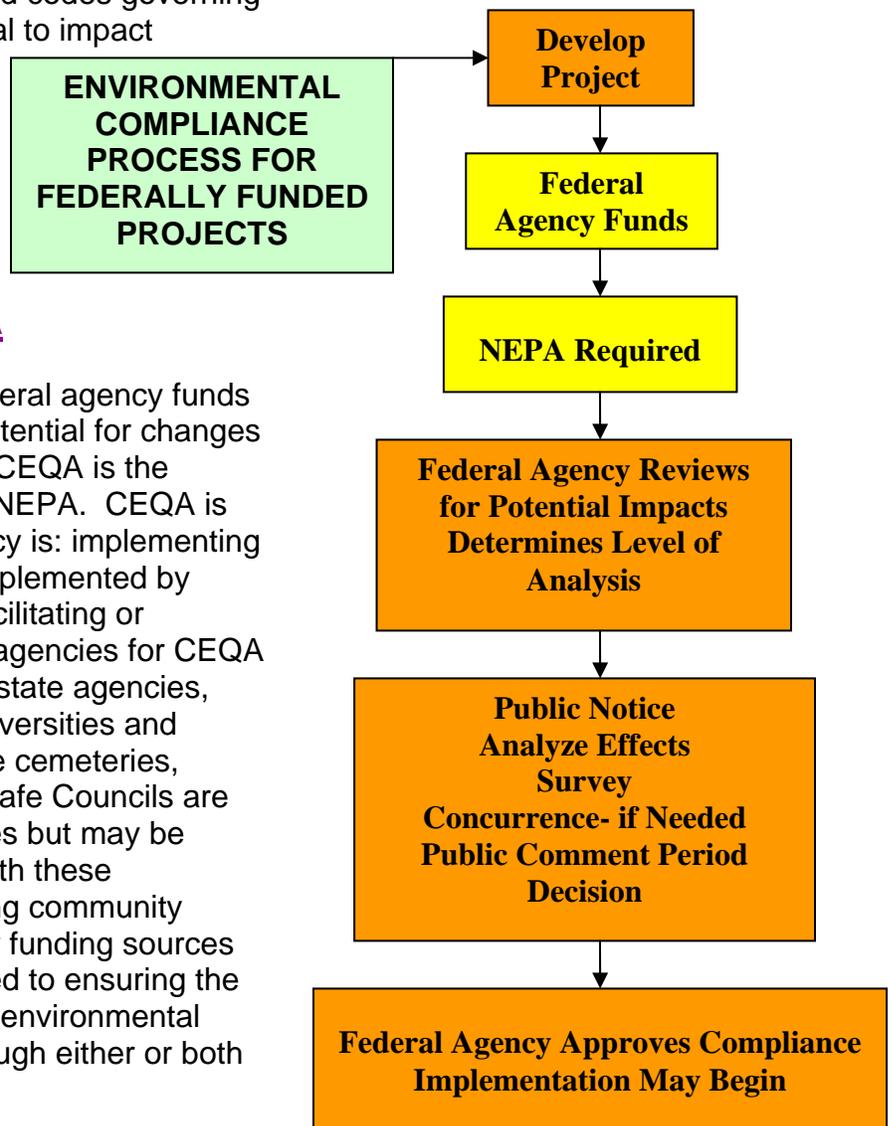
To facilitate environmental compliance, the fire and wildlife agencies signed a Memorandum of Understanding (MOU) for San Diego County in 1997. This MOU establishes guidelines for fire agencies to protect lives and property from the threat of fire, while establishing a mechanism for the wildlife agencies to assess and minimize impacts to sensitive species. The Fish and Wildlife Service prepared a Biological

Opinion on the MOU that documents their conclusions for how the MOU affects listed wildlife species, and further presents Reasonable and Prudent Measures and gives Terms and Conditions for action, which are projects are required to follow in to avoid or minimize impacts.

This handout describes what these pieces of the puzzle all mean, and how they apply to your FireSafe projects. Best Management Practices are included, to help you to avoid or minimize impacts to habitat and wildlife and help you to more easily meet your regulatory requirements. This can help you to secure funding and implement your projects more expeditiously. Contacts and websites are provided for more information.

What You Should Know About Federal Regulations

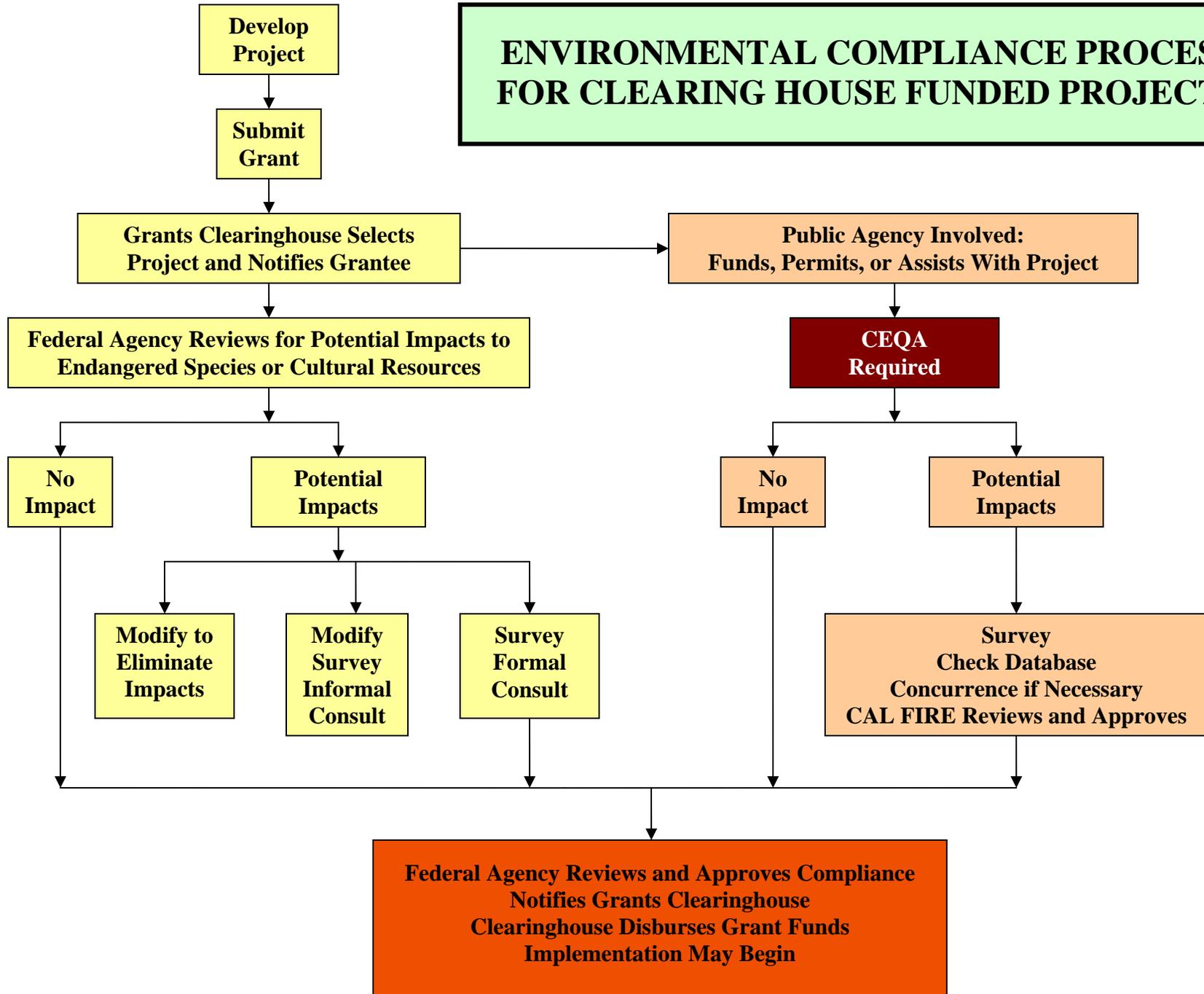
NEPA (National Environmental Policy Act) and CEQA (California Environmental Quality ACT) are regulations, laws and codes governing projects that have the potential to impact environmental resources



NEPA and CEQA

NEPA is triggered when a federal agency funds or implements actions with potential for changes in the physical environment. CEQA is the California state equivalent of NEPA. CEQA is triggered when a public agency is: implementing a project, funding a project implemented by others, issuing a permit, or facilitating or assisting in a project. Public agencies for CEQA include the following entities: state agencies, counties, cities, California Universities and special districts, which include cemeteries, irrigations districts etc. Fire Safe Councils are not considered public agencies but may be responsible for compliance with these regulations when implementing community protection projects. Grants or funding sources for these projects are likely tied to ensuring the environment is protected and environmental compliance is completed through either or both NEPA and CEQA.

ENVIRONMENTAL COMPLIANCE PROCESS FOR CLEARING HOUSE FUNDED PROJECTS



Biological and Cultural Considerations

The following pages briefly describe the federal regulations that protect sensitive biological and cultural resources in San Diego County. These pages aim to help users comply with these laws when carrying out small scale hazardous fuel treatments.

Federal Endangered Species Act

- Establishes a broad framework to save species from extinction.
- Requires the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to list species as Threatened or Endangered, and to designate Critical Habitat and develop Recovery Plans for those listed species.
- Threatened species are those experiencing serious threats that may eventually lead to extinction, but the situation is not critical yet.
- Endangered species are those on the brink of extinction.
- Prohibits anyone from “taking” (i.e. harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect) an Endangered animal species. “Harm” also includes significant habitat modification or degradation which kills or injures species by significantly impairing essential behavioral patterns like breeding, feeding or sheltering.
- Prohibits removal or damage of Endangered plant species on federal lands or anywhere else if in knowing violation of state law.
- If you think you may affect a listed species or its habitat, despite the use of BMPs in this guidebook, you must consult with USFWS or NMFS.



Least Bell's Vireo

Why Should I Be Concerned About Endangered Species?

Wildlife and plants “are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people” (Endangered Species Act).

- ❖ California has 309 federally listed species.
- ❖ 101 million acres in California are designated Critical Habitat.
- ❖ 47 species have designated Critical Habitat in California.
- ❖ San Diego County has 39 federally listed species and 3 species proposed for listing.

Section 7 Consultation with U.S. Fish and Wildlife Service and/or National Marine Fisheries Service

Activities subject to this type of permit include any federally funded or permitted activity that may adversely affect federally-listed species or Critical Habitat. To determine whether a project has the potential to adversely affect federally-listed species, speak to a professional biological consultant or USFWS biologist.

U.S. Fish and Wildlife Service or National Marine Fisheries Service Jurisdiction

USFWS has jurisdiction over terrestrial wildlife, freshwater aquatic species, and plant species, and NMFS has jurisdiction over marine and anadromous aquatic species.

Permit Types

No Effect, Technical Assistance Letter: This is available for projects that have been determined to have no effect on federally protected species or habitats, or when federally protected species or habitats are determined not present in the action area.

May Affect, But Not Likely to Adversely Affect, Letter of Concurrence: This is available for projects that are determined to have a potential to affect federally protected species or habitat, but with implementation of avoidance and minimization measures, the project is not likely to adversely affect the species or habitat. The Services will issue a Letter of Concurrence stating the project may move forward with implementation of the measures.

Likely to Adversely Affect, Biological Opinion and Incidental Take Permit: USFWS or NMFS will require a biological opinion and incidental take permit when it determines that a project is likely to adversely affect and listed species or habitat.

Required Items for the Application Package

- ❖ Complete project description (existing conditions, proposed activities, analysis of impacts, proposals for avoidance, minimization and/or mitigation)
- ❖ Description of action area
- ❖ Conceptual engineering plans
- ❖ Maps of species and habitats in project area
- ❖ Biological Assessment
- ❖ Impacts analysis: direct effects, indirect effects, cumulative effects

Section 10 Consultation with U.S. Fish and Wildlife Service and/or National Marine Fisheries Service

Activities subject to this type of permit include any private activity occurring on private land that may adversely affect federally-listed species or Critical Habitat. To determine whether a project has the potential to adversely affect federally-listed species, speak to a professional biological consultant or USFWS biologist.

U.S. Fish and Wildlife Service or National Marine Fisheries Service Jurisdiction

USFWS has jurisdiction over terrestrial wildlife, freshwater aquatic species, and plant species, and NMFS has jurisdiction over marine and anadromous aquatic species. The Section 10 process can be very lengthy and complicated. If it is possible to obtain federal funding or other federal approval for your project, it is advisable to do so to avoid the Section 10 process.

Permit Types

Prior to even applying for a permit, the Applicant will be required to work with USFWS/NMFS to develop project descriptions, determine baseline conditions of the site, and develop land use objectives. The Section 10 process then requires the applicant to design a Habitat Conservation Plan (HCP) and provide a long-term commitment to species conservation. During the development of the HCP, the Applicant and USFWS/NMFS negotiate a Safe Harbor Agreement that provides assurance to USFWS/NMFS that the projects will have a “net conservation benefit” while also providing assurance to the Applicant that there will be “no surprises.” The no surprises clause assures the Applicant that if unforeseen circumstances arise, USFWS/NMFS will not require the commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water or other natural resources beyond the level otherwise agreed to in the HCP without the consent of the Applicant and as long as the HCP conditions have been met.

It is only after development of the HCP and the Safe Harbor Agreement that the Application finally applies for the Incidental Take Permit under Section 10, which is called the “Enhancement of Survival Permit.” USFWS and NMFS will then conduct their own internal Section 7 Consultation process (see the Section 7 Consultation Process above) and a public review period. Upon completion, a 10(a)(1)(B) permit will be issued.

Required Items for the Application Package

- Complete project description (existing conditions, proposed activities, analysis of impacts, proposals for avoidance, minimization and/or mitigation)
- Proposed management activities and monitoring program of management practices
- Maps of species and habitats in project area
- Biological Assessment
- Impacts analysis: direct effects, indirect effects, cumulative effects
- Habitat Conservation Plan
- Enhancement of survival application form

Who Do I Contact?

- USFWS: <http://www.fws.gov/carlsbad> Carlsbad office 760-431-9440
- USFWS: <http://www.fws.gov/sacramento/es/default.htm>
- Sacramento Fish and Wildlife Office, USFWS: (916) 414-6600
- NMFS: http://www.nmfs.noaa.gov/pr/permits/esa_permits.htm
- Check out the homeowner’s guide <http://www.wildfirezone.org/resources.asp>



Migratory Bird Treaty Act

- ❖ Was enacted to put an end to the commercial trade of birds and their feathers.
- ❖ Prohibits killing, possessing, or trading migratory birds.
- ❖ Applies to whole birds, parts of birds, bird nests and eggs.
- ❖ Applies to many common bird species and private, state and federal lands.
- ❖ Does not provide protection of habitat of migratory birds, but does prohibit the destruction of active bird nests in active use without a permit from U.S. Fish and Wildlife Service.
- ❖ It is easiest to avoid active nests by working during the non-breeding season. This means avoiding vegetation removal between March 1 and August 31
- ❖ If you want to work during the nesting season, you should hire a biologist to survey for nesting birds and mark sites to be avoided during vegetation removal. Leave a buffer of vegetation around each nest to avoid nest abandonment.

More than 800 migratory birds are listed under the Migratory Bird Treaty Act. The Eagle Protection Act also protects bald and golden eagles.



Mourning Dove



Tri-Colored Blackbird

U.S. Fish and Wildlife Service Jurisdiction

Birds protected under the act include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, swallows and others, including their body parts (feathers, plumes etc), nests, and eggs. A complete list of protected species is found at 50 CFR 10.13. Activities related to fire management which are most likely to result in take of migratory birds include, but are not limited to, clearing or grubbing, tree pruning or limbing, prescribed burning, and vegetation removal in migratory bird nesting habitat during the nesting season when eggs or young are likely to be present. Section 7031 of the MBTA prohibits taking any migratory bird, part, nest or eggs. Take is defined as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities.” A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof.

Who Do I Contact?

USFWS: Carlsbad office 760-431-9440 <http://www.fws.gov/carlsbad> or <http://migratorybirds.pacific.fws.gov/mbta.htm>.

San Diego County Memorandum of Understanding (MOU) on Wildland Fire Protection

What is the purpose of the MOU?

The MOU established guidelines whereby CAL FIRE, Fire Chiefs, and Fire District Associations can require abatement of flammable vegetation while allowing the Department of Fish and Game and the US Fish and Wildlife Service to assess and minimize the adverse affects of such vegetation abatement to threatened, endangered, and rare wildlife.

The MOU authorizes the take of California gnatcatcher, arroyo toad, and Stephens' kangaroo rat if vegetation reduction is consistent with MOU guidelines. It applies to structures built prior to 1997, on state managed and private lands where CA public Resources Code specifies that CAL FIRE is responsible for fire safety standards for defensible space. This includes maintenance of defensible space around homes within 100 feet, up to 30 feet on each side of regularly traveled roads at the discretion of the fire chief, railroad right-of ways, greenbelts, and fuelbreaks.

MOU guidelines specify:

- Defensible zones can apply to any structure, but will not extend beyond your property line unless you have permission from the adjacent landowner to do so.
- Fences are not structures.
- Vegetation removal should leave the roots intact, to stabilize soils.
- Bare mineral soil may be exposed only if the local fire chief provides written determination that it is necessary.
- The fire agencies will develop guidelines for vegetation reduction, and must include the minimum and maximum limits for vegetation clearing and acceptable clearing methods.
- It is ok to leave any vegetation that the Fire Chiefs determine does not rapidly transmit fire from native growth to structures.
- Fuelbreaks on unimproved property may be established if such a fire break is deemed necessary to protect property and public safety, based on written findings by the Chief of the local fire department, and only if the fuel break is located in areas of high fuel loading or areas of high hazard (as determined by CAL FIRE Fire Severity Mapping). These findings shall be provided to the Dept. of Fish and Game and the Fish and Wildlife Service at least 10 days prior to the issuance of abatement orders. (If neither responds within that period, the project may proceed without violation of the MOU.)
- Areas that have been consistently treated for the last 3 years may continue to be maintained even if they are outside of the above limits.



- Everyone must comply with the Reasonable and Prudent Measures and Terms and Conditions of the Biological Opinion (BO) issued for the MOU. This document presents the US Fish & Wildlife Service's determination for how implementing the MOU will affect the listed threatened and endangered species. It outlines Reasonable and Prudent Measures and gives Terms and Conditions for actions to avoid or minimize impacts. Most of these apply to the Fire Agencies and the wildlife agencies. But the bottom line for defensible space is:
 - Vegetation treatments are not to occur in riparian areas or vernal pools
 - Incidental take (unintentional) is granted for arroyo toads, Stephen's kangaroo rat, and California gnatcatcher. However, you must consult with the US Fish and Wildlife Service in Carlsbad if:
 - If these species are present or highly likely to be affected.
 - If you are likely to affect a species that the BO concluded there would be no take for, such as Quino checkerspot butterfly, upland occurrences of arroyo toads, Stephen's kangaroo rat, or any of the riparian associated species.
 - Since the development of the BO, several other species that are not covered by the MOU have been identified as threatened and endangered, but generally do not occur in the areas that are likely to be treated for defensible space.



Bancroft Rock House

National Historic Preservation Act

- ❖ Intended to preserve historic and archaeological sites in the U.S.
- ❖ Requires the National Park Service to maintain a National Register of Historic Places that identifies districts, sites, buildings, structures and objects worthy of preservation.
- ❖ Properties on the list are not automatically protected from damage or destruction, but federally-funded (or permitted) projects that will impact sites listed, or eligible for listing, must complete the “Section 106 Review Process” to minimize potential harm and damage to listed properties.

Why Care About Cultural Resources?

“Historical and cultural foundations of the Nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people” (National Historic Preservation Act).

Different cultural resources:

- Prehistoric: pre-1800
- Historic Buildings: Greater than 45 years old
- Historic Period/Era: after 1800
- Paleontology: “Dead Critters”

ACHP and SHPO Jurisdiction

(Advisory Council on Historic Preservation and State Historic Preservation Office)

The National Historic Preservation Act created the Advisory Council on Historic Preservation (ACHP), an independent Federal agency, which is authorized to review and comment on all actions licensed by the Federal government which will have an effect on properties listed in the National Register of Historic Places, or eligible for such listing. Any project involving a federal action must seek ACHP comments and complete Section 106 review (16 U.S.C. 470(f)). The Federal agency involved in the proposed project or activity is responsible for initiating and completing the review process. The agency must confer with the State Historic Preservation Officer (an official appointed in each State or territory to administer the National Historic Program) and the NHPA. The

National Register is an inventory of the United States' historic resources and is maintained by the National Park Service. The inventory includes buildings, structures, objects, sites, districts, and archeological resources.

Permit Types



The agency consults to resolve adverse effects with the SHPO/THPO* and others, who may include Indian tribes, local governments, permit or license applicants, and members of the public. ACHP may participate in consultation when there are substantial impacts to important historic properties, when a case presents important questions of policy or interpretation, when there is a potential for procedural problems, or when there are issues of concern to Indian tribes. Consultation usually results in a Memorandum of Agreement, which outlines agreed-upon measures that the agency will take to avoid, minimize, or mitigate

adverse effects. In some cases, the consulting parties may agree that no such measures are possible, and adverse effects must be accepted in the public interest.

Required Items for the Application Package

- ❖ Complete project description (existing conditions, proposed activities, analysis of impacts, proposals for avoidance, minimization and/or mitigation)
- ❖ Area of potential effect map
- ❖ Assessment of historic properties significance
- ❖ Apply criteria of adverse effect
- ❖ Proposed avoidance, minimization and mitigation measures



Who Do I Contact?

- ACHP: <http://www.achp.gov/nhpa.html>
- SHPOL <http://ohp.parks.ca.gov/>
- Contact: calshpo@parks.ca.gov or call 916-653-6624

Wildlife Best Management Practices

Why should you care about BMPs?

Because you want increased fire safety for your house, but you also want a beautiful place to live. Once you start your defensible space clearing, you will have changed the look of your property substantially and will have a set amount of work to maintain it. Any real estate agent can tell you that a well landscaped property is worth much more. And lastly, we know you love wildlife and nature- that's why you live there. So with a few simple methods, you can make a difference and keep some habitat for them too.

General Best Management Practices (BMPs) Before You Start Vegetation Treatments:

1. Do a site inventory- know what is in your project area:
 - a. Are the current plants native or non-native? ie: Laurel sumac, elderberry, California sagebrush and buckwheat are valuable native species; ice plant, pampas grass, fan palm and mustard are non-natives.
 - b. Do you have any special or sensitive habitats? ie: Coastal sage scrub? Riparian areas? Vernal pools? These may not be readily evident at dry times of the year. (See descriptions and photos in Section below on BMPs for sensitive species.)
 - c. Are there any sensitive species likely to occur in your treatment area?
 - i. Depending on your habitat type, see Section below on BMPs for sensitive species to get an idea of what species to consider.
 - ii. Call your local CA Dept. of Fish and Game office.
 - iii. Call US Fish & Wildlife Service in Carlsbad if you suspect threatened or endangered species.
 - iv. The Protocol Guidelines for surveying species can be obtained from <http://www.dfg.ca.gov/whdab/natspec.pdf>. (You can type survey protocol in the search window). Some species need to be surveyed several times over several weeks or months in order to be officially recognized as not being present.
 - d. Is there any designated Critical Habitat for species in or near your project?
 - i. You can check the US Fish and Wildlife Interactive Website at <http://www.fws.gov/carlsbad/TEspecies/ListingCH.html>
 - ii. You can check the Dept. of Fish and Game interactive website at <http://imaps.dfg.ca.gov/viewers/biospublic/app.asp>
 - e. You may want to design or modify the fuel treatment technique or timing to avoid additional costs associated with species surveys or avoidance measures that could be necessary in certain areas (See Section below on BMPs for sensitive species).
2. Find out where your property is in relationship to established Habitat Conservation Plans or other areas covered by wildlife agreements since these may already guide you in what environmental compliance is already taken care of:

- a. Are you in an area that is within a Multiple Species Conservation Area (MSCP) or other type of Habitat Conservation Area?
 - i. You can look at the maps on the County of San Diego's website at <http://www.sdcounty.ca.gov/dplu/mscp/index.html>. There is tons of info on North County, South County, and East County MSCPs.
 - ii. You can contact the Department of Planning and Land Use at (858) 565-5981 to inquire about your property.
 - iii. You can also locate your property and MSCP status using the interactive mapping website at www.sangis.org.
 - iv. To see what your Habitat Conservation Plan says and covers, see http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReportSelect?region=8&type=HCP. Once you select your plan, you can click on the species listed there, and you will get all the information about that species.
- b. If your home was built in San Diego County prior to 1997 and you were mandated to conduct vegetation management projects for fire protection, the Memorandum of Understanding between the wildlife agencies (Fish and Wildlife Service and the Department of Fish and Game) and the fire agencies applies to your project area.
 - i. The MOU authorizes defensible space vegetation work to proceed without conducting biological surveys if all conditions are met:
 - ii. It applies specifically within 30 feet around buildings within the Wildland Urban Interface as of 1997. Additional fire protection by vegetation reduction from 30 feet up to 100 feet from structures may be conducted if CAL FIRE determines that the 30 feet is not sufficient to provide reasonable
 - iii. You must use methods that leave plant root structures and short vegetation intact to stabilize the soil.
 - iv. You cannot work in or adversely affect riparian areas or vernal pool habitat.



California Gnatcatcher

- v. It authorizes incidental "take" of California gnatcatcher, arroyo toad, and Stephens' kangaroo rat. Incidental take of California

gnatcatcher is only authorized up to the point that 745 acres total of coastal sage scrub for the county has been removed. You can call US Fish and Wildlife Service in Carlsbad at (760) 431-9440 to find out if this limit has been reached already.

- vi. Incidental “take” is not authorized for other threatened or endangered species, and no T&E species may be “taken” intentionally without a permit. Take includes killing, affecting to a point that harms their health or reproduction, and removing habitat to a point that causes such effects.
 - vii. Contact the US Fish & Wildlife Service in Carlsbad at (760) 431-9440 for more information on any of this.
- c. If you are outside of an established Habitat Conservation Area and your house was built in 1997 to the present, you need to comply with all the existing Federal laws, such as the Endangered Species Act and the Migratory Bird Treaty Act. Contact the US Fish & Wildlife Service in Carlsbad at (760) 431-9440 for more information. You might also check with your developer, who should have done all the environmental compliance under the state Bates Bill.
3. Find out what the fuel reduction requirements are for your area. CAL FIRE and your local fire department can direct you to this information, and can tell you how it applies to your property. For information describing techniques and showing what defensible landscapes look like, see:
- a. The Fire Safe Council of San Diego website has many valuable resources at <http://www.firesafesdcounty.org>. Navigate to How To, then Defensible Space. This site has links to:
 - i. [California General Guidelines for Creating Defensible Space](#) a very helpful document with photos and diagrams for oak woodlands, chaparral, and conifer habitats.
 - ii. [City of San Diego Fire-Rescue Department](#) - various links for brush management, canyon safety, erosion control, inspections.
 - iii. [County of San Diego Department of Planning and Land Use](#) - has a list of what plants are well suited to defensible spaces http://www.sdcounty.ca.gov/dplu/fire_resistant.html.
 - iv. [City of San Diego Brush Management Regulations](#) - has a nice diagram of what a pruned tree or large shrub should look like, and how to trim the plants outside of the 30 feet adjacent to the house.
 - b. The overall Fire Safe Council website has brochures that demonstrate defensible space management around homes in grass lands, brush lands, and forested lands at <http://www.firesafecouncil.org/education/index.cfm>.
 - c. The Wildfire Zone website has a list of publications at <http://www.wildfirezone.org/resources.asp>. Be sure to see the [Homeowners Guide to Fuel Modification: Reducing Combustible Vegetation Around Your Home](#) as well as several other useful links.
 - d. The California Chaparral Institute website at <http://www.californiachaparral.com/bprotectingyourhome.html> has several suggestions for working with nature to reduce fire hazard, with photos showing types of clearing to avoid.

- e. The website <http://www.sdcounty.ca.gov/dplu/docs/SuggestedPlants.pdf> lists plants that are recommended for defensible spaces. Generally these plants:
 - i. Grow close to the ground.
 - ii. Have a low sap or resin content.
 - iii. Grow without accumulating dead branches, needles or leaves.
 - iv. Are easily maintained and pruned.
 - v. Are drought-tolerant.
 - f. The California Native Plant Society's website at <http://www.cnps.org/> has information about the benefits of native plants and where to get them.
 - g. The San Diego Chapter of the California Native Plant Society at <http://www.cnpssd.org/fire/ReduceFireRisk.pdf> has a very informative document that discusses native landscaping for reducing fire risk near wildlands and canyons in this county.
4. Go out and actually measure how far the 30 foot zone is from your structure- many people are surprised at how small that distance really is. This could mean less work for you, and fire science has already determined that this distance is effective. In some areas, this distance may be slightly larger: City of San Diego specifies 35 feet.
 5. Measure out how far the 100 foot distance really is from your structure. Again, it isn't as far as many people think. However, remember that on a slope you will have to figure out how far to go to get a 100 foot horizontal distance from your structure. The steeper the slope, the greater this distance will be. Clearing beyond this distance is not covered by the current regulations and agreements. You are not responsible or authorized to work beyond your property line unless provided permission by the other landowner.
 6. Plan to remove the minimum amount of vegetation necessary to comply with the requirements within the 30-100 foot zone.
 - a. More is not necessarily better! By removing too much vegetation, you will be creating a large weedy or grassy area that will dry out and create warmer temperatures around your home. These fine fuels under more heat can carry flames much more quickly right up to your home! Leaving soil cover in the form of trimmed up and well spaced plants, bushes, and trees will keep your property cooler, will reduce the potential for weed growth, will break up the path for fire to travel, and will make your property look much nicer. All these things are more favorable to wildlife as well.
 - b. If possible, leave a buffer of less treated vegetation around sensitive habitats. This will help maintain the normal conditions within the sensitive habitat and make it more useful to wildlife.
 7. Plan to keep the oldest and biggest trees or bushes if possible, especially if their numbers are limited across the landscape. Many animals use these for nesting and shelter.
 8. Plan to remove invasive plant species first. These are plants are non-native plants that spread aggressively and crowd out the native plants. Pampas grass, mustard and ice plant are examples. Most are highly flammable, carry fire very quickly, and provide poor habitat for native plant and wildlife species.

- a. See California Invasive Plants Council website at <http://www.cal-ipc.org/> and click the management tab for more information on invasive plants and how to deal with them.
 - b. On the website <http://www.plantright.org/> you can click on south coast to see what the common invasive species in this area are and what native plants can be planted to replace them.
 - c. The County of San Diego website http://www.sdcounty.ca.gov/dplu/fire_resistant.html has a local list of invasive and undesirable plants (scroll almost down to the bottom of the page).
9. Plan to reduce non-native plants next. Non-native plants are ones that you wouldn't see in an unaltered natural landscape. They are also introduced species that were usually planted for landscaping but may have gotten established outside of gardens. They are not aggressive growers, and don't usually crowd out the native plants, but they typically use more water, and provide less useful habitat for wildlife.
10. Plan to treat native plants last. These provide the best habitat you can leave for wildlife. Native plants require less water, are most resistant to weather and insect damage, and provide natural food, cover, and nesting structures for wildlife, such as butterflies and birds. Irrigated vegetation attracts nonnative plants and insects which are a threat to native species.



11. Plan to do your fuels reduction well before fire season, and prior to the bird nesting season (which is typically March 1 through August 31).
- a. The best times to work are in late fall and during the winter months, to avoid impacting active nests and young birds. This will ensure that you

meet the Migratory Bird Treaty Act, and will reduce impacts to many other wildlife species.

- b. If you suspect that sensitive plants could occur on your site, plan for funding a botanist to conduct surveys. Plant surveys generally need to occur during a certain time of the year in order to detect the plants, typically (but not always) in spring time.
12. Decide how you will get rid of cut vegetation. It is best not to leave it on site for long or wildlife species will start utilizing the piles for shelter. You may need to arrange for hauling or chipping equipment. If you are planning to pile vegetation for later burning, the local fire departments will need to be involved. Contact them for information. Burning piles is usually conducted during the winter, after rains have lessened fire danger, so planning your project at that time will lessen the amount of time that piles are present. In a WUI treatment area around your community, and where they will not pose a fire threat, consider leaving a few piles permanently near a natural area and or water source as wildlife habitat.
13. Area-wide projects should consider strategic placement and types of treatments which provide effective fuels treatment, while maintaining wildlife travel corridors and islands of vegetative cover. Wildlife use travel corridors to find mates and let young move away to find their own territories.
14. In areas with large snags and large downed woody materials, leave as much as possible while maintaining fire safety. Large snags and downed logs provide shelter and nest sites for many types of wildlife.

General Best Management Practices (Bmps) During Project Implementation:

1. If you have sensitive species of wildlife or plants in your treatment area make sure that the people doing the vegetative treatments are aware of what they are, and what BMPs or mitigation measures were recommended!
2. Conduct vegetation trimming, chipping, and any pile burning outside of the bird breeding season, which is generally March 1 through August 31, to avoid impacting active nests and young birds.
3. It is best to flag or fence sensitive areas, because they can easily be overlooked or trampled during work activities, especially when several people are working at once.
4. Conduct vegetation trimming during the cooler parts of the day and year. Metal tools striking rocks can cause a fire in dry grasses and weeds.
5. Limit the number of access routes, staging areas, and the total area of the treatment activities to the minimum necessary to achieve the treatment goal. Soil compaction from parked vehicles can prevent desired revegetation.
6. Vehicles should stay on established roadways and if driving on dirt roads, should observe a 15-mph speed. This reduces soil impacts, dust, and noise disturbances.
7. Remove invasive plant species first, then non-natives. This will set the stage for how much further trimming needs to be done.
8. Avoid ground disturbance which can damage or destroy ground burrows, holes and tunnels which provide shelter for many small animals (snakes, lizards, toads, rodents, squirrels). One way to do this is to mow or trim vegetation a few inched

above ground so that the roots and soil are undisturbed. An added benefit- soil will be less likely to erode and cause bigger problems for you later.

9. Remove dead branches and dying vegetation. Remember, some native vegetation may look dead during the summer and fall, when it's actually just dormant. Be sure to use a professional for large trees for your own and your property's safety. If you chose to limb smaller trees yourself, see proper tree limb trimming techniques at <http://www.wildfirezone.org/resources.asp> and select [Tree Pruning- Prune Mature Trees Properly for Optimum Tree Health](#).
10. Trim up the lower branches of all the trees and shrubs that you are planning to keep.

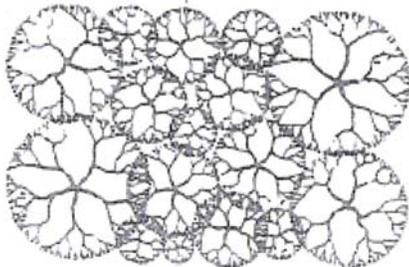


Chaparral Shrub Before Pruning

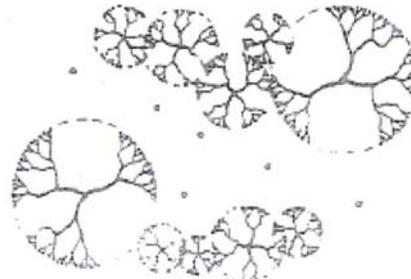


Chaparral Shrub After Pruning

11. Finally, begin to remove other vegetation, but go lightly. You can always remove more later if necessary, but you'll be kicking yourself if you took too much and the site looks horrible.



**100% vegetation coverage-
no spaces between plants**



**Vegetation reduced to 50% by
thinning some trees and bushes
and pruning canopy cover**

12. Review the documents showing vegetation reduction guidelines (#3 in the Pre-Project BMPS section) with the people you have actually doing the work. Some contractors may not be aware of new trimming concepts, or may not know what you are aiming for in vegetation reduction. Ensure that the people doing the vegetation removal are familiar with your plans. Show them diagrams, walk the project and point out your objectives, measure distances on the ground so all can see what you are planning, mark and discuss all sensitive areas or mitigation measures (such as riparian areas, retention of particular types of plants or structures).
13. Cut vegetation piles and chipped materials should not be placed within a 20-foot radius of sensitive plants or in riparian zones. They can change the character of the soil and affect the survival or use of sensitive areas. To minimize harming wildlife species that might seek shelter in vegetation debris piles:
 - a. Stack and remove piles by hand. Heavy equipment can cause more damage.

- b. Stack debris piles away from riparian areas and natural habitats, so wildlife would have to cross an open area to get to it. This will lessen the number of potential wildlife visitors.
 - c. Construct piles with smaller pieces on the bottom and larger pieces on top to help compact the pile and lessen opportunities for tunnels and shelters.
 - d. Remove or treat piles as soon as possible, before wildlife take up residence.
 - e. Chipped materials should not be piled deeper than 6 inches, preferably less. Deep drifts of chips can allow fire to smolder beneath the surface and flare up later.
 - f. One option for removing some vegetation may be to recycle green waste. For locations and fees see [Green Waste Recycling Guide](http://www.wildfirezone.org/resources.asp) at <http://www.wildfirezone.org/resources.asp>.
14. When utilizing grazing practices, monitor herds closely to avoid overgrazing (creating open bare soil patches, and removing more than 50% of the plant shade on the ground). Too much vegetation removal may cause wildlife and watershed impacts.
 15. Properly contain and remove trash items from the work sites daily to avoid attracting undesired wildlife.
 16. Loose surface litter, such as fallen leaves or needles, twigs, bark, cones, and small branches, are permitted to be kept to a depth of 3 inches. This will help maintain soil cover and reduce soil erosion.
 17. Where erosion control measures are needed:
 - a. Use only native plant seeds or stocks unless otherwise approved by a permitting agency. Avoid introducing exotic plant species to the maximum extent possible. Prevent the spread of weeds by regularly cleaning equipment, vehicles, footwear, and tires.
 - b. Use only coconut coir matting or tackified hydroseeding compounds instead of plastic monofilament netting for erosion control to avoid wildlife entanglement or entrapment.
 18. Bird nest boxes and a variety of bird feeders (seeds, nectar) can provide shelter and food for birds with reduced habitat after fuel reduction projects.
 19. Take a moment to review the project and take pictures of the finished result. You may find that your project is a good example to others! You may see some unintended results to avoid in the future. You can also get a better idea of how your defensible area changes over time, and how often it will need to be maintained.

Best Management Practices in Sensitive Areas for Threatened and Endangered Species and Migratory Birds

Coastal sage scrub habitat- This is the shorter type of chaparral seen within the reach of coastal moisture, that usually includes California sagebrush, buckwheats, sages, sumacs, some chamise, and elderberry bushes.

Coastal California gnatcatcher (non-migratory bird)

- a. Remove the absolute minimum amount of sage scrub necessary to meet defensible space guidelines.

- b. Conduct necessary vegetation removal during late fall and winter in order to avoid the breeding season, March 1 through August 31, unless protocol surveys establish that there is no California gnatcatcher breeding occurring in or near the proposed vegetation removal during the proposed period of implementation.
- c. Consider maintaining swaths of sage scrub as connections between habitat areas.
- d. Critical habitat has been designated. Check interactive websites listed in planning Section BMPs.
- e. Replant denuded/bare sites with native forbs or low growing shrubs which can keep down non-native plant species. Container plants are best. Check with a nursery, online habitat descriptions for the threatened and endangered species you are concerned with, or the wildlife agencies on appropriate plants.



Arroyo Toad

Arroyo Toad

- a. When within 5/8 mile (1 km) of suitable arroyo toad habitat (generally a stream with very flat gradient and sandy banks):
 - i. Consider the potential for toads to be burrowing on your property during the non-breeding period-summer through winter. Check with US Fish and Wildlife Service or the Dept. of Fish and Game.
 - ii. Avoid ground disturbance to minimize the chance of crushing or digging one up and killing it.
- b. See other guidelines under arroyo toads in Riparian Area Section below.

In or near riparian areas - these are zones of greater moisture along streams or ponds that have lush green vegetation due to the presence of water.

Arroyo toad

- a. When within 5/8 mile (1 km) of suitable arroyo toad habitat (generally a stream with very flat gradient and sandy banks):
 - i. Consider the potential for toads to be burrowing on your property during the non-breeding period-summer through winter. Check with US Fish and Wildlife Service or the Dept. of Fish and Game.
 - ii. Avoid ground disturbance to minimize the chance of crushing or digging one up and killing it.
- b. Protect stream banks and riparian vegetation and stream tree cover
- c. Watch out for young toads when equipment is crossing a dry creek where toads reproduced earlier in the year.
- d. Minimize the introduction of non-native plant and animal species to both riparian areas and upland foraging habitat.
- e. Critical habitat has been designated. Check interactive websites listed in planning Section BMPs.

Southwestern willow flycatcher

- a. Conduct vegetation removal near dense riparian vegetation (especially willows) during winter and early spring to avoid project activities to breeding habitat along streams during the breeding season, from mid May to about September.
- b. Notify FWS if cowbirds become more prevalent in the project area.
- c. Grazing activities should not occur in suitable habitat (high density of shrubs in riparian areas) until after the breeding season.
- d. Critical habitat has been designated. Check interactive websites listed in planning Section BMPs.

Least Bell's vireo

- a. Same as for flycatchers, except that the breeding season begins early May.
- b. Critical habitat has been designated. Check interactive websites listed in planning Section BMPs.

Grasslands/openings/edges between grasslands and chaparral, coastal sage scrub, or woodland habitats:

1. Avoid vegetation removal during hot weather and periods of the day to avoid accidentally igniting dry grasses. (This can happen with just a spark from striking a rock with a shovel!)

Stephen's kangaroo rat

Only known to occur in the northwestern corner of the county from San Jacinto Valley in Riverside County, south to vicinity of Vista, San Diego County.

- a. Avoid ground disturbance of burrows.
- b. Maintain area openings for grasses and forbs.
- c. Replant site with native forbes which could provide a forage base (seeds) and keep down non-native plant species. FWS has a seed mix list for this.

Quino checkerspot butterfly

- a. Avoid disturbance of plantains (*Plantago* species). Can only be identified during spring and only for a short period of time.
- b. Avoid disturbance of owl's clover (*Castilleja exserta*).
- c. Avoid removing buckwheat shrubs in quino habitat as they may contain diapausing quino larvae.
- d. Avoid removing nectar species quino uses for food. There are a wide variety of them.
- e. Avoid the spread of non-native plants
- f. Replant denuded/bare sites with native forbes which can keep down non-native plant species. Container plants are best. Check on appropriateness for each species to be planted.
- g. Critical habitat has been designated. Check interactive websites listed in planning Section BMPs.
- h. MOU/BO does not give take for this species.

Coastal areas

Pacific pocket mouse

(generally lives within 2 miles of the coast in sandy soils, found on Camp Pendleton Military Base).

- a. Avoid ground disturbance to protect burrows.

Vernal pools - Small, shallow, collections of rainwater, typically in relatively flat grasslands or chamise chaparral, that dry up for most of the year.

Riverside fairy shrimp, San Diego fairy shrimp

- a. Avoid trampling or disturbing soil in vernal pools
- b. Ensure that activities do not fill in pool areas, or compact the pool soils.
- c. Utilize hand trimming only to remove flammable vegetation within 50 feet of vernal pools
- d. Critical habitat has been designated. Check interactive websites listed in planning Section BMPs.

High elevation (4,000 to 6,000 feet) mountain meadows in yellow pine forest

Laguna Mountains skipper (butterfly, found only on top of Palomar Mountains)

- a. Do not cut or disturb the larval host plant- Cleveland's horkelia
- b. Consider using prescribed fire to maintain meadow plant diversity.
- c. Critical habitat has been designated. Check interactive websites listed in planning Section BMPs.

Steep mountain slopes in eastern San Diego County

Peninsular bighorn sheep

- a. Not likely to be affected by defensible space clearing around homes, but steep rocky slopes and washes around communities should be checked for presence of sensitive areas, such as birthing sites. These areas should be avoided during the birthing season.
- b. Critical habitat has been proposed. Check interactive websites listed in planning Section BMPs.

Migratory birds

Everywhere! All lands. Over 900 birds and their nests are protected by this act. You can see the full list of birds that are covered at <http://www.fws.gov/migratorybirds/intrnltr/mbta/mbtintro.html>.

- a. The easiest way to ensure complying with the Migratory Bird Treaty Act is to avoid trimming vegetation during the bird nesting season (which is typically March 1 through August 31). The best times to work are in late fall and during the winter months, to avoid impacting active nests and young birds.
- b. A far more expensive route is to hire a biologist to survey for migratory bird nests in and adjacent to your project area directly before performing vegetation removal:

If MBTA species or their nests are detected:

1. No active nests (ones with eggs or fledglings) may be destroyed.
2. The species may not be killed, harmed, or harassed to a point that it abandons an active nest. Check with the local wildlife agencies to determine how much of a vegetative buffer should be maintained around an active nest to minimize risk of abandonment. Some species are more sensitive to human disturbance than others.
3. Flag the distance of vegetation that will not be cut around all migratory bird nests, and instruct workers to only trim vegetation outside of the flagged areas.
4. Hand treatments (for example, using clippers or a hand saw) are less disturbing than noisy chainsaws.
5. Disturbance of or removal of an MBTA species' nest can occur after the nest is no longer being used, (with the exception of the nests of bald eagles, golden eagles and large birds of prey.) Contact your local wildlife agency for further information.

Threatened, Endangered, and Sensitive Plant Species

To avoid impacting threatened, endangered, or sensitive plant species:

- a. Make use of a professional botanist: private consultant, agency botanist, Fish and Wildlife Service, or CA Dept of Fish and Game.

- b. If an individual or population of T&E or sensitive plants species is found on your property, notify the Fish and Wildlife Service and CA Dept Fish and Game for further species specific BMP's. Some species don't mind being trimmed or burned, while others do.
- c. Generally a 20 foot buffer will be adequate for avoiding adverse impacts; however, pay attention to altered patterns of water runoff and infiltration that could occur in this or other seasons as a result of the defensible zone treatments. Changed moisture patterns can greatly impact plant survival, health, and reproduction.

Additional Information

- US Fish and Wildlife Service's Survey Guidelines for plants species can be obtained from http://ventura.fws.gov/SurveyProt/Botanical_surv.htm.
- Information about species can be found at http://sacramento.fws.gov/es/spp_info.htm or <http://endangered.fws.gov/wildlife.html>.
- Information about the Section 10 of the Endangered Species Act of 1973, as amended, can be found out <http://sacramento.fws.gov/es/hcp.htm> or contact your local US Fish and Wildlife Service office.
- Information about the Migratory Bird Treaty Act can be found at <http://migratorybirds.pacific.fws.gov/mbta.htm>.
- To see what your Habitat Conservation Plan says and covers, see http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReportSelect?region=8&type=HCP. Once you get to your plan, you can click on the species listed there, and you will get all the information about that species.
- To see photos of any plants or animals, go to <http://calphotos.berkeley.edu//flora/> or <http://calphotos.berkeley.edu//fauna/>

Homeowner's Guide To FUEL MODIFICATION

Reducing Combustible Vegetation Around Your Home

Many parts of the unincorporated areas of San Diego County share expansive, rural settings of native vegetation. These rural areas have natural fire cycles that place residents at risk.

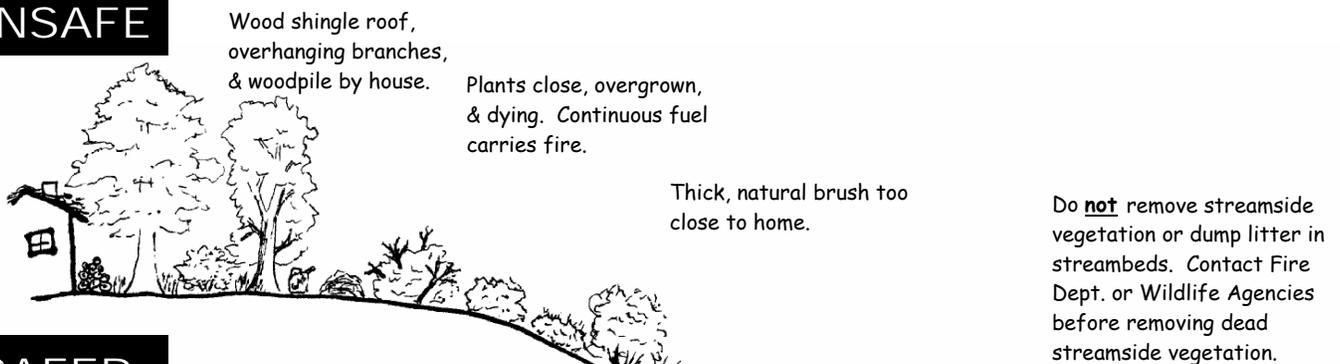
Creating a **Defensible Space** around your home will help protect your home and provide a safety zone for fire fighters. **Fuel Modification** is a key component of creating a **Defensible Space** around your home. Proper **Fuel Modification** breaks up the continuous path of fuel that could carry wildfire to your home.

3 R's of Defensible Space:

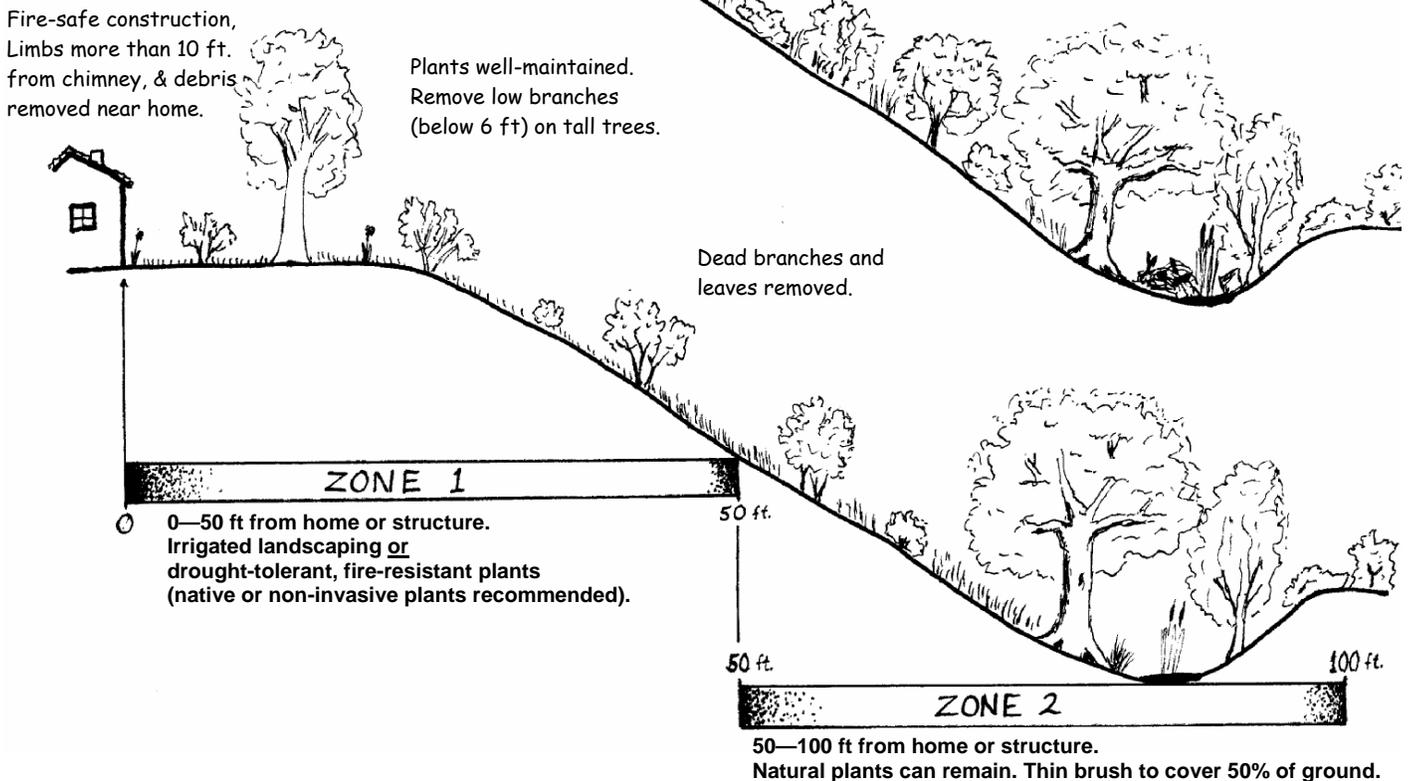
- REMOVE** dead and dying grass, shrubs, and trees.
- REDUCE** the density of vegetation — prune, mow, and thin.
- REPLACE** hazardous vegetation with less flammable plants or irrigated landscape.

Do **NOT** disc or scrape soil with machinery— this is not a grading permit.

UNSAFE



SAFER



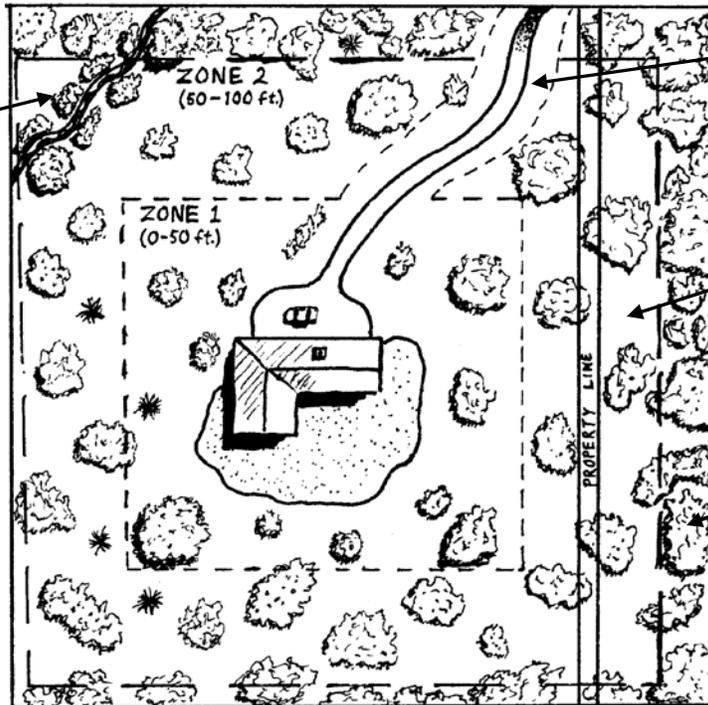
BOTTOM LINE: Fuel Modification increases the chance that structures will survive a wildfire.

Proper Fuel Modification Practices

Thin combustible vegetation by mowing, pruning, or cutting.
Chipping brush into mulch is okay — contact Fire Safe Council for more information.
The desired condition is a fire-safe, *maintained landscape*, not bare ground.

Do **not** remove streamside vegetation or dump litter in streambeds. Contact Fire Department or Wildlife Agencies before removing dead streamside vegetation.

If you have an open space easement on your property, consult its conditions or the County of San Diego before modifying vegetation.



Thin 10 ft. from roads & driveways.

Before thinning vegetation outside your property lines, contact the adjacent landowner (private and public) or the Fire Department.

Natural vegetation remains.

GOAL: Create a Defensible Space around structures.

**For questions about your property, please contact your LOCAL FIRE DEPARTMENT.
For additional information, contact any of the following agencies:**

Fire Safe Council of San Diego County
Website: www.firesafesdcounty.org
Phone: 619-562-0096

California Department of Fish & Game
Website: www.dfg.ca.gov
Phone: 858-467-4201

Cleveland National Forest
Website: www.fs.fed.us/r5/cleveland/
Phone: 858-673-6180 (Main Office)
760-788-0250 (Palomar District)
619-445-6235 (Descanso District)

Bureau of Land Management, Fire Mitigation
Website: www.blm.gov
Phone: 858-676-0894

U.S. Fish & Wildlife Service
Website: www.fws.gov
Phone: 760-431-9440 (Ecological Services)
619-468-9245 (Fire Management)

CAL FIRE (California Dept. of Forestry & Fire Protection)
Website: www.fire.ca.gov
Phone: 619-590-3100

County of San Diego, Dept. of Planning & Land Use
Website: www.sdcounty.ca.gov
Phone: 858-694-2960 or 800-411-0017

Wildlife Agencies' Legal Notice to Landowners about Endangered Species

Landowners who have been notified by the California Department of Fish & Game or U.S. Fish & Wildlife Service that rare, threatened, or endangered species occur on their property in areas requiring fuel modification must notify both agencies in writing at least 10 days prior to removing vegetation. The agencies will have up to 10 days following such notification to (1) determine whether the proposed clearing complies with State and/or Federal endangered species requirements and (2) to suggest voluntary, alternative abatement measures if feasible and warranted. Failure of the agencies to respond within 10 days will allow the landowner to proceed with abatement activities without further delay. Failure by landowners to provide adequate notification as described above may render landowners liable under State and Federal law.