CALIFORNIA CHAPARRAL INSTITUTE

...the voice of the chaparral

U.S. Forest Service
Attn: Kyle Kinports, Forest Planner
1980 Old Mission Dr.
Solvang, CA 93463

September 26, 2022

Re: LPNF Ecological Restoration Project

Dear Mr. Kinports:

Our family is sitting on our backyard patio in Escondido, watching a pair of Spotted Towhees enjoying the habitat we've created over the past three years. They successfully raised at least one offspring this year. We saw it scampering about looking for food with the help of its parents.

Where once was lawn is now a rich chaparral, sage scrub wonderland. It's all framed by several Refugio manzanitas (*Arctostaphylos refugioensis*) that have really taken to our place. They outgrow and out-flower any other *Arctostaphylos* species we've planted. That seems odd because they're a relatively rare species native to the coastal ridge line above Gaviota, just west of Santa Barbara. We're looking forward to this January when the white, urn-shaped blossoms will be covering the ground with chaparral snow.

I got to thinking about the temporary reprieve our lawsuit provided in 2017 to the Refugio manzanitas that were scheduled to be masticated by US Forest Service grinding machines along the Gaviota ridge. We knew at the time the reprieve would be transitory. That's the way many environmental protection lawsuits work – they merely delay.

The inevitable occurred during the 2021 Alisal Fire. Dozers ripped out and crushed many of the manzanitas we had protected. Much of the destruction was for naught as the fire had already moved quickly toward the ocean. But dozers are not easily stopped once the fire brigade arrives. Ironically, the fire appears to have started along the old ridgeline fuel break, likely in the flammable, weedy grasses that invade such disturbed places. The same situation occurred during the 2019 Cave Fire above Santa Barbara. We cited this key risk factor in our 2017 lawsuit – fuel breaks create conditions more conducive to ignitions.

And now the Refugio manzanitas that remain along the ridge face yet another threat, as do tens of thousands of acres of chaparral throughout the Los Padres National Forest, with the newly proposed LPNF *Ecological Restoration* Project; the use of Orwellian doublespeak is common in land management policy.

We had hoped this destructive approach to chaparral was a thing of the past.

Chaparral as a Natural Resource

Over the past decade we had been encouraged by the USFS's recognition of the chaparral's value, the threats the system faces, and of the need to restore native shrublands in areas that have been compromised by excessive fire and other disturbances like over-grazing.

In 2011, the new USFS Leadership Intent regarding ecological restoration for Region 5 stated,

> *There is an additional crisis taking place in our Southern California Forests as an unprecedented number of human-caused fires have increased fire frequency to the extent that fire-adapted* ***chaparral can no longer survive and is being replaced with non-native annual grasses at an alarming rate.*** *To counter these trends, forest managers will need to significantly increase the pace and scale of the Region's restoration work. Only an environmental restoration program of unprecedented scale can alter the direction of current trends.*

On June 18, 2013, during the US Forest Service's Chaparral Symposium at the headquarters of the Angeles National Forest, Martin Dumpis, the coordinator for a new Forest Service initiative focusing on the protection and restoration of chaparral, provided those of us who value Nature so much hope. Standing at the podium and speaking with his disarming midwestern accent, he said, ***"Chaparral should be seen as a natural resource, rather than a fire hazard."***

In 2021, Nicole Molinari and others examined various steps necessary to successfully restore chaparral that has been compromised by too many fires with the primary goals of **"maintaining sufficient native shrub cover and reducing the probability of future fire ignitions that would interfere with chaparral ecosystem recovery."**

Clear it Anyway

However, the sudden influx of funding for habitat clearance projects, and associated political pressures, have caused the USFS to revert back to its previous perspective of chaparral as *fuel* rather than a source of life.

As consequence, **the US Forest Service has become a fuel management agency rather than a land management agency focused on conserving natural resources.**

The step backward is deeply disheartening.

As Cal Fire has done with its statewide Vegetation Treatment Program (VTP), the USFS cites the science demonstrating that chaparral is being increasingly threatened, then proceeds to do what fuel management agencies do – clear more chaparral anyway.

How much habitat is the LNPF *Ecological Restoration* Project proposing to clear?

The Project is targeting more than a quarter million acres for "treatment," more than half of which is native shrubland when including chaparral and sage scrub habitats naturally found within forested areas, or as the USFS vilifies these rich sources of biodiversity, "ladder fuels."

Despite the overwhelming impact the Project has on chaparral, the Project's scoping letter fails to clearly explain exactly how chaparral will be *"restored"* or protected.

Instead, the scoping letter spends a significant amount of space referring to forest health, how the Los Padres conifer forests are supposedly overly dense due to past fire suppression, and how chaparral will be cleared in, around, and near forests to protect the trees that remain after the Project's logging activities.

It appears the Project's entire *ecological restoration* component for chaparral rests on the twisted notion that if enough chaparral is cleared in football-field-length wide fuel breaks on as many ridge lines as possible (most far from any community at risk), along scenic highways, in large numbers of adjoining polygons in the Santa Barbara front country, and along both sides of Piru Creek and the Santa Ynez River, that the threat of increasing fire frequencies in chaparral will be addressed.

Such an assumption has been proven incorrect time and time again. The scoping letter even acknowledges this:

> *"However, regardless of firefighting efforts, even the best fuelbreaks stand little chance of arresting large fires in extreme conditions. Fuelbreaks are not designed to stop the spread of fire, especially during periods of strong winds when fire brands can be blown across these linear features."*

The 2017 Whittier Fire and the 1990 Painted Cave Fire provide two such examples (Figs. 1 & 2).

Regardless, the scoping letter justifies the clearance of tens of thousands of acres of chaparral because *"under normal burning conditions"* such clearance should allow for successful fire suppression efforts. Or stated more accurately, **the Project will ignore the wildfires that burn the most acreage, destroy nearly all the property, and cause nearly all the fatalities**. To make matters worse, the Project will increase the chance of ignitions by creating conditions that cause the spread of highly flammable, non-native grasses across the landscape.

Imagine if the US Military or the Federal Aviation Administration took this approach – only planning for perfect battle conditions, fair weather, and fool-proof equipment, in addition to increasing risk within the environment they operate.

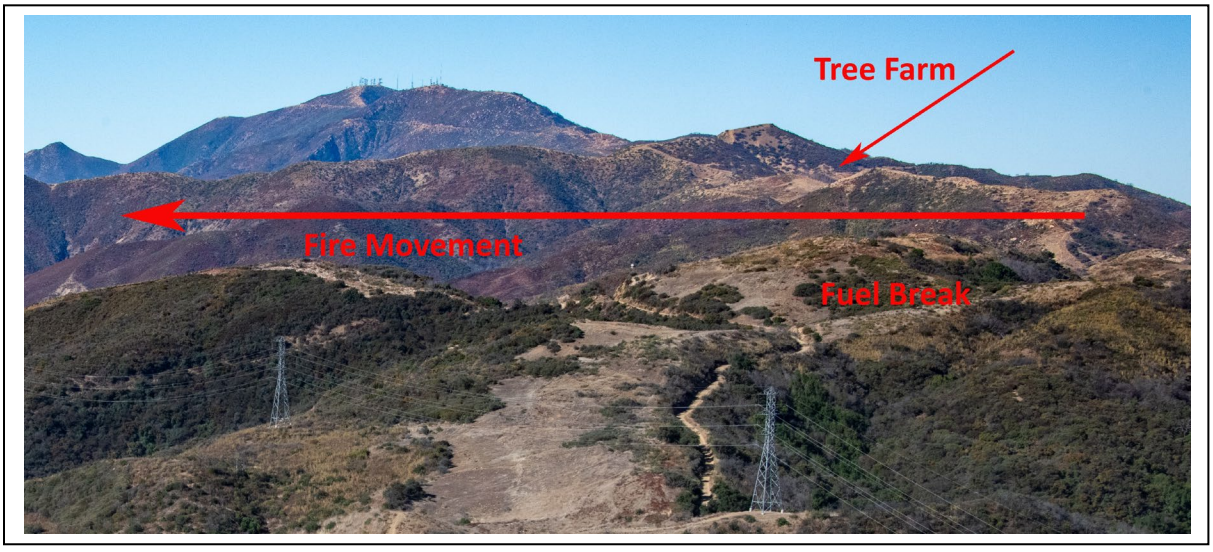


Figure 1. The Whittier Fire easily jumped the 300-foot-wide West Camino Cielo fuel break.

Figure 2. The West Camino Cielo Fuel Break before the 2017 Whittier Fire (left). Photo on the right shows the same scene two years after the fire jumped the fuel break; the masticated habitat material left on the ground was burned and flammable, non-native grasses invaded. Notice the overly dense tree farm on the left, untouched by the masticators, but burned in the fire. The USFS bias in favor of trees causes it to see chaparral as only "fuel."

Deja Vu

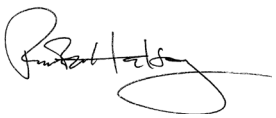
After twenty years of experience in submitting comments on dozens of USFS projects, we have come to the unfortunate conclusion that the NEPA process is broken.

Environmental Assessments and Environmental Impact Statements are written to create legally defensible documents to allow agencies to log and clear the habitat in the manner they want, not to objectively determine if a project should be rejected because it causes excessive environmental harm. Consequently, the courts provide the only realistic way to obtain relief for Nature.

Therefore, instead of repeating ourselves, we are submitting comment letters we have written regarding previous USFS habitat clearance projects that apply to the LPNF *Ecological Restoration* Project. Most of the projects we have commented on since 2005 have shown a bias in favor of forests at the expense of chaparral, have viewed chaparral primarily as a fuel source rather than an essential natural resource, and have consistently failed to properly recognize the cause of home ignition – embers, not nearby vegetation. The LPNF *Ecological Restoration* Project is no different.

It is our hope that the wealth of information our letters provide concerning native shrublands and wildfire will help the agency remember what it was beginning to understand before the current explosion in funding to clear habitat – **chaparral is not "fuel," but in fact, living habitat**.

Sincerely,



Richard W. Halsey
Director
California Chaparral Institute

Attachments:
California Chaparral Institute comment letters to the USFS

One of the old-growth, legacy Refugio manzanitas on Gaviota Ridge.

California dogface butterfly nectaring on a Refugio manzanita flowers.

Attachment to the September 26, 2022, California Chaparral Institute comment letter on the LPNF Ecological Restoration Project.

California Chaparral Institute comment letters applicable to the

LPNF Ecological Restoration Project 2020 – 2005

CALIFORNIA CHAPARRAL INSTITUTE

...the voice of the chaparral

Los Padres National Forest
Attn: Kevin Elliott, Forest Supervisor
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kevin.b.elliott@usda.gov

August 14, 2020

Re: Reyes Peak Forest Health and Fuels Reduction Project

Dear Mr. Elliott:

We are deeply disappointed that after the Los Padres National Forest recognized in 2017 that the Gaviota Ridge habitat clearance project would not be useful in protecting communities from wildfire, and dropped it from the larger project, the Forest is once again proposing a fuel break far from any community at risk in addition to facilitating the environmentally destructive policies of the current administration in Washington D.C.

Our detailed comments are included in our joint letter with Los Padres Forest Watch and others, but we felt it important to request clarification on a significant contradiction in the Project Proposal of May 8, 2020.

You cite us in your Proposal when you recognize high-intensity wildfire is the natural pattern for chaparral plant communities, concurring with us that:

1. The natural fire return interval for chaparral is 30 to 150 years. Today, there are more fires than the chaparral ecosystem can tolerate.

2. Being prone to infrequent large, high intensity wildfires is the natural condition of chaparral.

3. Chaparral has a high-intensity, crown fire regime, meaning when a fire burns, it burns everything, frequently leaving behind an ashen landscape.

Then, within the very same section, the Proposal states that,

> …there are approximately 272 acres of the project area that is characterized as chaparral within Fire Regime Group I. Fire Regime Group I is defined as having a **0- to 35-year frequency with a low/mixed fire severity**.

Chaparral has a 0- to 35-year fire frequency, burning at low to mixed severity? The Proposal's classification not only contradicts itself, but is contrary to fire science and plain logic regarding how fire interacts with chaparral. The science supporting our conclusion is provided in our joint comment letter.

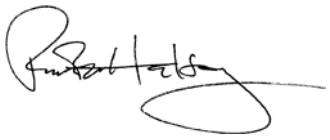
The Proposal also goes on to classify that about 35 acres of chaparral in the project area are outside their natural fire regime. Considering the previous error, the fact that the Proposal does not explain if "outside" means too much fire or somehow it's beyond some upper age limit, and the failure to indicate where these 35 acres are, we find the entire Proposal demonstrates that the Forest completely misunderstands the native shrubland habitats it is responsible for managing. As a consequence, the Proposal fails to satisfy the very premise of the National Environmental Protection Act,

> …to avoid environmental degradation, preserve historic, cultural, and natural resources, and "promote the widest range of beneficial uses of the environment without undesirable and unintentional consequences."

A final point. The road that travels through the Project's footprint provides unparalleled opportunities for visitors of the Los Padres National Forest the opportunity to see, touch, and smell old-growth chaparral. Once the masticators and other equipment are finished clearing hundreds of feet of native shrubland habitat on either side of the road, visitors will be met with little more than a scarred landscape covered in wood chips, disturbed soil likely invaded by flammable, non-native grasses and weeds, all punctuated by an occasional cluster of isolated shrubs as one might create in a backyard landscape.

This project represents some of the worst land management practices on the National Forest.

Sincerely,



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CALIFORNIA CHAPARRAL INSTITUTE

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April 21, 2017

Re: South Main Divide and Greater El Cariso Fuels Management Project

Dear Mr. Vance,

We appreciate the opportunity to comment on the Environmental Assessment for this Project. We also appreciate the District's effort to incorporate some of our suggestions to minimize the environmental impact of the Project including the removal of the expansion of the South Main Divide fuel break into previously untreated areas north and south of Elsinore Peak, the use of habitat islands in treatment areas, clarifying the treatments in and around oak woodlands, and the increased focus on placing treatments along roads and closer to communities at risk.

We concur that the new Preferred Alternative 3 is an improvement over the Proposed Action. However, there remain a number of issues in this alternative that need to be addressed to achieve the goals of the US Forest Service's new approach to chaparral management as described in the USFS Ecological Restoration Implementation Plan. We respectfully offer suggestions to meet those goals.

Old Dominion Mine Segment

We urge to Forest to reconsider the extent of the proposed treatment on the western side of the road in the Old Dominion Mine area. We know significant portions of this area have already been treated over the past few years to create a safer environment for firefighters. However, there is one segment that deserves special care as it contains a significant amount of pristine habitat and offers visitors a stunning visual experience of undisturbed chaparral.

As shown in the photo below (Fig. 1), this is one of the few locations along the beginning portions of North Main Divide Road where an individual can be immersed in a chaparral landscape unblemished by nearby landscape modifications or development.

Figure 1. Pristine chaparral along the curve of North Main Divide Road, within the Old Dominion proposed treatment area.

Morrell Ranch

The same can be said of the short segment on USFS land coming out of the Morrell Ranch development area into the Elsinore Peak area. As can be seen in Fig. 2 on the next page, so much of Elsinore Peak has already been type-converted to non-native grassland, this one short stretch provides an important, undisturbed amount of habitat and valued viewshed (Fig. 3).

Figure 2 Above. Type converted area around Elsinore Peak.
Figure 3 Below. Chaparral habitat along North Main Divide Road approaching Elsinore Peak from the north.

Response to Comments

We appreciate the responses provided in the Draft EA by the Forest to our comments.

Although we know implementing projects to help communities retrofit structures and otherwise decrease fire risk are outside the scope of this project and that the USFS cannot directly fund structural improvements, we respectfully encourage the agency to initiate efforts that are within its capability to assist nearby communities to engage in fire safe programs. The Greater Alpine Community Defense Project moved in this direction, but more needs to be done.

There are millions of dollars available through FEMA pre-disaster grants to fund communities' fire safe activities such as changing out flammable roofing and installing ember-resistant vents. We have attached an informational sheet (Attachment 1) to this letter that explains how these grants can be awarded and what other communities, in cooperation with the USFS, have done to make homes and lives safer from wildland fire, which is the ultimate goal of projects like the South Main Divide Project. We urge the Forest to include efforts to help communities acquire such grants as part of any future vegetation treatment project.

Field Observations

We would appreciate an opportunity to meet with Forest staff to observe the proposed treatment areas as described in the Preferred Alternative 3 in the Draft EA. We have participated in several on-site observations in the Descanso District and on the Angeles and Los Padres National Forests. These shared experiences have helped develop important collaborative efforts between the environmental, scientific, and fire fighting communities.

We again thank the Forest Service for incorporating some of our suggestions into the Environmental Assessment. Thank you for considering our additional suggestions contained in this letter.

Sincerely,

Richard W. Halsey, Director
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email: rwh@californiachaparral.org
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Attachment 1

An Appeal to Fire Agencies

Emphasizing home flammability and the value of nature can save more homes during wildfires and help create healthier communities

Local, state, and federal fire agencies are urged to expand their approach to reduce loss of life and property to wildfires. Currently, the primary, and sometimes the only message citizens hear is to clear native vegetation ("fuel") from around their homes. While creating defensible space is a critical component of fire risk reduction, it fails to address the main reason homes burn - embers landing on flammable materials in, on, or around the home, igniting the most dangerous concentration of fuel available, the house itself.

In addition, by designating native habitat as merely “fuel,” citizens are encouraged to see nature as something dangerous rather than a valuable part of their local community. **Intact natural habitat provides vital ecosystem services** that are necessary to maintain the health and well-being of surrounding human communities**.**

Fire risk reduction efforts must emphasize BOTH how to reduce home flammability and how to create defensible space without demonizing nature. **Many homeowners have complied with defensible space regulations only to see their homes burn in a wildfire.**

Public education materials must make clear that without addressing the entire fire risk reduction equation your home has a greater chance of burning in a wildfire. This includes creating defensible space AND retrofitting flammable portions of homes such as,
- the replacement of wood shake roofing and siding
- installation of ember resistant attic vents
- removal of flammable landscaping plants such as Mexican fan palms and low-growing acacia
- removal of leaf litter from gutters and roofing
- removal of flammable materials near the home such as firewood, trash cans, wood fences, etc.
- roof/under eave low-flow exterior sprinklers

It also must be made clear to homeowners that by having well maintained and lightly irrigated vegetation within the outer 70 foot portion of the 100 foot defensible space zone can play an important role in protecting the home from flying embers and radiant heat. Bare earth clearance **creates a bowling alley for embers** and can actually increase fire risk if invaded by flammable, non-native weeds. In addition, research has shown that there is **no additional structure protection provided by clearing beyond 100 feet**, even on steep slopes, and the most important treatment zone is from 16-58 feet.

Applicable fire research and a comprehensive approach to home protection can be found here: http://www.californiachaparral.org/bprotectingyourhome.html

Mountain communities learning to use federal grants to install ember-resistant vents and eliminate wood roofs, vital to reducing home loss during wildfires

David Yegge, a fire official with the Big Bear Fire Department, is about to submit his fourth grant proposal to the FEMA pre-disaster mitigation grant program to pay up to 70% of the cost of re-roofing homes with fire-safe materials in the Big Bear area of San Bernardino County. Yegge has also assisted the towns of Idyllwild and Lake Tahoe to do the same. The grant includes the installation of non-ember intrusion attic vents.

Yegge's first grant was for $1.3 million in 2008. He identified 525 wooden-roofed homes in need of retrofits in the community of Big Bear Lake. Only 67 remain. Helping to push homeowners to take advantage of the program is a forward-thinking, "no-shake-roof" ordinance passed by the Big Bear City Council in 2008 requiring roofing retrofits of all homes by this year. San Bernardino County passed a similar ordinance in 2009 for all mountain communities. Homeowners have until next year to comply. Such "future effect clause" ordinances can be models for other local governments that have jurisdiction over high fire hazard areas. "The California Legislature should adopt such an approach and Cal Fire should incorporate such retrofit programs into its new Vegetation Treatment Program," Halsey said.

In order to qualify for the FEMA grant, a cost/benefit analysis must be completed. "Our analysis indicated that $9.68 million would be saved in property loss for every $1 million awarded in grant funds," Yegge said. "FEMA couldn't believe the numbers until they saw the research conducted by then Cal Fire Assistant Chief Ethan Foote in the 1990s. There's a 51% reduction in risk by removing wooden roofs."

"The FEMA application process is challenging, but well worth it," said Edwina Scott, Executive Director of the Idyllwild Mountain Communities Fire Safe Council. "More than 120 Idyllwild homes are now safer because of the re-roofing program."

Additional Information

In California, the state agency that manages the grants is the Governor's Office of Emergency Services (Cal OES), Hazard Mitigation Grants Division. Cal OES is the go between agency and they decide what grants get funded based upon priority established by the State Hazard Mitigation Plan.

The Mountain Area Safety Taskforce re-roofing program:
http://www.thinisin.org/shake/

The San Bernardino County re-roofing ordinance:
http://www.thinisin.org/shake/images/DOWNLOADS/ORDINANCES/ord_4059.pdf

FEMA grant program:
http://www.fema.gov/pre-disaster-mitigation-grant-program

CALIFORNIA CHAPARRAL INSTITUTE

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April 19, 2016

Re: Copper Fire Fuelbreak Maintenance Project Proposal

Dear Mr. Blount,

We respectfully offer the following points for review and incorporation into the Forest's analysis of this project. Specifically, based on the recent US Forest Service's analysis of fuel breaks in the four southern California national forests and research on fuelbreak efficacy, we recommend this project be subjected to a proper Environmental Analysis (EA) rather than being designated a Categorical Exclusion.

We also thank the Forest Service for recognizing the threat increasing fire frequency has on the chaparral plant community and for establishing a project objective to reduce this vulnerability. This is especially important for the Angeles National Forest since it is so heavily impacted by the large and growing population of the Los Angeles basin.

Green Valley Fuelbreaks

We support the maintenance of the existing fuel breaks immediately around the community of Green Valley to achieve project goals so long as this is accompanied by crucial mitigation measures to protect the environment, reduce the threat of wildfire ignitions in this area, and facilitate a measure of habitat restoration.

Reexamine Efficacy of Tule Ridge and Del Sur Ridge Fuelbreaks

We strongly recommend that the district reexamine the need to maintain 300 foot fuelbreaks along Tule Ridge and Del Sur Ridge as proposed. Based on our analysis of Tier 1A (fire related) and 1B (non-fire related) Elements of the US Forest Service's scoring matric for fuel break strategic rankings in its recent study, we believe these two portions of the Copper Project do not qualify as reasonable strategic fuel treatments.

The latest science has shown that,

> *It may be more effective to have fewer fuel breaks in strategically placed locations than to have greater area of fuel breaks overall, at least in terms of protecting communities... fuel breaks played an important role in controlling large fires primarily where they provided access for firefighting activities (Syphard et al. 2011).*

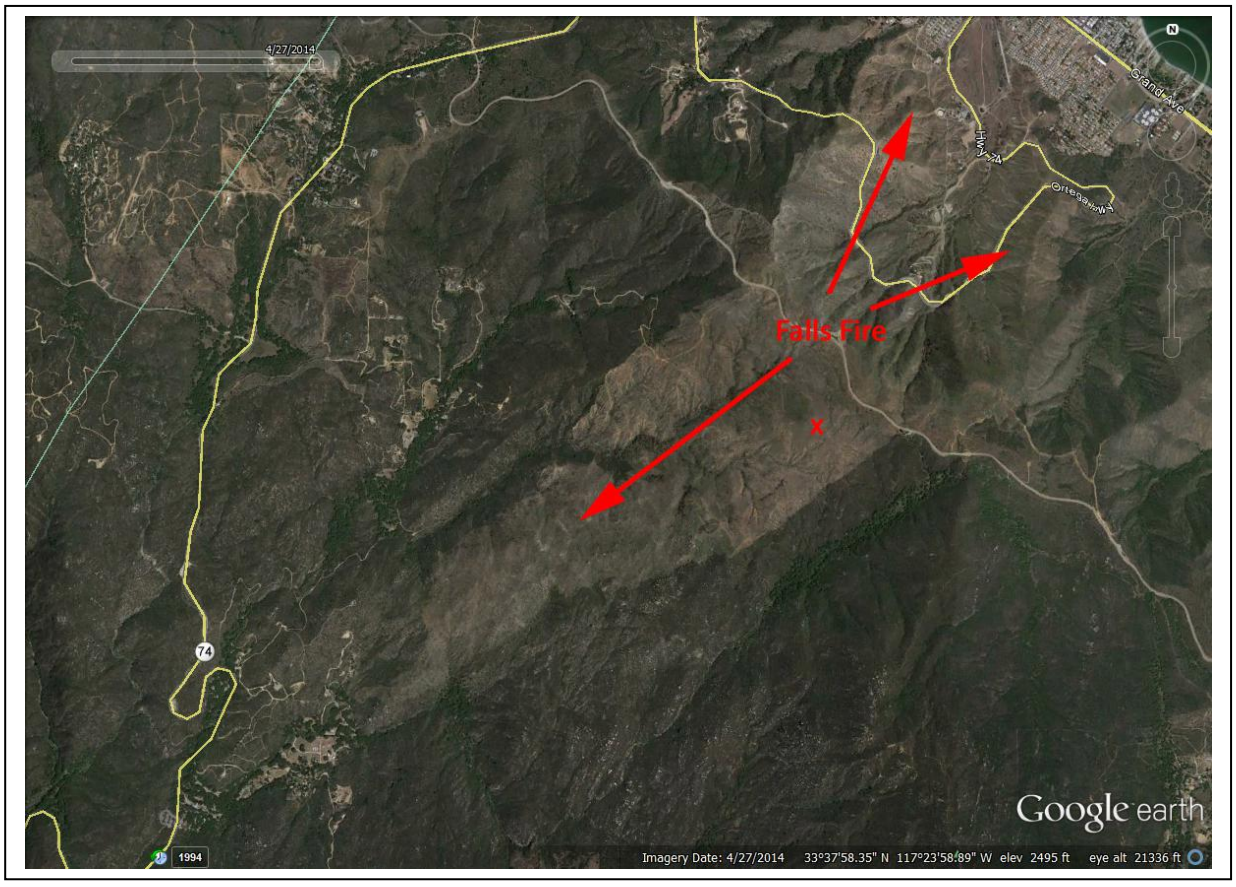
As demonstrated during the 2009 Station Fire, ridgeline fuelbreaks often fail to provide the expected fire control benefit. Therefore, a thorough analysis needs to be completed to determine the actual strategic value and potential use of fuelbreaks, especially those far from communities at risk such as the Tule Ridge and Del Sur Ridge treatments.

Even fuelbreaks near communities with fire crews deployed on them often fail to perform as expected. For example, the 2013 Falls Fire on the Cleveland National Forest demonstrated the lack of efficacy of a large fuelbreak above the community of Lake Elsinore (Figures 1 and 2).

As quoted in the local newspaper that reported on the fire,

Firefighters were making a stand at South Main Divide Road in Rancho Capistrano, but ***the fire jumped the road and was heading for Lake Elsinore****, according to Vickie Wright of the U.S. Forest Service. Officials are concerned the fire will jump the crest of the mountain and head toward the more populated area. "The embers can start spot fires, and once the spot fires start, they spread," she said* (Miller 2013).

Figures 1 above (pre-fire) and 2 below (post-fire) showing the failure of the SMD Fuelbreak.



Protecting Assets Rather Than Attempting to Stop Fire

We ask the district to move further away from the strategy of trying to fight fire in wildland areas. Spending significant amounts of money placing and maintaining vegetation treatments and conducting invasive suppression activities far from assets at risk should be phased out. Science and experience has shown the best way to protect lives and property is help create fire resilient communities and to establish evacuation/firefighter safety areas where appropriate. Such an approach is much more cost effective in the long run and reduces environmental damage.

The Forest Service should take advantage of its authority to provide grants and other assistance to nearby homeowners to improve the fire safety of actual threatened structures rather than attempting questionable modification (and related significant harm) to habitat outside reasonable defensible space zones. The community of Big Bear has taken advantage of pre-disaster FEMA grants to retrofit flammable structures and provides a model the Forest Service can utilize (please see attached – Appeal to California's Fire Agencies).

Dr. Jack Cohen (2000), a research scientist with the Forest Service, has concluded after extensive investigations that home ignitions are not likely unless flames and firebrand ignitions occur within 120 feet of the structure. His findings have shown that,

> "*…effective fuel modification for reducing potential WUI (wildland/urban interface) fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings."* (Cohen 1999).

Cohen's work is consistent with the research on homes with nonflammable roofs conducted by other scientists. During WUI wildland fire events, the Stanford Research Institute (Howard et al. 1973) found a 95 percent survival rate for homes with a defensible space of 30 to 54 feet, and Foote and Gilless (1996) at Berkeley found an 86 percent home survival rate for homes with a defensible space of 84 feet.

We thank the Forest Service for considering and incorporating our comments in the past and are hopeful it will continue to do so with this project to better protect human communities, firefighters, and valuable natural resources on the Angeles National Forest.

We have also provided two papers (via links below) with this letter to assist in this effort. The Syphard et al. 2011 paper was used in the US Forest Service's fuelbreak analysis cited above.

Thank you for your consideration.

Sincerely,

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Cited References

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CALIFORNIA CHAPARRAL INSTITUTE

...the voice of the chaparral

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Comments-pacificsouthwest-los-padres-santabarbara@fs.fed.us

October 30, 2015

Re: Santa Barbara Mt. Communities Defense Zone Project

Dear Mr. Smith,

We appreciate the opportunity to comment on this Project and would like to offer a new vision for how the Los Padres National Forest addresses fire hazard.

The first priority in fire hazard reduction needs to be the protection of life and property through community retrofits, appropriate defensible space, and properly constructed strategic fuel modifications directly next to communities, all based on the best available science. This is a different priority than the one that currently drives wildland fuel treatments: attempting to stop the fire.

"How do we best protect life and property?" rather than "How do we stop a wildland fire?" are two completely different questions that result in two completely different solutions.

As a consequence, a Categorical Exclusion (CE) is not appropriate for this Project because it does not adequately address possible alternatives that can provide greater reductions in fire hazard with less environmental impact. In addition, a CE is not appropriate because this Project will likely have "significant effects on the environment," and there is the presence of "unusual circumstances." **Such variables cannot be properly addressed without conducting a thorough Environmental Assessment (EA).**

We have addressed the inapplicability of the wildlife exclusion under 36 CDF 220.6(e)(6) and other issues in our joint letter with Los Padres Forest Watch. In this letter, we will supplement those comments by expanding on three different issues: alternatives to increasing fire hazard due to spread of weeds, the misplacement of fuel breaks, and failure to account for sensitive species.

Alternatives to increasing fire hazard due to spread of weeds

We strongly support construction of 100 feet of defensible space because this has been clearly verified as the most effective way to protect communities and structures from wildland fire.

However, clearance beyond 100 foot defensible space zones can actually increase fire risk rather than reduce it.

For example, over the past decade, several large areas around the community of Painted Cave have been unnecessarily cleared in the name of fire protection by the Wildland Residents Association (see Figure 1 below). These projects are referenced in the Proposed Action document. What has actually been accomplished by the clearance activity is an increase in fire hazard due to the invasion of light, flashy fuels.

Recent research examining fire risk in California by studying vegetation growing within roughly half a mile of structures has found that **the exotic grasses that often sprout in areas cleared of native habitat like chaparral can be more of a fire hazard than the shrubs.** "We ironically found that homes that were surrounded mostly by grass actually ended up burning more than homes with higher fuel volumes like shrubs," lead scientist Alexander Syphard said (Syphard et al. 2012).

Research has clearly shown that a better use of resources and tax-payer dollars would have been to help the residents of Painted Cave to retrofit their structures with fire safe roofing, attic vents, and other structural changes.

It is the houses themselves, their location, and the fuels within 100 feet of those houses (including litter in gutters, yard junk, cultivars like palms and acacia, wood piles, etc.), that determine whether the property is vulnerable to fire.

Dr. Jack Cohen (2000), a research scientist with the US Forest Service, has concluded after extensive investigations that home ignitions are not likely unless flames and firebrand ignitions occur within 120 feet of the structure. His findings have shown that,

> *…effective fuel modification for reducing potential WUI (wildland/urban interface) fire losses need only occur within a few tens of meters from a home, not hundreds of meters*

> *or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings* (Cohen 1999).

Cohen's work is consistent with the research on homes with nonflammable roofs conducted by other scientists. During WUI wildland fire events, Foote and Gilless (1996) at Berkeley found an 86 percent home survival rate for homes with a defensible space of 84 feet.

The removal of chaparral can indeed reduce flame lengths as described in the Proposed Action. However, the focus on flame lengths is embedded in the older paradigm of attempting to "stop fires" rather than emphasizing the protection of lives and property. In addition, the fine, flashy fuels that typically replace chaparral in poorly constructed fuel treatments are one of the common denominators on fatal and near-fatal fires (Mangan 2007). This issue must be part of the cost/benefit analysis within an EA when designing fuel treatment projects. A CE cannot adequately accomplish this calculation.

Although vegetation management is a critical component in reducing fire risk and hazard, excessive clearance beyond reasonable defensible space zones is unnecessary and can create a number of serious problems including increased flammability due to weeds, erosion, and loss of habitat.

Grassy fuels are also where most of California's wildland fires start, including many of the largest in the state.

- The 2007 Zaca Fire (SB County) was caused by sparks from a grinder igniting nearby grass.
- - The 1991 Oakland Hills Fire, the most devastating fire in California (lives lost/insurance costs), began as a small grass fire in the Berkeley Hills.
- The 2007 Witch Creek Fire (San Diego County) was started by sparks from power lines igniting grass below.
- The 2013 Springs Fire in the Santa Monica Mts. was started in grass along the side of Highway 101.

Figure 1: Painted Cave clearance operation. The foreground represents the impact of mastication of native chaparral showing significant soil disturbance. In the background, the longer-term impact of earlier treatments shows the invasion and spread of highly flammable, non-native weeds and grasses. This process has increased the ignitability of this area with the addition of flashy fuels. Additional pictorial examples of habitat clearance projects for the purpose of "treating fuels" near and within the Los Padres National Forest can be found in the following online album:
https://plus.google.com/photos/111832478062101189732/albums/5512793492339288961

Most wildfires also start along roadsides, such as East and West Camino Cielo, where grass is the predominant fuel type. Therefore, we strongly recommend the following to mitigate the spread of flammable, invasive weeds and to help restore previously damaged habitat:

1. Anticipate, monitor, and provide for perpetual treatment of weed infestations anywhere within the existing fuel break using hand tools, hand-held power tools, and hand-applied herbicides. We do not recommend goats as they are known to disrupt fragile soil ecology. Exotic invasive grasses in the fuel break along the edges of West Camino Cielo and other open public roads and congregating points should be mowed annually to reduce the risk of wildfire ignitions. Highly noxious invasive weeds should be treated annually to prevent colonization and spread into nearby native vegetation;

2. Instead of the massive clear cuts that have been created along West Camion Cielo in the past (Figure 2), the district should allow for the recolonization of native vegetation within existing and new fuelbreaks in order for habitat islands to form in the following manner:

> Fuel breaks should be no wider than 150 feet, except for specific firefighter safety zones. For initial mastication and hand cut treatments, 50 to 70 percent of the vegetation would be treated, leaving untreated islands of shrubs generally no greater than 0.25 acre in size. These islands would have undulating edges to provide a natural appearance. If possible, the retained islands would consist of differing plant species to maintain plant species diversity.

3. Reduce fire risk by closing West and East Camino Cielo Roads during Red Flag Days.

Figure 2. Clearing of chaparral along West Camino Cielo. Leaving random, individual specimens during a mastication effort does not provide any significant value. Rather, islands of habitat of approximately .25 acres should be retained within fuelbreaks that are no wider than 150 feet, along with perpetual invasive weed control.

Embers

Discussing wildland fire ignitions caused by hot metal fragments, like the source of the Zaca Fire, Zak et al. 2015 concluded,

> "Although these bits cool as they fall to the ground, they can ignite a flame that quickly spreads if they land on a prime fuel source like pine needles or dry grass.
>
> At least 28,000 fires occur each year in the United States due to hot metal hazards, according to a 2013 U.S. Department of Agriculture report. For instance, in 2007, a spark from power lines traveled over the wind and landed in dry grass near Witch Creek Canyon in California. Days later, 1,100 homes and 200,000 acres had burned, with $1.8 billion in losses."

Another issue concerning over-clearing relates to how fire behaves once it encounters a bare fuel break without encountering objects (such as properly thinned vegetation) that can interfere with air flow. Large areas of clearance around homes can create a "bowling alley" effect whereby embers are directed straight to the home. Koo et al. 2012 discuss this issue in a recent paper.

> "Simulations of HIGRAD/FIRETEC with fuel breaks (Pimont et al. 2009) demonstrated that the entrainment flow from the fuel break side was enhanced when the fireline hit the fuel break owing to a decrease in drag. The enhanced entrainment can loft more firebrands, which coincides with the field experiments and observations: *a fire that reaches a fuel break often releases a shower of firebrands* (Gould et al. 2009)."

Grants to Retrofit Unsafe Communities

We urge the US Forest Service and the local Santa Barbara area Fire Safe Councils to avail themselves to FEMA pre-disaster grants to retrofit communities like Painted Cave.

Last year, David Yegge, a fire official with the Big Bear Fire Department, submitted his fourth grant proposal to the FEMA pre-disaster mitigation grant program to pay up to 70% of the cost of re-roofing homes with fire-safe materials in the Big Bear area of San Bernardino County. Yegge has also assisted the towns of Idyllwild and Lake Tahoe to do the same. The grant includes the installation of non-ember intrusion attic vents.

Yegge's first grant was for $1.3 million in 2008. He identified 525 wooden-roofed homes in need of retrofits in the community of Big Bear Lake. Only 67 remain. Helping to push homeowners to take advantage of the program is a forward-thinking, "no-shake-roof" ordinance passed by the Big Bear City Council in 2008 requiring roofing retrofits of all homes by this year.

San Bernardino County passed a similar ordinance in 2009 for all mountain communities. Homeowners have until next year to comply. Such "future effect clause" ordinances can be models for Santa Barbara County as well.

In order to qualify for the FEMA grant, a cost/benefit analysis must be completed. "Our analysis indicated that $9.68 million would be saved in property loss for every $1 million awarded in grant funds," Yegge said. "FEMA couldn't believe the numbers until they saw the research conducted by then Cal Fire Assistant Chief Ethan Foote in the 1990s. There's a 51% reduction in risk by removing wooden roofs."

"The FEMA application process is challenging, but well worth it," said Edwina Scott, Executive Director of the Idyllwild Mountain Communities Fire Safe Council. "More than 120 Idyllwild homes are now safer because of the re-roofing program."

The state agency that manages the grants is the California Governor's Office of Emergency Services (Cal OES), Hazard Mitigation Grants Division. Cal OES is the go between agency and they decide what grants get funded based upon priority established by the State Hazard Mitigation Plan. Without the help and assistance of Cal OES, it is not likely the FEMA grants would have be funded.

The Mountain Area Safety Taskforce re-roofing program:
http://www.thinisin.org/shake/

The Big Bear re-roofing ordinance:
http://www.thinisin.org/home/images/stories/downloads/Ord_2008-383.pdf

The San Bernardino County re-roofing ordinance:
http://www.thinisin.org/shake/images/DOWNLOADS/ORDINANCES/ord_4059.pdf

FEMA grant program:
http://www.fema.gov/pre-disaster-mitigation-grant-program

A comprehensive approach to home protection:
http://www.californiachaparral.org/bprotectingyourhome.html

Misplacement of Fuelbreaks

We understand the rationale of tying into previously treated areas by creating new fuel breaks in order to create strategic points to conduct fire suppression activities. However, expanding a ridgeline fuel break up to 300 feet across (the length of a football field) has been demonstrated to

have questionable value especially when compared to treatments directly around threatened communities. We discuss the science behind this conclusion in our joint letter with Los Padres Forest Watch with references to relevant research such as Syphard et al. 2011.

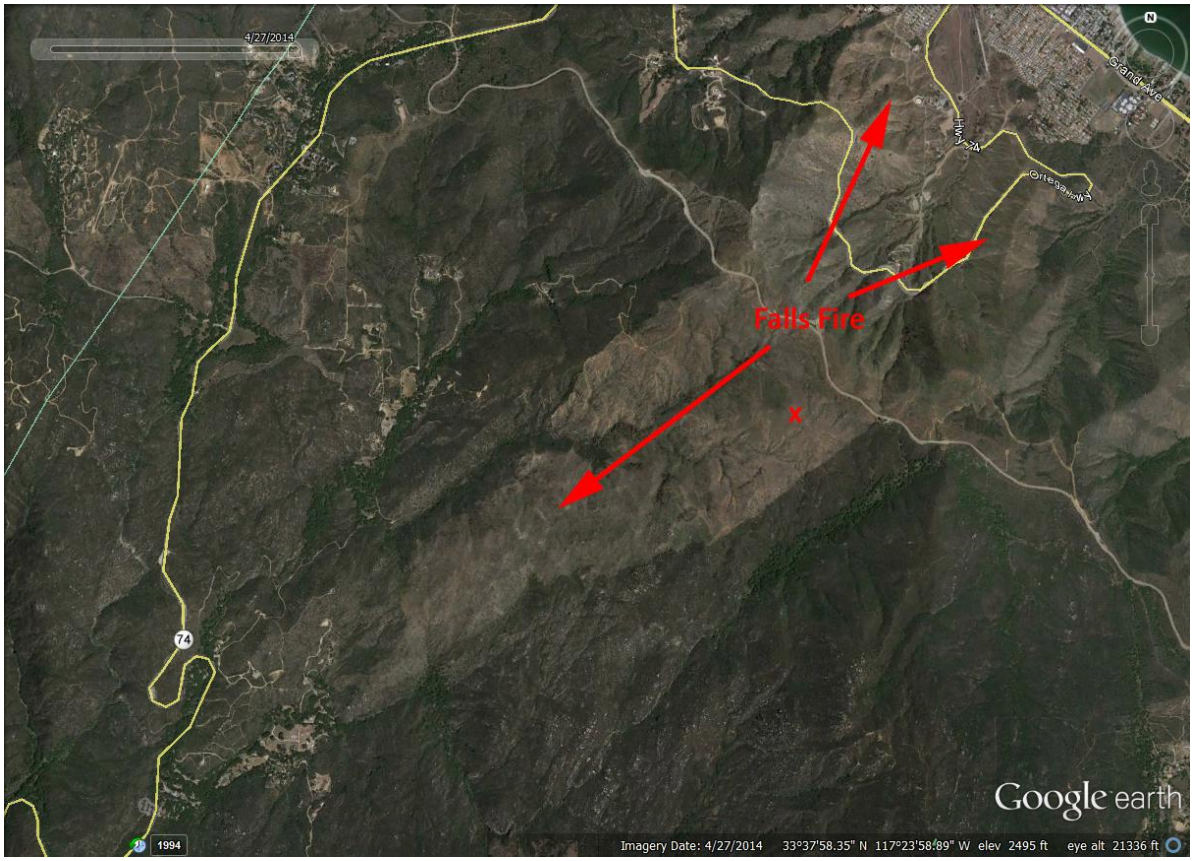
Local experience confirms this research. For example, the Windy Gap fuelbreak was ineffective in stopping the spread of the 2008 Gap Fire according to testimony from residents in the community of Painted Cave.

The proposed widening of the Gaviota Refugio Canyon fuelbreak to up 300 feet cannot be justified if a thorough cost/benefit analysis is completed. The fuelbreak is in a remote area that does not provide significant value to nearby communities. Although the 1955 Refugio Fire did burn over the ridge onto the northern side of the Santa Ynez Mountains, it was stopped by suppression efforts in the valley before causing serious loss of property. The 2004 Gaviota Fire did not burn over in part because the current ridgeline fuel break was adequate.

The 2013 Falls Fire on the Cleveland National Forest provides an example of the lack of efficacy of 300 foot wide, ridgeline fuelbreaks (Figures 3 and 4). Even in the presence of fire crews, the fire jumped the ridge and headed into valley communities.

The only treatments that we find justified for community protection in the Project are modified versions of the Painted Cave treatment and the North and South San Marco Trout Club treatments. The southern portion of the Haney Tract West treatment is right next to an already extensive, type-converted area. There is no need for additional damage that would be caused by another treatment. The Rosario Park treatment can be justified as a strategic project, but it needs to be modified to reflect the design explained above (Invasive weed mitigation #2).

Figures 3 above (pre-fire) and 4 below (post-fire). Failure of a 300 foot wide fuel break.



Failure to account for sensitive species

The excessive widths employed in the construction of the Gaviota Refugio fuelbreak will likely cause a significant loss for the sensitive species, Refugio manzanita (*Arctostaphylos refugioensis*). The fuelbreak is proposed to run down the center of the species only area of distribution. See distribution map in Figure 5.

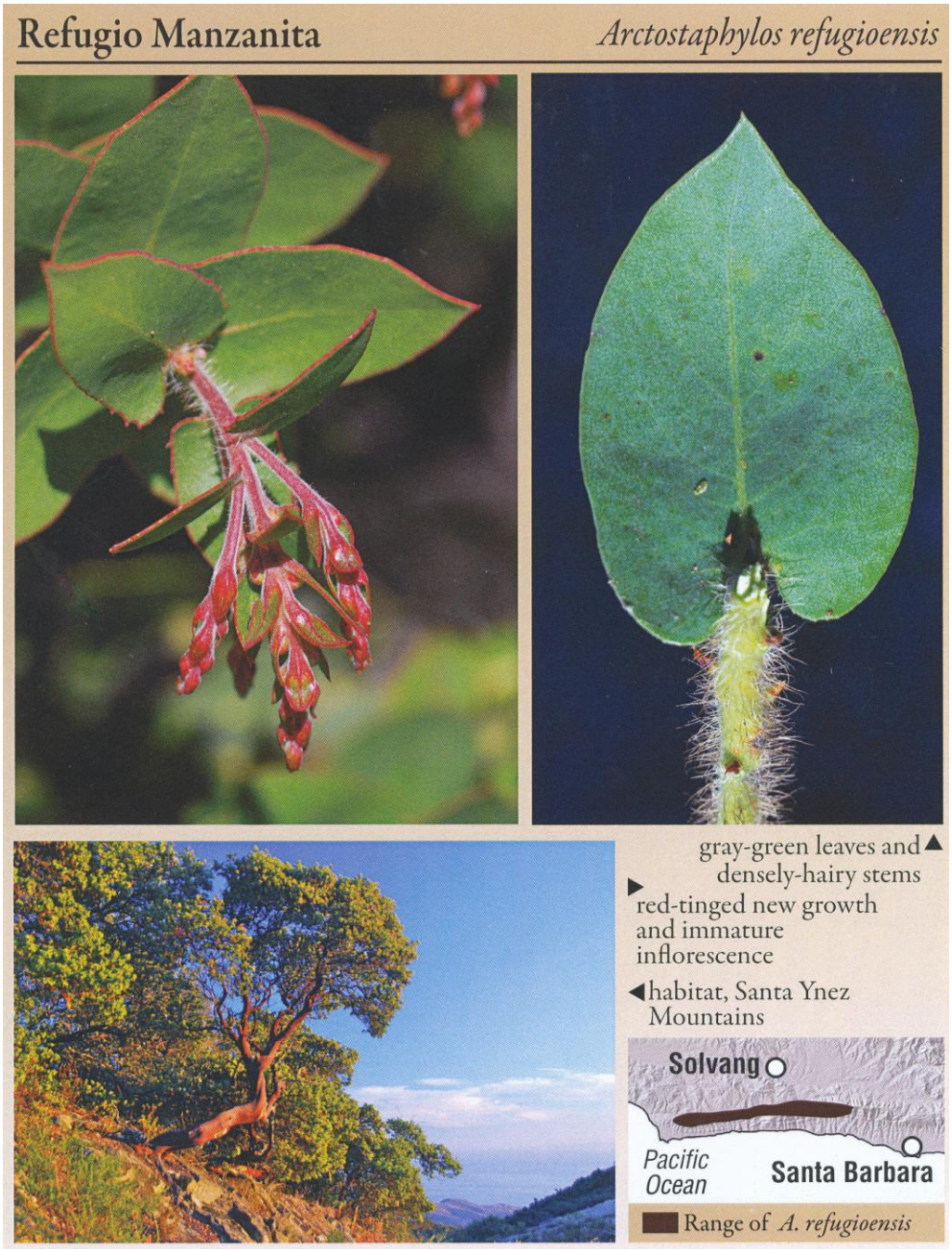


Figure 5. Characteristics and distribution of Refugio manzanita (*Arctostaphylos refugioensis*). From Kauffmann et al. 2015.

The Proposed Action does not specify any mitigation measures for the inevitable destruction of individual specimens by mastication. This is an obligate seeding species; therefore mastication will likely extirpate the species from the area of treatment. Leaving isolated shrubs with the surrounding canopy cover removed has typically failed to save individuals within treatment areas near the community of Painted Cave. This is likely due to changes in the microclimate and the disruption of soil flora and fauna(Figure 5). Considering the narrow distribution of this species, it is unlikely the loss can be mitigated. At the very minimum, there should be a ten foot buffer around each individual or cluster of individuals.

Figure 5. Dying mission manzanita (Xylococcus bicolor) after clearance activity near the Cleveland National Forest.

Beyond the potential extirpation of Refugio manzanita, the disruption of animal habitat is also significant. Attempts to spare big-eared woodrat (*Neotoma macrotis*) nests from the masticator ultimately fail due to their exposure to the elements and predators.

Past mitigation efforts two avoid both Refugio manzanita and big-eared wood rat nests are shown in Figure 6 within the fuel break recently constructed along West Camino Cielo. Such mitigation efforts are inadequate.

Figure 6. Isolated big-eared wood rat nest and Refugio manzanita within the West Camino Cielo fuelbreak.

Also of interest in Figure 6 is the careful avoidance of an artificially planted, non-native conifer plantation (left in photo). The protection of such disruptive elements within the chaparral ecosystem over native species is perplexing. Beyond the fact that the pines are not native and are becoming somewhat invasive at this location, they also provide an extremely flammable concentration of fuel. They should be removed to reduce flammability of the landscape and to restore the natural plant community.

Cumulative Effects

As you know, NEPA defines a "cumulative impact" as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.

There have been significant impacts caused by vegetation modification projects on the Santa Barbara Ranger District in the past. All of these past projects and the current one should be

considered in planning. This is another reason why a CE is not an adequate approach in examining the Santa Barbara Mountain Communities Defense Zones Project.

We thank the Los Padres National Forest for considering our comments. We are hopeful Forest staff will recognize that the complexities involved in this Project require a thorough Environmental Analysis in order to better protect human communities, firefighters, and valuable natural resources.

Sincerely,

Richard W. Halsey, Director
California Chaparral Institute
email: rwh@californiachaparral.org
www.californiachaparral.org

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CALIFORNIA CHAPARRAL INSTITUTE

...the voice of the chaparral

Mr. Darrell Vance
Attn: Jacob Gipson
Trabuco Ranger District
U.S. Forest Service
1147 E. 6th Street
Corona, CA 92879
Comments-cleveland@fs.fed.us

December 5, 2014

Re: South Main Divide and Greater El Cariso Fuels Management Project

Dear Mr. Vance,

We appreciate the opportunity to comment on this Project. We also commend the Cleveland National Forest for its ongoing effort to incorporate the best available science when developing vegetation management projects.

We are also pleased that the district did not follow through with its original plan to conduct prescribed burning on the eastern slope of Elsinore Peak as part of the original project. We met with district staff on March 4, 2010 and shared our concerns along with the science indicating that such a project would likely cause significant environmental harm and did not meet the standard of incorporating the best available science.

We respectfully offer the following points for review and incorporation into the current Project's upcoming environmental assessment (EA).

Existing South Main Divide Fuel Break

We support the maintenance of the existing South Main Divide fuel break to achieve project goals so long as this is accompanied by crucial mitigation measures to protect the environment, reduce the threat of wildfire ignitions in this area, and facilitate a measure of habitat restoration.

Our greatest concern with the proposed maintenance of the fuel break is the existing presence and likely spread of exotic invasive grasses and other harmful weeds in this area (Figure 1). Weeds cause obvious ecological harm when they displace native plants and wildlife (Gelbard and Belnap 2003, Merriam et al. 2006). They also significantly increase the local fire risk and create a more dangerous fire environment because they dry out sooner than native plants, ignite more easily, and can create massive amounts of heat instantly when ignited.

Figure 1. Example of the invasion of flammable, invasive weeds along a fuel break. Photo: North Main Divide fuel break, Trabuco Ranger District.

We strongly recommend the following to mitigate the spread of flammable, invasive weeds and to help restore previously damaged habitat:

1. Anticipate, monitor, and provide for perpetual treatment of weed infestations anywhere within the existing fuel break using hand tools, hand-held power tools, and hand-applied herbicides. We do not recommend goats as they are known to disrupt fragile soil ecology. Exotic invasive grasses in the fuel break along the edges of South Main Divide Road and other open public roads and congregating points should be mowed annually to reduce the risk of wildfire ignitions. Highly noxious invasive weeds should be treated annually to prevent colonization and spread into nearby native vegetation;

2. The district should allow for the recolonization of native vegetation within the existing fuelbreak in order for habitat islands to form as described in the recent Lake Morena Community Draft EA (2014):

> *For initial mastication and hand cut treatments, 50 to 70 percent of the vegetation would be treated, leaving untreated islands of shrubs generally no greater than 0.25 acre in size. These islands would have undulating edges to provide a natural appearance. If possible, the retained islands would consist of differing plant species to maintain plant species diversity.*

3. Reduce fire risk by closing South and North Main Divide Roads during Red Flag Days.

Drop Expansion of South/North Main Divide Fuel breaks

We strongly recommend that the district does not expand the South Main Divide fuel break into previously untreated areas north and south of Elsinore Peak or expand the clearance area near Old Dominion Mine along North Main Divide Road.

We understand the rationale of tying into previously treated areas by creating new fuel breaks in order to create strategic points to conduct fire suppression activities. However, expanding a ridgeline fuel break that has been demonstrated to have questionable value instead of focusing on treatments directly around threatened communities appears to be based on older thinking rather than the best available science.

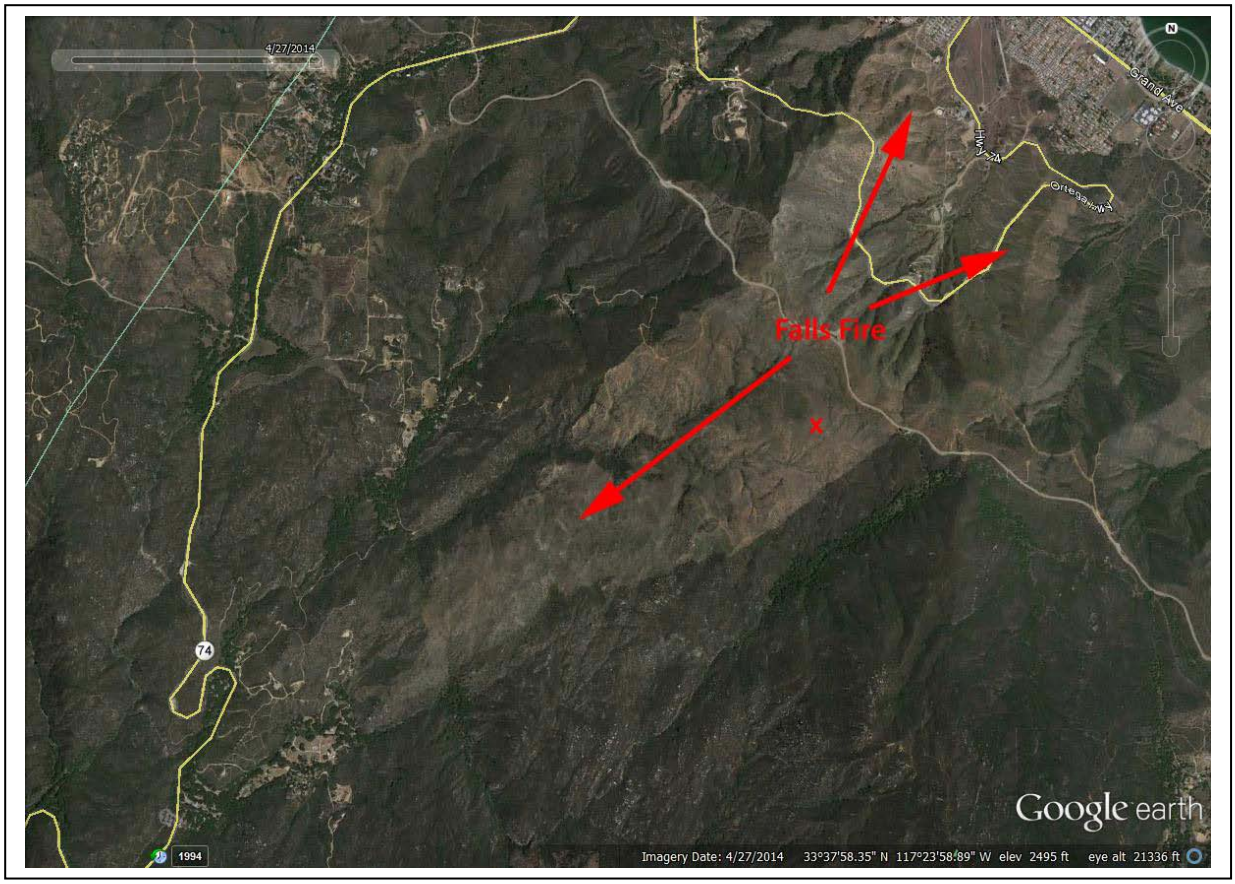
The latest science has clearly shown that,

> *It may be more effective to have fewer fuel breaks in strategically placed locations than to have greater area of fuel breaks overall, at least in terms of protecting communities... fuel breaks played an important role in controlling large fires primarily where they provided access for firefighting activities (Syphard et al. 2011).*

The 2013 Falls Fire has also demonstrated the lack of efficacy of the South Main Divide (SMD) fuel break (Figures 2 and 3).

> *Firefighters were making a stand at South Main Divide Road in Rancho Capistrano, but* ***the fire jumped the road and was heading for Lake Elsinore****, according to Vickie Wright of the U.S. Forest Service. Officials are concerned the fire will jump the crest of the mountain and head toward the more populated area. "The embers can start spot fires, and once the spot fires start, they spread," she said* (Miller 2013).

Figures 2 above (pre-fire) and 3 below (post-fire). Failure of the SMD fuel break.



The expansion of the fuel break on either side of Elsinore Peak is not an effective use of fire risk reduction dollars. This area is generally undisturbed native shrubland and should be left alone. Instead, we suggest the district follow the science and establish perimeter vegetation treatments directly along the east side of Morrell Ranch community as per the Lake Morena Community Project description and identified by the yellow x's in Figure 4.

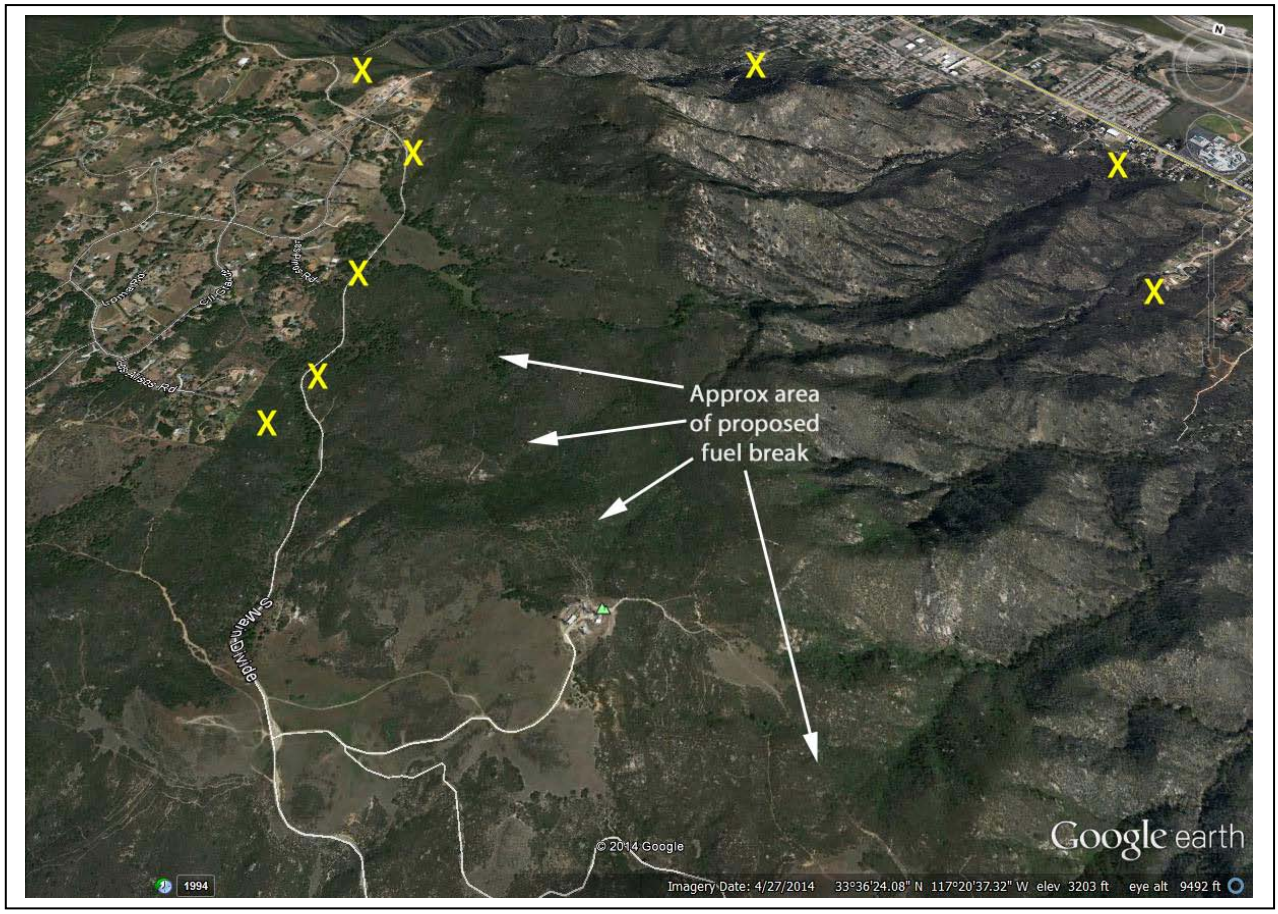


Figure 4. Proposed South Main Divide fuel break expansion and suggested alternative treatments (yellow x's).

The continued expansion of the habitat clearance operation near Old Dominion Mine along North Main Divide Road (Figure 5) is also a questionable fire risk reduction strategy for the same reasons mentioned above.

Figure 5. Old Dominion vegetation treatment area.

Protecting Assets Rather Than Attempting to Stop Fire

We ask the district to move further away from the strategy of trying to fight fire in wildland areas. Spending significant amounts of money placing vegetation treatments and conducting invasive suppression activities such as building dozer lines in pristine areas far from assets at risk should be phased out. Science and experience has shown the best way to protect lives and property is help create fire resilient communities and to establish evacuation/firefighter safety areas where appropriate. Such an approach is much more cost effective in the long run and reduces environmental damage.

As we have written before in previous comment letters, the Forest Service should take advantage of its authority to provide grants and other assistance to nearby homeowners to improve the fire safety of actual threatened structures rather than attempting questionable modification (and related significantly harm) to vegetation growing outside reasonable defensible space zones.

Dr. Jack Cohen (2000), a research scientist with the Forest Service, has concluded after extensive investigations that home ignitions are not likely unless flames and firebrand ignitions occur within 120 feet of the structure. His findings have shown that,

> "*…effective fuel modification for reducing potential WUI (wildland/urban interface) fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings."* (Cohen 1999).

Cohen's work is consistent with the research on homes with nonflammable roofs conducted by other scientists. During WUI wildland fire events, the Stanford Research Institute (Howard et al. 1973) found a 95 percent survival rate for homes with a defensible space of 30 to 54 feet, and Foote and Gilless (1996) at Berkeley found an 86 percent home survival rate for homes with a defensible space of 84 feet.

Oakwoodlands and Native Understory

The Project scoping letter indicates a need to protect oak woodlands "where fuel has accumulated in the understory and meadows with encroaching shrubs." We strongly suggest the Forest Service continue its move away from thinking that native shrubs are somehow "encroaching" as if some natural process has been eliminated and there needs to be mitigation to correct the problem.

During our field observations of Potrero El Cariso, Blue Jay and Falcon Campgrounds we have not observed any unusual shrub growth that is compromising native habitat. A shrubby understory is perfectly natural for the oak woodlands in this area. The meadow of Potrero El Cariso also appears to be in ecologically healthy other than the non-native grasses and weeds that have invaded the area.

We agree that campground infrastructure should be protected and that limited vegetation treatment is justified. But beyond the immediate user area, the district should only lightly thin the vegetation and focus on removing mostly dead material. Understory shrubs provide important habitat for a significant number of animals and plants.

Restoration efforts in the potrero should be limited to removing any non-natives.

Cumulative Effects

Extensive vegetation treatments have already taken place in some areas proposed again for treatment. The upcoming EA for the Project should consider any harmful cumulative effects of these past vegetation modification activities combined with those planned in the same areas as part of this proposed project. In addition, there should be consideration given to the future in terms of how climate change and increased fire frequency may compromise native shrubland habitat throughout the Trabuco Ranger District.

As you know, NEPA defines a "cumulative impact" as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.

There have been significant impacts caused by vegetation modification projects on the Trabuco District in the past. All of these past projects and the current one should be considered when examining the cumulative impacts. We have provided photos of some of these projects in the linked album below and hope the Forest Service will consider the impacts shown in its cumulative impact analysis:
https://plus.google.com/photos/111832478062101189732/albums/5444493002476885681?banner=pwa&sort=1

We thank the Forest Service for considering and incorporating our comments in the past and are hopeful you will continue to do so with this project to better protect human communities, firefighters, and valuable natural resources on the Trabuco Ranger District. We have also provided two papers (including their links below) with this letter to assist in this effort.

Thank you for your consideration.

Sincerely,

Richard W. Halsey, Director
California Chaparral Institute
email: rwh@californiachaparral.org
www.californiachaparral.org

Robert F. Guy, Jr.
Research Associate

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CALIFORNIA CHAPARRAL INSTITUTE

...the voice of the chaparral

August 1, 2013

Forest Supervisor Peggy Hernandez
Los Padres National Forest
6755 Hollister Ave. Suite 150
Goleta, CA 93117

Re: Arbor Day/Day Fire Reforestation/Ecological Restoration

Dear Supervisor Hernandez,

Thank you for your May 24, 2013 letter in response to our concern over the Arbor Day Foundation's (ADF) characterization of the chaparral on the Los Padres National Forest as "invasive, fire-prone brush." We sent you a brief email response on 7/14/13 which we have also included with this letter. We are hoping you will help us encourage the ADF to reframe their description of the Los Padres in a way that celebrates, rather than demonizes, the chaparral.

And thank you for the fulfillment of our FOIA request on the Day Fire Reforestation Project. According to USFS documents, the Project was implemented in 2009 and the second phase of the Project has been cancelled. The first phase does not appear on the USFS project website, so we are unsure if the 1,200 trees the Lindsay Corporation will be planting in partnership with the ADF is an entirely different effort. We would appreciate any clarification you could offer.

Finally, we are quite excited about the Forest Service's new Ecological Restoration Plan (ERP) and are eager to assist you, your staff, and everyone else who helps manage the four southern California National Forests, in preserving and protecting the remarkable biodiversity made possible by the chaparral ecosystem. In pursuit of that desire, we have attached a short report that analyzes some of the conservation issues specific to the Los Padres in light of the ERP.

We look forward to hearing back from you.

Sincerely,

Richard W. Halsey
Director

www.californiachaparral.org PO Box 545, Escondido, CA 92033 760-822-0029

A New Model
The USFS Ecological Restoration Implementation Plan for Region 5

Dear Supervisor Hernandez,

Although the Forest Plan cited in your May 24, 2013 letter to us does provide direction when it comes to reforestation, it unfortunately does not properly address the importance of chaparral, the dominant ecosystem in the Los Padres National Forest (LPNF).

Since 2004, when the Draft Land Management Plan Revision Environmental Impact Report (EIR) was released, we endeavored to help the USFS recognize the chaparral as a vital component of the four southern California National Forests. The final EIR was a significant improvement.

However, as we wrote in our 12/16/05 EIR comment letter, by focusing on forest types while ignoring the wide variety of chaparral types, the final Forest Plan did not properly address the Title 36 CFR 219.15 requirement: "The vegetation management practices chosen for each vegetation type and circumstance shall be defined in the forest plan…" We believe this omission is linked to both historical perceptions of what National Forests are and the generally unrecognized unique nature of southern California ecosystems.

Fortunately, the new USFS Ecological Restoration Implementation Plan (ERP) for Region 5 has changed this overarching paradigm by recognizing the natural resource value of chaparral and the need to develop strategies to protect and restore this valuable and fragile ecosystem. Specifically, the Plan states (emphasis ours),

> There is an additional crisis taking place in our Southern California Forests as an unprecedented number of human-caused fires have increased fire frequency to the extent that fire-adapted **chaparral can no longer survive and is being replaced with non-native annual grasses at an alarming rate.** To counter these trends, forest managers will need to significantly increase the pace and scale of the Region's restoration work. Only an environmental restoration program of unprecedented scale can alter the direction of current trends.
>
> From this point forward, Ecological Restoration will be the central driver of wildland and forest stewardship in the Pacific Southwest Region, across all program areas and activities. Future Land and Resource Management Plans, other strategic plans and project plans will identify **Ecological Restoration as a core objective.**

In addition, the Plan states the USFS intends to achieve the following goal in the next 15-20 years:

> **Work with key partners in Southern California** to expand fire prevention efforts in order to retard the loss of native ecosystems like chaparral and coastal sage scrub.

We are excited to collaborate with the Los Padres to help with the actualization of its Ecological Restoration Implementation Plan, especially since 64% of the LPNF is composed of native shrubland.

After looking over the LPNF's contribution to the new Restoration Plan, we would like to respectfully offer a few suggestions and some clarifications regarding chaparral science relating to 1) type-conversion, 2) old-growth chaparral, 3) chaparral fire regime, 4) forest vs. chaparral, and 5) fire suppression.

1. Chaparral Type-Conversion

As indicated in the Plan, type-conversion is a major threat to the chaparral. The Angeles, San Bernardino, and Cleveland National Forests addressed the need to identify and develop a plan to restore type-converted land as part of their individual ERPs. Although the Los Padres did not do so, we are hopeful that such an effort will develop and projects will be identified once the regional Restoration Plan moves forward.

The foundation of any successful restoration effort is to prevent new damage to native ecosystems that would require restoration projects in the future. At the present time, the only projects listed in the Los Padres ERP that appear related to chaparral are fuel breaks which directly lead to type-conversion.

2. Old-growth Chaparral

We are unclear what the LPNF meant in its ERP by listing "decadent vegetation" as increasing the risk of wildfire. While dead vegetation is certainly a risk factor, the term "decadent" has been used in the past as a pejorative reference to old-growth chaparral. The term was first used in chaparral literature by Ted Hanes in 1971 and reflected subjective opinion, not a measurable quality. There is no scientific support for such a characterization since dead branches, accumulated leaf litter, and legacy manzanitas, madrones, and re-sprouting ceanothus are critical habitat enhancing features in old-growth chaparral. All play a major role in preserving California's biodiversity. This is one reason why Marty Dumpis, the Regional Forester's Representative for Ecological Restoration, said at the Chaparral Restoration Workshop held June 18, 2013, that **"chaparral should be viewed as a natural resource rather than a fire hazard."**

3. Chaparral Fire Regime

Chaparral on the Los Padres has a crown-fire regime with a sustainable fire return interval of 30 to 125 years plus. Large, intense fires are the natural pattern. This pattern is the direct result of the chaparral's natural growth pattern of developing extremely dense, even-aged, landscape-scale, sclerophyllous shrublands. This fire regime and the chaparral's composition are not the product of past fire suppression activities as is often suggested.

During an email discussion concerning historical fire frequencies in 2012, a Los Padres staff member stated, "that type conversion of chaparral is not an ecological crisis on the Los Padres." Rather, "it is the alteration of the normal fire regime through fire suppression that has resulted in such severe fuel build up in our chaparral that we now have more large intense fires that trigger elevated soil damage and mass wasting than when lower intensity fires were more common on the landscape."

Due to their structural composition, shrublands do not generally experience low-intensity fire. If low-intensity fire does occur, it is usually limited to the margins of the fire perimeter where the fire is extinguished due to vegetative moisture, geographic/weather variables, or suppression activities. And while fire suppression has contributed to fuel build-up in certain forests, such is not the case in the chaparral. Five important research papers over the past 15 years have refuted the notion that fire suppression has caused unnatural or severe fuel build-up in native shrublands. We have linked the five papers below:

Keeley, J.E., Fotheringham, C.J., Morais, M. 1999. Reexamining fire suppression impacts on brushland fire regimes. Science Vol. 284. Pg. 1829-1832.

Mensing, S.A., Michaelsen, J., Byrne. 1999. A 560 year record of Santa Ana fires reconstructed from charcoal deposited in the Santa Barbara Basin, California. Quaternary Research. Vol. 51:295-305.

Moritz, M.A., J.E. Keeley, E.A. Johnson, and A.A. Schaffner. 2004. Testing a basic assumption of shrubland fire management: Does the hazard of burning increase with the age of fuels? Frontiers in Ecology and the Environment. 2:67-72.

Keeley, J.E. and P.H. Zedler. 2009. Large, high-intensity fire events in southern California shrublands: debunking the fine-grain age patch model. Ecological Applications 19: 69-94.

Appendix A to above paper.

Lombardo, K.J., T.W. Swetnam, C.H. Baisan, M.I. Borchert. 2009. Using bigcone Douglas-fir fire scars and tree rings to reconstruct interior chaparral fire history. Fire Ecology 5: 32-53.

4. Forest Fire Regimes vs. Chaparral

During the Chaparral Restoration Workshop at the Angeles National Forest Headquarters, a Los Padres staff member indicated that the natural fire return interval on the LPNF is 10-15 years. There is no data to support this conclusion. This perspective appears to be a misinterpretation of research conducted by Lombardo et al. (2009).

Lombardo et al. estimated that fires of "moderate" size (roughly 5,000-15,000 acres) occurred **somewhere** within the sampled landscape (approx. 100,000 acres) of the LPNF every 10-15 years. A common mistake is the assumption that the mean return interval is 10-15 years across the forest *at all points*.

What the research actually shows is that every 10-15 years about 10-15,000 acres is burned. Sometimes the fires overlap, sometimes they don't. The scientists **did not** conclude that the whole forest or the same area burns every 10-15 years. The same conclusions and interpretations can be applied to the "mega" fires (roughly 50,000+ acres), which occurred on that same landscape every 25-50 years.

Unfortunately, misinterpreting fire return interval research is a common error in plans that attempt to justify rotational burning projects throughout southern California. The goal of such projects is to attempt to create an artificial “mosaic” of mixed-aged chaparral stands that some land managers mistakenly assume is an effective way to prevent large wildfires or to “improve” habitat.

The concept of mosaic burning in chaparral runs counter to the conclusions Lombardo et al. drew from their research, not only on the LPNF but also on the Angeles and San Bernardino National Forests. The “mosaic burning hypothesis” also runs counter to the research of many other scientists in work done over the past twenty years. In addition to the papers linked above, more information on why the mosaic hypothesis has been rejected is available in this scientific review:
http://www.californiachaparral.com/images/Halsey_and_Tweed_Why_Large_Wildfires_FS_Paradigm.pdf

5. The Fire Suppression Paradigm

Small, ecologically-based, post-fire reforestation efforts within the Forest can be useful in maintaining biodiversity. Unfortunately, the fire suppression paradigm has been so broadly misapplied that it has been used to justify inappropriate decisions including chaparral clearance projects far from communities, ecologically unsound reforestation efforts, and fire risk reduction programs focusing on wildland vegetation rather than community firesafe planning.

For example, the 3/12/2009 Decision Memo for the Day Fire Restoration Project cited the misinterpreted 10-15 year fire interval mentioned above for “conifer stands on the Los Padres National Forest.” This then appeared to have led the USFS to conclude that fire

suppression had altered the fire regime in the Project area (Alamo Mountain) which supposedly created "higher than normal fuel levels leading to uncharacteristically large stand-replacing fires."

This rationale is unsupportable for the following reasons (Los Padres Forest Watch questioned this rationale in their 4/8/08 Project comment letter):

> **A. Multiple Forest Types.** There are many types of conifer stands on the Los Padres, from redwoods, to Sergeant Cypress, to big-cone Douglas firs, so it is impossible to group them all together within one fire regime as the USFS did in the Decision Memo.
>
> **B. Large Fires Natural.** Large, stand replacing fires have occurred in the past on Alamo Mountain and, while rare, are a natural component of the system. According to unpublished data from Lombardo et al. there was a large fire on the Mountain in 1841. This was prior to any fire suppression activity.
>
> **C. Longer Fire Return Interval.** According to unpublished data from Lombardo et al., the Project area involving the mixed conifer forest on Alamo Mountain has an estimated historical fire interval range of 12 - 48 years, with a mean of 28 years (data exclude most of the 20th century). Although this estimate is based on a small sample size of big cone Douglas firs, it represents the most reliable data available for the Project area.
>
> **D. Relatively Light to Moderate Fuel Loads.** Aerial photos of the pre-fire Alamo Mountain forest do not support the notion that the area had higher than normal fuel levels. In fact, it appears the pre-fire forest was of the "open-system" that often serves as a model during forest thinning projects. The Lombardo et al. unpublished data support this hypothesis as well. The 12 - 48 year interval is much longer than what most would expect in a mixed conifer setting, suggesting an open-system that requires several decades to build up a fuel load that can carry a big fire.
>
> We have provided Google Earth images comparing pre and post fire conditions on Alamo Mountain. Photos 1-3 show the area at successively closer views prior to the 2006 Day Fire. The pre-fire mixed conifer forest shows large, meadow-like areas, significant separation between trees or tree clusters, and sparse shrub cover. Photos 4-5 show the same area after the Day Fire with a classic mixed-severity burn pattern one would expect in a forest of this type. Photo 6 shows the scene seven years later, with treeless zones interspersed with significant numbers of living trees in various patterns.

While we believe the 2,800 acres of reforestation originally proposed with this project was reasonable, **the issue that concerns us is the misinterpretation of the science and the negative implications such misinterpretations can have: specifically, the bias of one ecosystem type (forest) over another (chaparral).** Such bias can lead to poor land management decisions.

A New Model

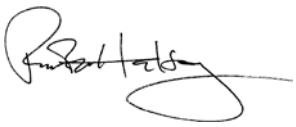
A component of the current USFS land planning model attempts to establish a baseline "natural" condition for particular landscapes in order to establish management goals. This baseline is generally considered the hypothesized environment prior to European contact, with Native American burning practices being considered as part of the "natural" state.

The problem with this model is that conditions are radically different today than they were 200 years ago. With more than 22 million people living around the four southern California National Forests, ecosystems are not going to behave as they once did. Native Americans did not have to contend with invasive weeds, air pollution concerns, large numbers of ignitions, and hundreds of thousands of vulnerable homes adjacent to wildland areas.

Rather than basing management decisions on the hypothesized landscape of the past, we support a different model that recognizes the risks facing ecosystems today and emphasizes the development of plans to protect the natural communities that remain and restore those already damaged. The new Ecological Restoration Implementation Plan moves in this direction.

We look forward to being one of your partners in developing a science-based approach to protect the chaparral ecosystem on the Los Padres and to identify restoration projects that can repair damage caused in the past.

Sincerely,



Richard W. Halsey
Director
California Chaparral Institute

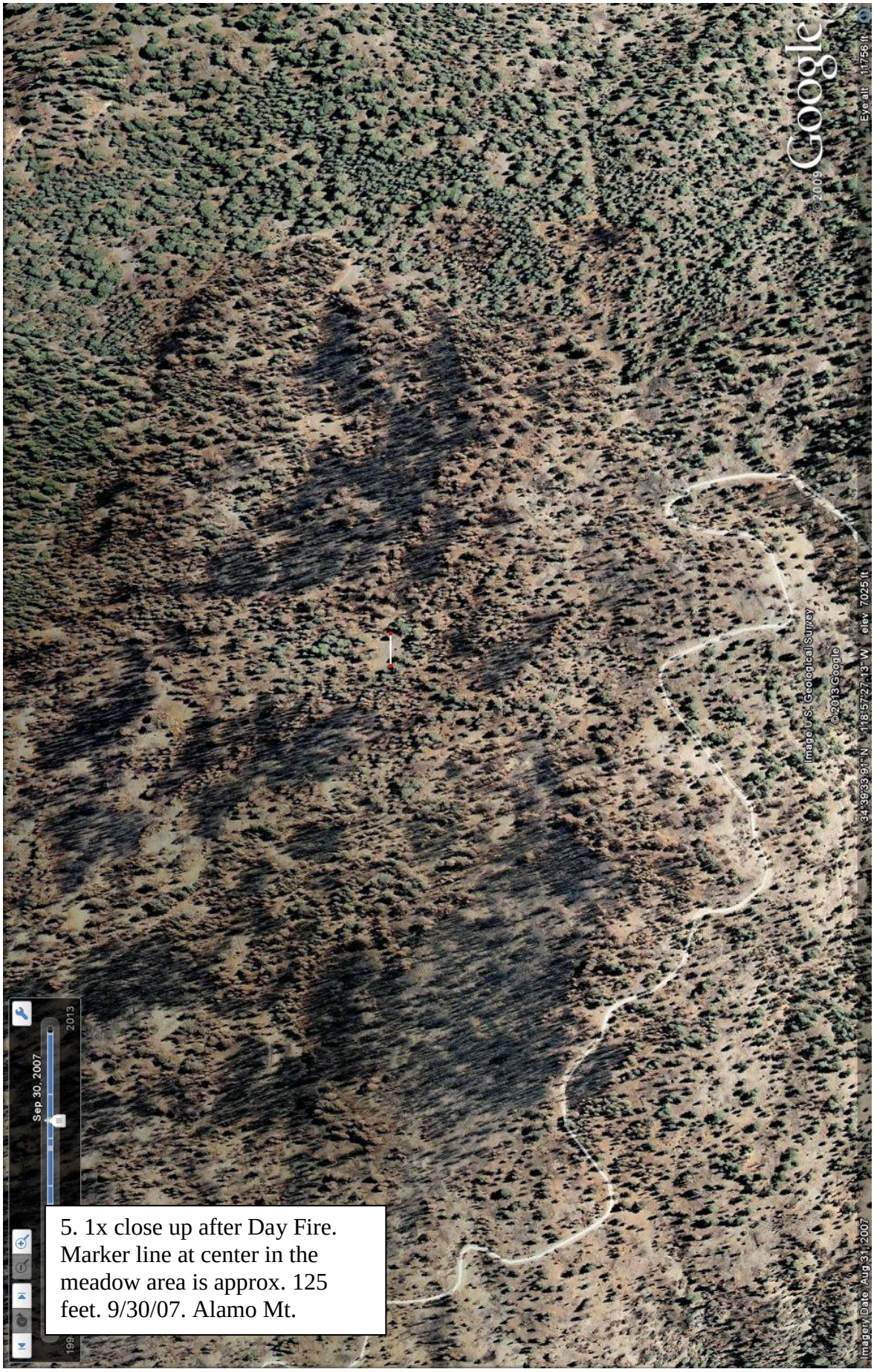
cc:
Randy Moore, Regional Forester
Chris Nota, Regional Office, Sacramento
Marty Dumpis, Regional Forester's Representative, Ecological Restoration
Jeff Kuyper, Los Padres Forest Watch

1. 8/8/06. Alamo Mt. before Day Fire. Area is approximately 2.75 x 1.5 miles.

2. 1x close up. 8/8/06. Note open nature of forest cover. Marker line at center in the meadow area is approx. 125 feet. Alamo Mt. before Day Fire.

3. 2x close up. Note open nature of forest cover and a sparse shrub population. Marker line at center in the meadow area is approx. 125 feet. 8/8/06. Alamo Mt. before Day Fire.

4. 2x close up after Day Fire. Note burn patterns, indicating a mixed-severity fire event. Marker line at center in the meadow area is approx. 125 feet. 9/30/07. Alamo Mt.



5. 1x close up after Day Fire. Marker line at center in the meadow area is approx. 125 feet. 9/30/07. Alamo Mt.

6. Seven years after Day Fire. 4/18/13. Note fallen trees. 2x close up. Marker line at center in the meadow area is approx. 125 feet. Alamo Mt.

From: Richard Halsey [mailto:rwh@californiachaparral.org]
Sent: Sunday, July 14, 2013 11:35 AM
To: 'phernandez@fs.fed.us'
Cc: 'juyehara@fs.fed.us'; 'gsthompson@fs.fe.us'; 'breal@fs.fed.us'; 'kheffner01@fs.fed.us'; 'Jeff Kuyper'; 'tom@ventanawild.org'; 'Dylan Tweed'
Subject: Chaparral as valuable - Arbor Day Foundation

Dear Supervisor Hernandez,

Thank you for sending us the information regarding the tree planting effort on the Los Padres National Forest as per by our Freedom of Information Act request. It was very helpful.

We want to emphasize to you and to the folks at the Arbor Day Foundation that **it is not the tree planting effort per se that we are concerned about.** We understand the desire to restore targeted forested areas recovering from the 2006 Day Fire.

Rather, our concern is with the broader issue of the language used by Arbor Day to describe the project (protecting the forest from "invasive, fire-prone brush") and components of the US Forest Service's rationale for the effort (abnormal fuel build-up).

Specifically, Arbor Day's characterization of chaparral as "invasive fire-prone brush" in their literature and website is scientifically incorrect and supports and encourages the denigration of California's native chaparral ecosystem. "Invasive" implies an alien species replacing what belongs, "fire-prone" is demagoguery that exploits the fear of fire, and "brush" is a pejorative term that implies uselessness.

The language matters because language often reflects biases than can negatively influence land management decisions.

As you know, negative attitudes about chaparral are pervasive within many land/fire management circles and during public discourse. As with any negative stereotype, biases frequently lead to unfortunate consequences. As an educational organization, one of our primary goals is to help correct misunderstandings about nature that shape such biases.

As the human population increases and the climate continues to change, all of us need to work together to preserve what is left of native ecosystems, restore what we can, and plan for distribution shifts in plant communities. This is why the issue of correcting negative stereotypes about native shrublands, like the chaparral, is so important. Such biases hamper the proper recognition of chaparral as a valuable natural resource and the establishment of a successful, science-based management/restoration strategy for the four southern California national forests.

We again respectfully request your help in convincing your partner, the Arbor Day Foundation, to please remove "invasive fire-prone brush" from its literature relating to reforestation projects on national forest land in California. It is counter-productive to

denigrate one native ecosystem over another, especially when attempting to restore the natural environment.

Sincerely,

Richard W. Halsey
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CALIFORNIA CHAPARRAL INSTITUTE
...the voice of the chaparral

Mr. Jeff Wells
Palomar Ranger District
U.S. Forest Service
1634 Black Canyon Road
Ramona CA 92065
jmwells@fs.fed.us

December 1, 2010

Re: Scoping Comments on the Palomar Mountain Vegetation Treatment Program

Dear Mr. Wells:

Thank you for the opportunity to comment on the Palomar Mountain Vegetation Treatment Program on the Palomar Ranger District of the Cleveland National Forest.

We strongly support Palomar Mountain program goals to "Reduce the threat of wildfire to adjacent communities, public property and natural resources; Increase firefighter safety during ingress, egress, and fire suppression activities; [and] Provide an effective fire suppression strategy to protect areas of mature vegetation with a positive fire regime condition class" among other stated goals for fire safety and ecosystem protection.

We are pleased that district has taken the progressive step of excluding harmful and misguided prescribed fire treatments in chaparral vegetation. Most chaparral on Palomar Mountain has already burned too frequently according to the best available science and we support program goals to limit additional wildfire (and presumably prescribed fire) in these areas. We also appreciate the strategic focus of the project on relatively small areas of high fire risk or poor conifer forest health. At the end of these comments we provide detailed recommendations for measures to maximize the effectiveness of vegetation treatments around at-risk communities, facilities, and roads. Treatment activities in the Developed Area Interface Land-Use Zone should be considered the highest project priority and implemented before all other Palomar Mountain program activities.

We are also pleased that this project does not appear to be proposed for processing under the controversial Healthy Forests Restoration Act. By its very nature the HFRA is intended to

limit public participation and environmental review and thereby undermines public goodwill. We urge you to continue to reject use of the HFRA for this and future projects to improve the quality of environmental review and consideration of public concerns. If we are incorrect and the project is in fact intended for processing under HFRA then the project must be re-scoped with a clear statement of intended HFRA processing to provide adequate public notice as required by law and Forest Service regulations.

Aguanga Fuelbeak

Because the Aguanga Fuelbreak System already exists we support maintenance of this fuelbreak to achieve project goals so long as this is accompanied by crucial mitigation measures to protect the environment and reduce the threat of wildfire ignitions in this area (see Recommendations section below).

Our greatest concern with the proposed maintenance of the Aguanga Fuelbreak is the existing presence and likely spread of exotic invasive grasses and other harmful weeds in this area. Weeds cause obvious ecological harm when they displace native plants and wildlife. But they also significantly increase the local fire risk and create a more dangerous fire environment because they dry out sooner than native plants, ignite more easily, and create massive amounts of heat instantly. One of the common factors in firefighter fatalities is the presence of highly-flammable grassy fuels. As the Jackson fire in Sacramento County clearly illustrated in 2008, grass fires can be extremely dangerous. Five homes were destroyed, 6,400 acres were burned, and a fire captain was seriously injured when he was overcome by flames. The fuel was dried, non-native, invasive grasses. Grass fires that swept across Texas and Oklahoma between December 2005 and April 2006 burned more than two million acres and killed 11 people. The 2006 Esperanza fire in Riverside County that killed five Forest Service firefighters was started and made its initial moves in grassy fuels. The circumstances of the Esperanza fire are particularly relevant to the Aquanga Fuelbreak: The presence of extensive highly flammable weeds along the Aguanga Fuelbreak and relatively easy public access via Palomar Divide Road provide a dangerous recipe for wildfire by arson or accident. For these reasons the Forest Service must act to reduce the extent of weeds in and around the Aquanga Fuelbreak as part of any work to maintain this fuelbreak. The Forest Service should also limit unnecessary public access to reduce the risk of wildfire.

Mastication

We urge you to reject mastication as a treatment option in the Palomar Mountain program due to harmful and unnecessary environmental impacts. Mastication is typically applied in

chaparral vegetation and would be used in the Palomar Mountain project in "...dense areas of understory vegetation." Mastication can negatively impact the long-term survival and health of shrubland ecosystems by increasing the population and spread of invasive species (Merriam et al. 2006, Gelbard and Belnap 2003). In addition, masticated areas that burn during a wildfire can have significantly lower rates of recovery for native species (Moreno and Oechel 1994). Chaparral treatments are not a significant component of the Palomar Mountain program and we urge you to consider fire safety alternatives in those limited areas where chaparral may be included in such treatments (e.g. Birch Hill, see below).

Focus on Defensible Space & Defensible Structures

One portion of the Palomar Mountain program at Birch Hill appears to unreasonably focus on vegetation treatment when a better alternative would focus on structural improvements. Vegetation treatments at this location are not specified in the scoping notice but chaparral is a dominant vegetation that may already have been subject to significant vegetation modification. Repeated treatments of chaparral at this and other similar locations will not provide a significant fire safety benefit yet will inevitably lead to weedy type conversion and a related host of ecological and fire safety problems. In this location and others the Forest Service should take advantage of its authority to provide grants and other assistance to nearby homeowners to improve the fire safety of actual threatened structures rather than attempting ineffective modification (and related significantly harm) to vegetation growing outside a reasonable defensible space.

Dr. Jack Cohen (2000), a research scientist with the Forest Service, has concluded after extensive investigations that home ignitions are not likely unless flames and firebrand ignitions occur within 120 feet of the structure. His findings have shown that, "*…effective fuel modification for reducing potential WUI (wildland/urban interface) fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings."* (Cohen 1999).

Cohen's work is consistent with the research on homes with nonflammable roofs conducted by other scientists. During WUI wildland fire events, the Stanford Research Institute (Howard et al. 1973) found a 95 percent survival rate for homes with a defensible space of 30 to 54 feet, and Foote and Gilless (1996) at Berkeley found an 86 percent home survival rate for homes with a defensible space of 84 feet.

Establishment and maintenance of defensible space around homes, safe routes of evacuation and firefighter access, retrofitting unsafe structures, and supporting community based fire safe education programs are in the long run much more cost effective in preventing the loss

of life and property from wildfire than compromising large amounts of native vegetation in the National Forest.

Cumulatively Effects

The Cleveland National Forest is implementing vegetation modification projects on a scale that requires increased scrutiny of cumulative effects. The Palomar Ranger District has implemented numerous vegetation and fuels projects and plans many more. These projects and many other Forest Service and non-Forest Service fuels projects such as those by CalFire are radically changing the face of vegetation communities throughout much of the San Diego backcountry and are resulting in significant harm to natural resources that have yet to be meaningfully reviewed in any systematic NEPA or CEQA cumulative effects analysis. Given the extent of past, current, and future vegetation management activities we believe the Forest Service is obligated to prepare a programmatic Environmental Impact Statement addressing vegetation and fuel management activities across the entire Cleveland National Forest.

We also note that extensive vegetation treatments have already taken place in some areas proposed again for treatment under the Palomar Mountain program (e.g. Aguanga Fuelbreak, Birch Hill). NEPA documents for the Palomar Mountain program must consider any harmful cumulative effects of these past vegetation modification activities combined with those planned in the same areas as part of this proposed program, especially the threat of type conversion from repeated treatments.

At the very least, NEPA documents for the Palomar Mountain program must include an analysis of all effects of the proposed action, including cumulative impacts from other related activities. 40 C.F.R. § 1508.8 (effects include ecological, aesthetic, historical, cultural, economic, social or health impacts, whether direct, indirect, or cumulative). NEPA defines a “cumulative impact” as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7. If the combination of these cumulative effects would result in significant impacts to the human environment, the Forest Service must prepare a full EIS. Inland Empire Public Lands Council v. Schultz, 992 F.2d 977, 981 (9th Cir. 1993).

Recommendations

The following recommendations should be incorporated and fully analyzed in a “Fire Safety and Conservation Alternative” in any NEPA documents for the Palomar Mountain program:

1. Implement effective vegetation treatment / fuels reduction to protect the public, firefighters, and private property

For the purposes of fire suppression to protect public and firefighter safety and private property, vegetation treatment and fuels reduction activities should take place within the actual wildland/urban interface, identified by the Forest Service as the "Developed Area Interface Land Use Zone" in the Land Management Plan - Part 2 Cleveland National Forest Strategy. Fire suppression activities in these areas should follow the Four Forests Guidelines for Development and Maintenance of WUI Defense and Threat Zones:

- WUI Defense Zone – For chaparral vegetation, break up vegetation fuel continuity within a maximum of 100 – 300 feet of structures. Remove vegetation immediately adjacent to structures, treat the structures themselves, and remove weeds at least annually from treated areas. The Chaparral Institute will vigorously oppose unfounded chaparral treatments as measured from the boundary of National Forest land instead of structures unless such treatments correspond to the recommended Forest Plan treatment distances from structures;

- WUI Threat Zone – No treatment of chaparral vegetation is necessary or effective in the WUI Threat Zone according to the Four Forests WUI guidelines, with the possible exception of removal of weed infestations using hand tools or hand-held power tools.

See Appendix K of Land Management Plan - Part 3 design Criteria for the Southern California National Forests.

Proposed vegetation treatment and fuels reduction activities may also be appropriate on the Aguanga Fuellbreak and along limited, designated, and strategic firefighting access roads and evacuation routes up to 150ft. from road edges.

The Forest Service must anticipate the problem of colonizing exotic invasive weeds and grasses as a part of the Palomar Mountain program and include a long-term plan for at least annual treatment of weed infestations using hand tools, hand-held power tools, and hand-applied herbicides. Deferring this crucial project element to a future project or decision will greatly increase the risk of harmful wildfire to both people and chaparral and forest ecologies.

2. Improve ecological conditions and fire safety on the Agaunga Fuelbreak

- Do not expand the Aguanga Fuelbreak into previously untreated areas;

- Do not maintain or extend the Aguanga Fuelbreak in the Back Country Non-Motorized Land-Use Zone;

- Do not use masticatation treatments on the Aguanga Fuelbreak;

- Reduce fire risk by closing roads to the public including Halfway Road, High Point Road, Oak Grove Road, and Palomar Divide Road (above the Barker Valley Trailhead). Close Palomar Divide Road from the National Forest boundary to the Barker Valley Trailhead during summer and fall fire season;

- Anticipate, monitor, and provide for perpetual treatment of weed infestations anywhere within the fuelbreak using hand tools, hand-held power tools, and hand-applied herbicides. Exotic invasive grasses in the Aguanga Fuelbreak along the edge of Palomar Divide and other open public roads and congregating points should be mowed annually to reduce the risk of wildfire ignitions. Highly noxious invasive weeds should be treated annually to prevent colonization and spread into nearby native vegetation;

- For any native chaparral plants or patches in the fuelbreak, protect plants and vegetation patches and limit erosion by retaining at least 18 inches height for plants consistent with Appendix K of Land Management Plan - Part 3 design Criteria for the Southern California National Forests.

3. Provide grants to homeowners in nearby communities for effective fire safety activities – Reduction of native vegetation and landscaping fuels near structures and retrofitting homes with fire resistant materials

4. Protect valuable chaparral vegetation

- Eliminate mastication treatments in chaparral vegetation to retain ecological values and reduce future fire risk from highly flammable, colonizing exotic weeds and grasses;

- Bar use of mechanized masticators and other heavy equipment outside of the designated Developed Area Interface Land-Use Zone, anywhere beyond 150 of road edges and on any slopes exceeding 20 percent grade;

- Retain all monarch shrub specimens where any portion of the stalk is 6 inches or greater in diameter;

- Suspend cattle grazing in treated areas to limit the spread of weeds and facilitate ecological recovery, and;

- Anticipate, monitor, and provide for perpetual treatment of weed infestations anywhere within the project area using hand tools, hand-held power tools, and hand-applied herbicides.

5. Implement beneficial vegetation treatment to protect conifer and oak forests

Please note that “conifer forests” and "oak forests" mean areas that are clearly dominated by either type of trees. Chaparral vegetation with the occasional scattered conifer or oak tree should be considered chaparral vegetation and should be managed for the benefit of chaparral ecology, not for the preservation of isolated oak or conifer trees;

- Retain all larger diameter trees and snags greater than 14 inches dbh;

- Selectively thin and remove conifers less than 14 inches dbh and shrubs less than 6 inches (at largest diameter of stalk) in and around conifer forests using hand tools or hand-held power tools. Retain all oak species where any portion of the stalk is 6 inches or greater in diameter. After initial thinning treatments use prescribed fire for maintenance;

- Where patches of chaparral vegetation are present inside areas otherwise dominated by forest vegetation, chaparral patches should be retained at a level roughly consistent with the amount of area located outside of the drip line of forest patches;

- Selectively remove actual hazard trees near homes, along limited/designated/ strategic firefighting access roads and evacuation routes, and recreation areas. However, given extensive past removal of hazard trees and snags on the Palomar Ranger District, all larger diameter snags greater than 14 inches dbh should be retained away from homes, fire access roads, and recreation areas;

- Bar use of mechanized masticators and other heavy equipment outside of the designated Developed Area Interface Land-Use Zone, anywhere beyond 150 of road edges and on any slopes exceeding 20 percent grade;

- Suspend cattle grazing in treated areas to limit the spread of weeds and facilitate ecological recovery, and;

- Anticipate, monitor, and provide for perpetual removal of weed infestations anywhere within the project area using hand tools, hand-held power tools, and hand-applied herbicides.

6. Implement specific California spotted owl protection measures

- Prohibit treatments in California spotted owl nest stands outside the Developed Area Interface Land Use Zone;

- In spotted owl Protected Activity Centers outside the Developed Area Interface Land Use Zone, retain all trees greater than 9 inches and snags greater than 12 inches. Please note that Mexican spotted owl PACs have a 9 inch diameter limit, and that the 2001 Sierra Framework California spotted owl PACs had a 6 inch limit when mechanical treatments were determined to be absolutely necessary (mechanical treatments in PACs were discouraged). For PAC stands with canopy cover over 70%, do not reduce to below 70%. For stands with canopy cover between 50% and 70%, do not reduce to below 50%;

- In spotted owl Home Range Cores outside the Developed Area Interface Land Use Zone, retain all trees greater than 12 inches and snags greater than 14 inches. For stands with canopy cover over 50%, do not reduce to below 50%. For stands with canopy cover between 40% and 50%, do not reduce to below 40%, and;

- Prohibit tree cutting and other proposed treatment activities in any California spotted owl habitat during the breeding season in owl habitat.

7. Implement other resource conservation measures

- Do not utilize mechanical treatments any designated Back Country Non-Motorized Land-Use Zone including the East Grade treatment area;

- Do not treat Riparian Conservation Areas outside the Developed Area Interface Land Use Zone;

- Prior to treatment identify suitable habitat and conduct surveys (to protocols where available) for all Endangered, Threatened, Candidate, and Forest Sensitive species as well as species identified in the California Natural Diversity Data Base. Do not treat occupied habitat for these species outside of the Developed Area Interface Land Use Zone unless the best available science shows that proposed treatments would benefit the species;

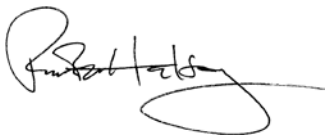
- Collect and present population trend data on any Management Indicator Species in any NEPA documentation, and;

- Flag and avoid any areas within 33 feet (10 meters) of downed logs, rocky outcrops, boulders, pack rat middens, and brush piles. Trees should not be felled across rocky outcrops or downed logs.

We are hopeful that the Forest Service will consider our comments and incorporate our recommendations for the Palomar Mountain program in order to better protect human communities and valuable natural resources. We are willing and interested in meeting with Forest Service staff on-site to review proposed treatments and Forest Service rationale and to discuss our comments and recommendation.

Thank you for your consideration.

Sincerely,



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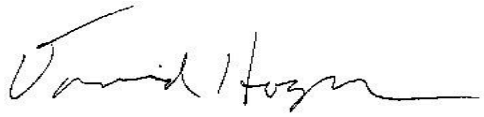

David Hogan, Boardmember
California Chaparral Institute

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CALIFORNIA CHAPARRAL INSTITUTE

...the voice of the chaparral

August 27, 2010

Ms. Becky Riegle
U.S. Forest Service
5298 East Clark Road
Harrisville, MI 48740
rriegle@fs.fed.us.

Re: Scoping Comments on the May Valley Fuels Reduction Project

Dear Ms. Riegle:

Thank you for the opportunity to comment on the May Valley Fuel Reduction Project on the San Jacinto Ranger District of the San Bernardino National Forest.

We strongly support project goals "...to reduce risks to firefighters, the public, and adjacent communities" and "...create and maintain defensible fuel profiles around key suppression corridors and critical community and forest infrastructure." These goals should be the sole purpose of this project. At the end of these comments we provide detailed recommendations for measures to maximize the effectiveness of vegetation management in the Forest Service's designated Developed Area Interface land use zone around at-risk communities, facilities, and roads. Treatment activities in the Developed Area Interface zone should be considered the highest project priority and implemented before all other May Valley project activities.

However, we vigorously dispute Forest Service claims that proposed treatments are necessary to improve the ecological health of vegetation in the May Valley project area. Crown / stand replacing fire is by far the dominant natural fire behavior at this elevation and in the vegetation communities found in the May Valley including in vegetation that is a mix of chaparral and oak and conifer vegetation. As such, any vegetation treatments beyond those needed to achieve fire safety goals for people and property are unnecessary,

unfounded, and likely to increase the risk of wildfire through the spread of highly flammable exotic invasive weeds.

Overall, the District's approach to the biologically rich and unique chaparral and forest ecosystem in the May Valley area appears to be based on a significant bias against chaparral in favor of trees or forests and an unfamiliarity with the Forest Service's own research.

We also object to the processing of this project under the Healthy Forests Restoration Act. By its very nature the HFRA is intended to limit public participation and environmental review for the purpose of expediting urgent projects. The May Valley project is the third project with which we have direct experience where years have elapsed from the time of project conception to scoping and distribution of NEPA documents, years during which the normal and more thorough and inclusive NEPA process could have been utilized in place of the disputed HFRA process without any delay to the project. We urge you to reject use of the HFRA for this and future projects to improve the quality of environmental review and consideration of concerns by environmental advocates.

Creating "*a diversity of shrub age classes"* is Wasteful and Ineffective

The District states "*There is a need to reestablish a diversity of shrub age classes and reduce the horizontal continuity of fuels in chaparral vegetation, and to reduce brush and conifer ladder fuels, and thin mixed conifer/oak stands. These treatments would moderate fuel loading and modify fire behavior to reduce potential loss of mixed conifer forests and protect sensitive species and watersheds from stand replacing fire*."

It is crucial that the District understand that there is no scientific justification for such a focus from either a biological or fire safety perspective.

Forest Service scientists have concluded that, "*landscape mosaics are impractical, unnecessary, and probably not particularly effective***"** in creating a strategic approach to fuel and fire management in chaparral (Conard and Weise 1998).

Landscape scale vegetation modification also been rejected by the current California Fire Plan: *"The typical vegetation management project in the past targeted large wildland areas without assessing all of the values protected. Citizen and firefighter safety and the creation of wildfire safety and protection zones are a major new focus of the new prefire management program. The vegetation management program will shift emphasis to smaller projects closer to the new developments. Given that department funds for prefire*

projects are limited, the department must carefully and systematically select the projects that provide the greatest benefit for a given investment."

We concur with the State of California that shifting our fire management focus to the wildland/urban interface (WUI) with smaller fuel modifications directly around and near communities, structures, and roads is the most effective strategy to reduce wildfire risk. If a thorough analysis of the true costs of various fire-risk reduction strategies is performed, it becomes clear that concentrating efforts directly where loss of life and property can occur will produce the greatest and most effective benefit.

By attempting to create artificial mosaics in the valuable old-growth chaparral in the May Valley area, the District is wasting taxpayer money that could be better spent directly around the nearby rural communities. We also challenge the District's contention that "*a diversity of shrub age classes"* need to be "reestablished" within the chaparral stands in the May Valley area. We are unaware of any scientific evidence that supports the claim that mosaics are the natural condition of chaparral in the May Valley area. In fact, there is nearly unanimous scientific consensus that the natural condition of chaparral in Southern California is large, dense, contiguous stands that are typically entirely burned during infrequent, large fires (Please see Attachment #1).

There is no Strong Relationship Between the Age of Shrubland Fuel and the Probability of Fire

Contrary to the apparent assumptions used to justify the project's proposed vegetation treatments in chaparral, the age of vegetation (time since last burned) does not have a strong relationship to hazard of burning. Analysis of several hundred fires over a broad expanse of California shrublands has demonstrated that extreme weather conditions (Santa Ana winds) overwhelm the influence of the age and spatial patterns of fuels (Moritz 1997; Moritz et al. 2004). This has also been demonstrated in Australian shrublands (Bradstock and Gill 2001; Whelan 2002). Such fires can burn easily through 5-10 year old stands (Dunn 1989). A study of the 1985 Wheeler fire in Santa Barbara County concluded that only 14% of the fire perimeter was established due to wildland fuel type changes (Dunn and Piirto 1987). Similar observations have been made regarding the 2007 Zaca Fire in Santa Barbara County: 50% of the fire perimeter stopped at vegetation more than 70 years old (Keeley et al.2009).

The inability of younger age classes to stop a fire was also shown during both the 2007 Witch Creek and Poomacha fires in San Diego County. Of the total acreage burned in the County’s 2007 firestorm, more than 20% or approximately 70,000 acres was 4-year-old vegetation recovering from the 2003 firestorm. In the Witch Creek Fire hundreds of acres

of overgrazed pasture land in Pamo Valley burned despite the fact that very little vegetation was present. *"The extent to which landscape level fuel treatments are effective is a function of weather conditions during the fire event. Under extreme weather conditions, there is overwhelming evidence that young fuels, or even fuel breaks, will not act as a barrier to fire spread" (Keeley et al. 2004).*

Misunderstanding Chaparral Fire Regimes

Chaparral has a crown fire regime. By definition, low and moderate intensity fires are not associated with crown fire regimes. The natural pattern in the chaparral ecosystem is for infrequent, high intensity, crown fires to burn through vast areas, especially under severe weather conditions. In fact, high intensity fires are vital for the proper recovery of chaparral plant communities. Extensive research has shown that older chaparral stands with high "fuel loads" show significantly greater seed recruitment levels for many obligate seeding species after a fire than do younger stands (Keeley et al. 2008). Such high intensity fires also destroy the seeds of invasive species, allowing the recovering chaparral to resist the colonization of non-native weeds.

The notion that "*There is a need to reestablish a diversity of shrub age classes"* implies that valuable, old-growth chaparral such as that in and around the May Valley project area "needs" to burn. There is no scientific research that supports such a conclusion. Old-growth chaparral stands remain dynamic, healthy plant communities (Fenn et al. 1993, Halsey 2008, Hubbard 1986, Keeley 1973, Larigauderie et al. 1990, Patric and Hanes 1989, Specht 1969, Zedler and Zammit 1989).

One sign of a healthy, chaparral ecosystem that is recovering from a fire are large areas of blackened ground (punctuated with resprouting shrubs and tiny shrub seedlings) remaining long after the first rainy season. Attempts to alter the chaparral's natural fire regime through fuel project manipulations will risk its ecological health and alter its natural successional processes.

In fact, fuel treatments in shrubland ecosystems involving mastication or prescribed burning should only be done with the recognition that the resource is being sacrificed for fire hazard reduction. Dr. Jon E. Keeley (2009) addressed this issue in a comment letter to San Diego County. He wrote, "*When treatments such as mastication are applied to shrubland ecosystems they have major environmental impacts on both the flora and fauna. Some have suggested that these impacts are temporary and the systems will recover to form perfectly natural functional ecosystems after a period of years. There is no scientific evidence to support such allegations. In addition, that sort of thinking is*

inconsistent with the purpose of using these treatments, which is typically to produce permanent fuel breaks."

Negative Impacts of Unnecessary Fuel Treatments

Much of the chaparral and sage scrub habitat in the San Bernardino National Forest has burned in excess of their natural fire regimes. This has been graphically illustrated by a recent map of the Forest developed by Forest Service scientists (Please see Attachment #2). As mentioned above, chaparral has a crown fire regime, so missing a perceived low-to-moderate fire cycle is not possible. Secondly, much of the chaparral and other vegetation targeted for mastication, prescribed burning, or other treatments shows a negative departure from its natural fire regime. Rather than missing any fire cycle, it has experienced too much fire.

We urge the District to not over-generalize mixed-conifer fire regimes and apply them to other plant communities. While there is clear evidence that some forests on the San Jacinto Ranger District show a significant positive departure (not enough fire) from their natural fire regime, this is <u>not</u> the case for nearby lower elevation chaparral and forest vegetation.

Understanding this issue is critical because high fire frequencies are leading to the elimination of healthy chaparral and other shrubland ecosystems throughout Southern California to the process of type conversion and the expansion of highly-flammable, weedy grasslands. Applying even more fire to the ground in the form of large, prescribed burns, or conducting large mastication treatments will only make this problem much worse.

Invasive, grassy fuels can create a more dangerous fire environment because they dry out sooner than native plants, ignite more easily, and create massive amounts of heat instantly. One of the common factors in firefighter fatalities is the presence of highly-flammable grassy fuels.

As the Jackson fire in Sacramento County clearly illustrated in 2008, grass fires can be extremely dangerous. Five homes were destroyed, 6,400 acres were burned, and a fire captain was seriously injured when he was overcome by flames. The fuel was dried, non-native, invasive grasses. Grass fires that swept across Texas and Oklahoma between December 2005 and April 2006 burned more than two million acres and killed 11 people. The 2006 Esperanza fire in Riverside County that killed five Forest Service firefighters was started and made its initial moves in grassy fuels.

Not only must the Forest Service consider the effects of past fire history, it must also anticipate the combined effects of harmful mastication and prescribed fire as part of this project AND the harmful cumulative effects of highly foreseeable, future, accidental, and unnaturally frequent wildfire. With climate change, continuing drought that may or may not be associated with such change, and increasing human-caused ignitions, the District needs to look forward rather than backward in assessing the potential impact of its land management actions. Perhaps chaparral masticated or burned in the May Valley project will recover, although this is questionable for chaparral in those portions of the project that have already burned too frequently. However, the occurrence of additional accidental fires in these same treatment areas in the future during recovery of the chaparral is a near certainty. The cumulative harm caused by the combination of deliberate mastication and prescribed fire along with future accidental fires will almost certainly cause large scale type conversion in this area.

Regarding mastication, we know such fuel treatments can negatively impact the long-term survival and health of shrubland ecosystems by increasing the population and spread of invasive species (Merriam et al. 2006, Gelbard and Belnap 2003). In addition, masticated areas that burn during a wildfire can have significantly lower rates of recovery for native species (Moreno and Oechel 1994).

In field observations, we have already noted the entirely predictable spread of non-native grasses and weeds in the previously masticated areas along State Highway 74. With implementation of the May Valley project, weeds will inevitably continue to spread in the proposed extensive mastication treatment areas. (Please see Attachment #3)

There is also well documented evidence that cool-season burns can lead to type conversion (Le Fer and Parker 2005). Populations of fire dependent native species can be decimated if timing or heating requirements for regeneration are not met (Odion and Tyler 2002). Such a risk should not be dismissed by the District.

Cumulatively Significant Impacts

The San Bernardino National Forest is implementing vegetation modification projects on a scale that clearly requires increased scrutiny of cumulative effects.

NEPA documents must include an analysis of all effects of the proposed action, including cumulative impacts from other related activities. 40 C.F.R. § 1508.8 (effects include ecological, aesthetic, historical, cultural, economic, social or health impacts, whether direct, indirect, or cumulative). NEPA defines a “cumulative impact” as the impact on the environment which results from the incremental impact of the action when added to other

past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7. If the combination of these cumulative effects would result in significant impacts to the human environment, the Forest Service must prepare a full EIS. Inland Empire Public Lands Council v. Schultz, 992 F.2d 977, 981 (9th Cir. 1993).

The District has implemented numerous fuels reduction projects and plans many more, according to the Environmental Assessment for the Thomas Mountain project. These projects and many other Forest Service and non-Forest Service fuels projects are radically changing the face of vegetation communities throughout much of the San Jacinto Ranger District and are resulting in significant harm to natural resources that has yet to be meaningfully reviewed in any systematic NEPA cumulative effects analysis.

We note that extensive vegetation thinning has already taken place around the May Valley community to provide defensible space. The draft Environmental Assessment for the May Valley project must consider the harmful cumulative effects of these past vegetation modification activities combined with those planned in the same areas as part of this proposed project.

The Forest Service has also implemented, and has plans to implement over 23,000 acres of prescribed burning on the District. Other agencies like CalFire are planning other nearby prescribed fire projects. This is a stunning level of modification to a valuable natural resource, with significant potential for harm to people, wildlife, and plants that must be considered in a cumulative effects analysis. We urge the Forest Service to prepare a programmatic Environmental Impact Statement addressing vegetation and fuel management activities across the entire San Jacinto Ranger District.

Chaparral as a Valuable Natural Resource

A common fire management approach to chaparral, seeing it as a “fuel” rather than a valuable natural resource, is a systematic problem within the Forest Service that needs to be rectified. In the land management plans for the four national forests in Southern California, forest types were carefully distinguished and management strategies were offered for each. Silvicultural methods were detailed for seven forest types. Yet when it came to chaparral, types were neither distinguished nor was a vegetation management plan developed.

The seeming focus of the proposed project to unnecessarily sacrifice chaparral to protect trees and forest vegetation continues this unfortunate bias by failing to recognize the intrinsic natural resource value of old-growth chaparral. Fuel treatments emphasizing protection of conifer forest vegetation should take place in areas dominated by conifer forest vegetation rather than eliminating ecologically valuable chaparral for the benefit of scattered pine trees. The integrity of the valuable old-growth chaparral stands at the lower elevations must be preserved.

Rather than just seeing chaparral as "fuel," old-growth stands of chaparral in the project area present a significant conservation opportunity and evoke the Forest Service's duty to conserve a valuable and extremely threatened mature chaparral ecological community. Accidental wildfires in this area will inevitably occur, and are likely to occur with increasing frequency with growing nearby populations, and harm from these accidental fires should not be deliberately compounded by application of prescribed fire or mastication projects outside of those areas where treatments are necessary to protect people and property.

Cost/Benefit Analysis

We urge the Forest Service to conduct an honest cost/benefit analysis of the proposed landscape scale chaparral treatments vs. treatments to vegetation immediately adjacent to communities, homes, and roads and grants for fire resistant retro-fitting of homes. Although we know there is considerable pressure to perform fuel treatments because of "acres treated" quotas and available funding, such pressure must not prevent the implementation of the least damaging and most effective fire risk reduction strategy. Establishment and maintenance of defensible space around homes, safe routes of evacuation and firefighter access, retrofitting unsafe structures, and supporting community based fire safe education programs are in the long run much more cost effective in preventing the loss of life and property from wildfire than compromising large amounts of native vegetation in the National Forest (Please see Attachment #4). We note that extensive vegetation thinning has already taken place around the May Valley community to provide defensible space.

Dr. Jack Cohen (2000), a research scientist with the Forest Service, has concluded after extensive investigations that home ignitions are not likely unless flames and firebrand ignitions occur within 120 feet of the structure. His findings have shown that, "*…effective fuel modification for reducing potential WUI (wildland/urban interface) fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings."* (Cohen 1999).

Cohen's work is consistent with the research on homes with nonflammable roofs conducted by other scientists. During WUI wildland fire events, the Stanford Research Institute (Howard et al. 1973) found a 95 percent survival rate for homes with a defensible space of 30 to 54 feet, and Foote and Gilless (1996) at Berkeley found an 86 percent home survival rate for homes with a defensible space of 84 feet.

Ironically, the May Valley Fuel Reduction Scoping Document cites important research on the Grass Valley Fire to support its objectives when in fact the study clearly shows how fuel treatments can fail to protect communities when there is not a comprehensive approach to fire risk reduction. While the study demonstrated that fuel treatments reduced the intensity and spread of the Grass Valley Fire, it did not conclude that "*Vegetation is the single variable that can be influenced to reduce fire behavior and the threat to firefighters, communities, forest resources, and forest health*" as the Scoping Document implies.

When it came to protecting the community, what the research actually found was that, "*In general, the home destruction resulted from residential fire characteristics. The ignition vulnerable homes burning in close proximity to one another continued the fire spread through the residential area without the wildfire as a factor" (USDA 2008).*

We understand the objective of reducing fuel loads near communities and at strategic locations to create safety zones and assist fire suppression efforts. This is why we urge the Forest Service to focus fuel treatments within and adjacent to communities. We also support the use of fuel treatments and prescribed fire to restore conifer-dominated forest vegetation. Unfortunately, a significant portion of the May Valley project fails to address such objectives by emphasizing the modification (and therefore destruction) of native chaparral communities in wildland areas.

The extensive nature of the mastication treatments of chaparral are overkill and will destroy valuable chaparral vegetation. Mastication will become counterproductive as the inevitable highly flammable weeds that will colonize the area following mastication will in turn cause more accidental fire from careless human activities.

The Grass Valley Fire proved that fuel treatments can fail to perform as expected when the community itself fails to follow through on creating a fire safe environment around the structures themselves. Without developing a comprehensive fire safe plan for communities at risk, the Forest Service will end up unnecessarily damaging the surrounding natural environment, an environment residents enjoy and the Forest Service is charged to protect.

Comply with environmental laws and the Forest Plan

Please take care to comply with several environmental laws and regulations and the San Bernardino Land Management Plan during preparation of the May Valley project:

- NEPA requires preparation of an Environmental Impact Statement for a project of this magnitude where there are likely to be significant impacts to the environment. An EIS is required for the May Valley project because, at least: 1) The project could significantly impact public safety; 2) The project area contains unique characteristics; 3) Project impacts on the environment are likely to be highly controversial; 4) Project impacts on the environment are highly uncertain or involve unique or unknown risks; 5) The project may establish a precedent for future actions with significant effects; 6) The project would likely result in cumulatively significant impacts, and; 7) The project could significantly impact special status species;

- NEPA requires that any Environmental Assessment disclose whether an Environmental Impact Statement will be prepared;

- Proposed May Valley project hand/ground treatments in chaparral would also be inconsistent with Forest Plan direction for the Garner Place to maintain "…*a historic and natural appearing landscape*…" and keep "Chaparral communities and timber stands...at pre-fire suppression conditions" (please see Forest Plan at page 67). Most chaparral and forest vegetation in the May Valley project area is already within the natural fire regime or has burned too frequently so proposed mastication and prescribed fire in this area would violate Forest Plan direction for the Garner Place. The extensive and unnecessary mastication of chaparral proposed in the project would also be extremely ugly in violation of Forest Plan Scenic Integrity Objectives.

Recommendations

The following recommendations should be incorporated and fully analyzed in a "Fire Safety and Chaparral and Forest Conservation Alternative" in any NEPA documents for the May Valley project:

1. <u>Implement effective vegetation treatment / fuels reduction to protect the public, firefighters, and private property</u>

For the purposes of fire suppression to protect public and firefighter safety and private property, vegetation treatment and fuels reduction activities should take place only within the actual wildland/urban interface, identified by the Forest Service as the "Developed Area Interface Land Use Zone" in the Land Management Plan - Part 2 San Bernardino National Forest Strategy. Fire suppression activities in these areas should follow the Four Forests Guidelines for Development and Maintenance of WUI Defense and Threat Zones:

- WUI Defense Zone – For chaparral vegetation, break up vegetation fuel continuity within a maximum of 100 – 300 feet of structures. Remove vegetation immediately adjacent to structures, treat the structures themselves, and remove weeds at least annually from treated areas. The Chaparral Institute will vigorously oppose unfounded chaparral treatments as measured from the boundary of National Forest land instead of structures unless such treatments correspond to the recommended Forest Plan treatment distances from structures;

- WUI Threat Zone – No treatment of chaparral vegetation is necessary or effective in the WUI Threat Zone according to the Four Forests WUI guidelines, with the possible exception of removal of weed infestations using hand tools or hand-held power tools.

See Appendix K of Land Management Plan - Part 3 design Criteria for the Southern California National Forests.

Vegetation treatment and fuels reduction activities may also be appropriate along limited, designated, and strategic firefighting access roads and evacuation routes up to 150ft. from road edges. Proposed mastication treatments along Forest roads in the May Valley project are far wider than necessary and are therefore a counterproductive weed fire hazard.

The Forest Service must anticipate the problem of colonizing exotic invasive weeds and grasses as a part of the May Valley project and include a long-term plan for at least annual treatment of weed infestations. Deferring this crucial project element to a future project or decision will greatly increase the risk of harmful wildlife to both people and chaparral and forest ecologies.

2. <u>Provide grants to homeowners in nearby communities for effective fire safety activities – Reduction of native vegetation and landscaping fuels near structures and retrofitting homes with fire resistant materials</u>

3. <u>Protect valuable chaparral vegetation</u>

- Eliminate proposed prescribed fire treatments in chaparral vegetation and significantly reduce the extent of mastication so as to retain the unique and valuable mature stands of this natural community in the May Valley project area and reduce future fire risk from highly flammable, colonizing exotic weeds and grasses;

- Bar use of mechanized masticators and other heavy equipment outside of the designated Developed Area Interface Land Use Zone, anywhere beyond 150 of road edges and on any slopes exceeding 20 percent grade;

- Retain all monarch shrub specimens where any portion of the stalk is 6 inches or greater in diameter;

- Suspend cattle grazing in treated areas to limit the spread of weeds and facilitate ecological recovery, and;

- Anticipate, monitor, and provide for perpetual treatment of weed infestations anywhere within the project area using hand tools and hand-held power tools.

4. <u>Implement beneficial vegetation treatment to protect conifer and oak forests</u>

Please note that “conifer forest vegetation” and "oak forest vegetation" mean areas that are clearly dominated by either both types of trees. Chaparral vegetation with the occasional scattered conifer or oak trees should be considered chaparral vegetation and should be managed for the benefit of chaparral ecology, not for the protection of isolated trees;

- Retain all larger diameter trees and snags greater than 14 inches dbh;

- Selectively thin and remove conifers less than 14 inches dbh and shrubs less than 6 inches (at largest diameter of stalk) in and around conifer forest vegetation using hand tools or hand-held power tools. Retain all oak species where any portion of the stalk is 6 inches or greater in diameter. After initial thinning treatments use prescribed fire for maintenance;

- Where patches of chaparral vegetation are present inside areas otherwise dominated by forest vegetation, chaparral patches should be retained at a level roughly consistent with the amount of area located outside of the drip line of forest patches;

- Selectively remove actual hazard trees near homes, along limited/designated/ strategic firefighting access roads and evacuation routes, and recreation areas. However, given extensive past removal of hazard trees and snags on the San Jacinto Ranger District, all larger diameter snags greater than 14 inches dbh should be retained away from homes, fire access roads, and recreation areas;

- Bar use of mechanized masticators and other heavy equipment outside of the designated Developed Area Interface Land Use Zone, anywhere beyond 150 of road edges and on any slopes exceeding 20 percent grade;

- Suspend cattle grazing in treated areas to limit the spread of weeds and facilitate ecological recovery, and;

- Anticipate, monitor, and provide for perpetual removal of weed infestations anywhere within the project area using hand tools and hand-held power tools.

5. Implement specific California spotted owl protection measures

- Prohibit treatments in California spotted owl nest stands outside the Developed Area Interface Land Use Zone;

- In spotted owl Protected Activity Centers outside the Developed Area Interface Land Use Zone, retain all trees greater than 9 inches and snags greater than 12 inches. Please note that Mexican spotted owl PACs have a 9 inch diameter limit, and that the 2001 Sierra Framework California spotted owl PACs had a 6 inch limit when mechanical treatments were determined to be absolutely necessary (mechanical treatments in PACs were discouraged). For PAC stands with canopy cover over 70%, do not reduce to below 70%. For stands with canopy cover between 50% and 70%, do not reduce to below 50%;

- In spotted owl Home Range Cores outside the Developed Area Interface Land Use Zone, retain all trees greater than 12 inches and snags greater than 14 inches. For stands with canopy cover over 50%, do not reduce to below 50%. For stands with canopy cover between 40% and 50%, do not reduce to below 40%, and;

- Prohibit tree cutting and other proposed treatment activities in any California spotted owl habitat during the breeding season in owl habitat.

6. Implement other resource conservation measures

- Do not treat Riparian Conservation Areas outside the Developed Area Interface Land Use Zone;

- Identify suitable habitat for Bell's sage sparrow, Gray vireo, Quino checkerspot, and southern mountain yellow-legged frog. Do not treat suitable habitat for these species outside the Developed Area Interface Land Use Zone;

- Prior to treatment identify suitable habitat and conduct surveys (to protocols where available) for all other Endangered, Threatened, Candidate, and Forest Sensitive species as well as species identified in the California Natural Diversity Data Base. Do not treat occupied habitat for these species outside of the Developed Area Interface Land Use Zone;

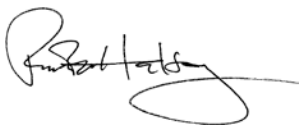
- Collect and present population trend data on any Management Indicator Species in any NEPA documentation, and;

- Flag and avoid any areas within 33 feet (10 meters) of downed logs, rocky outcrops, boulders, pack rat middens, and brush piles. Trees should not be felled across rocky outcrops or downed logs.

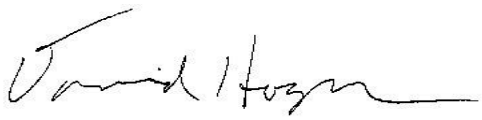
We are hopeful that the Forest Service will reevaluate the present proposal for the May Valley area in order to better protect human communities and valuable natural resources, including the chaparral.

Thank you for your consideration.

Sincerely,



Richard W. Halsey, Director



David Hogan, Board Member

Attachments

1. Resolving the Controversy - Why Large Fires in Southern California? (Halsey 2010)
2. San Bernardino National Forest Fire Regime Departure Map (Safford and Schmidt 2008).
3. Fuel modification impacts on nonnative plant invasion (Keeley 2006)
4. Chaparral fuel modification: What do we know – and need to know? (Keeley 2005)

Cited and Other Helpful References

Bradstock, R.A. and A.M. Gill. 2001. Living with fire and biodiversity at the urban edge: in search of a sustainable solution to the human protection problem in southern Australia. Journal of Mediterranean Ecology 2: 179-195.

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March 31, 2010

Marian Kadota
Adaptive Management Services Enterprise Team
U.S. Forest Service
1072 Casitas Pass Road #288
Carpinteria, CA 93013
mkadota@fs.fed.us

Re: Initial Comments on the Mount Laguna and Pine Valley Community Defense and Healthy Forest Restoration Project

Dear Ms. Kadota:

Thank you for the opportunity to provide initial comments on the Mount Laguna and Pine Valley Community Defense and Healthy Forest Restoration Project (Mount Laguna / Pine Valley project).

The California Chaparral institute strongly supports project goals to reduce the fire hazard near communities, rural residences, evacuation routes, and other infrastructure. Treatment activities in the Forest Service's "Developed Area Interface Land Use Zone" should be considered the highest project priority and implemented before all other proposed activities.

The following recommendations should be incorporated and fully analyzed in a stand alone "Fire Safety and Conservation Alternative" in any NEPA and/or Healthy Forest Restoration Act documents for the Mount Laguna / Pine Valley project.

Please note that the term "chaparral vegetation" is used in these comments to refer to areas that are clearly dominated by any shrub species. The term "conifer forest vegetation" is used to refer to areas that are clearly dominated by conifer trees. Chaparral vegetation with the occasional scattered conifer tree should be considered chaparral vegetation and should be managed for the benefit of chaparral ecology, not for the protection of isolated conifers.

1. Implement effective vegetation treatments to protect the public, firefighters, and private property

For the purposes of fire suppression to protect public and firefighter safety and private property, vegetation treatment and fuels reduction activities should take place only within the actual

wildland/urban interface, identified by the Forest Service as the "Developed Area Interface Land Use Zone" in the Land Management Plan - Part 2 Cleveland National Forest Strategy. Vegetation treatment and fuels reduction activities may also be appropriate along limited, designated, and strategic evacuation and fire access roads.

Vegetation management and fuel reduction activities in these areas in chaparral vegetation should be carried out consistent with California state law (Public Resources Code 4291). Specifically, break up vegetation fuel continuity within a maximum of 100 feet of structures with few exceptions for extreme conditions such as steep slopes. Thin vegetation immediately adjacent to structures, and remove weeds at least annually from treated areas. Examine structures themselves and suggest retrofits to reduce the chance of ignition from embers.

The Chaparral Institute will vigorously oppose unfounded chaparral treatments as measured from the boundary of National Forest land instead of structures.

The Forest Service must anticipate the inevitable problem of colonizing exotic invasive weeds and grasses as a part of the Mount Laguna / Pine Valley project and include a long-term plan for at least annual treatment of weed infestations. Deferring this crucial project element to a future project or decision will greatly increase the risk of harmful wildlife to both people and chaparral and forest vegetation.

The Forest Service also should not encourage expansion of existing type-converted areas previously created by the agency immediately east of Pine Valley within the proposed project boundaries by burning or masticating mature chaparral vegetation adjacent to converted areas. Instead, focus vegetation treatments in this area solely within the Developed Area Interface Land Use Zone and within 100 feet of structures.

2. Provide grants and otherwise encourage homeowners in Mount Laguna and Pine Valley to improve fire safety – Reduction of vegetation and landscaping fuels near structures and retrofitting homes with fire resistant materials

3. Protect valuable chaparral vegetation

- Eliminate proposed prescribed fire treatments in chaparral vegetation so as to retain the unique and valuable stands of this natural community in the project area and to reduce future fire risk from highly flammable, colonizing exotic weeds and grasses. Environmental review documents should consider the high likelihood of a wildfire within treated areas prior to full recovery of chaparral vegetation and the resulting likelihood of harmful type conversion;

- Bar use of mechanized masticators and other heavy equipment outside of the designated Developed Area Interface Land Use Zone and on any slopes exceeding 20 percent grade;

- Apply only one primary treatment to chaparral vegetation (i.e. mastication OR broadcast burning) to reduce the likelihood of type conversion;

- Retain all monarch shrub specimens where any portion of the stalk is 6 inches or greater in diameter;

- Suspend cattle grazing in treated areas to limit the spread of weeds and facilitate ecological recovery, and;

- Anticipate, monitor, and provide for perpetual treatment of weed infestations anywhere within the project area using hand tools and hand-held power tools.

4. Implement beneficial vegetation treatment to protect conifer forests

- Retain all larger diameter trees and snags greater than 14 inches diameter at breast height (dbh). Environmental review documents should address the scientific literature showing that wildfire may burn hotter, kill more trees, and be a greater threat to lives and property in areas where conifer tree density and canopy has been overly thinned;

- Selectively thin and remove conifers less than 14 inches dbh and shrubs less than 6 inches (at largest diameter of stalk) in and around conifer forest vegetation using hand tools or hand-held power tools. Retain all oak species where any portion of the stalk is 6 inches or greater in diameter. After initial thinning treatments use prescribed fire for maintenance in accordance with the natural fire regime;

- Chaparral patches inside areas otherwise dominated by conifer forest vegetation should be retained at a level roughly consistent with the amount of chaparral patch located outside of the drip line of conifers;

- Selectively remove actual hazard trees near homes, along limited/designated/strategic fire evacuation and access roads, and recreation areas. However, given extensive past and ongoing removal of hazard trees and snags around Mount Laguna, all larger diameter snags greater than 14 inches dbh should be retained away from homes, fire access roads, and recreation areas;

- Bar use of mechanized masticators and other heavy equipment outside of the Developed Area Interface Land Use Zone and on any slopes exceeding 20 percent grade;

- Suspend cattle grazing in treated areas to limit the spread of weeds and facilitate ecological recovery. Environmental review documents should address the conclusions of scientific literature that cattle grazing encourages unnaturally dense conifer forest vegetation, and;

- Anticipate, monitor, and provide for perpetual removal of weed infestations anywhere within the project area using hand tools and hand-held power tools.

5. Implement specific California spotted owl protection measures

- Treat modeled or past recorded occupied California spotted owl habitat as occupied for the purposes of identifying vegetation treatments. For example, the La Posta Creek headwaters spotted owl territory should be treated as occupied for the purpose of identifying vegetation treatments in Mount Laguna / Pine Valley project units 12 and 35;

- Prohibit treatments in California spotted owl nest stands outside the Developed Area Interface Land Use Zone;

- In California spotted owl Protected Activity Centers outside the Developed Area Interface Land Use Zone, retain all trees greater than 9 inches and snags greater than 12 inches. Please note that Mexican spotted owl PACs have a 9 inch diameter limit, and that the 2001 Sierra Framework California spotted owl PACs had a 6 inch limit when mechanical treatments were determined to be absolutely necessary (mechanical treatments in PACs were discouraged). For PAC stands with canopy cover over 70%, do not reduce to below 70%. For stands with canopy cover between 50% and 70%, do not reduce to below 50%;

- In California spotted owl Home Range Cores outside the Developed Area Interface Land Use Zone, retain all trees greater than 12 inches and snags greater than 14 inches. For stands with canopy cover over 50%, do not reduce to below 50%. For stands with canopy cover between 40% and 50%, do not reduce to below 40%, and;

- Prohibit tree cutting and other proposed treatment activities in any California spotted owl habitat during the breeding season.

6. Implement other resource conservation measures

- Do not treat Riparian Conservation Areas outside the Developed Area Interface Land Use Zone;

- Prior to treatment identify suitable habitat and conduct surveys (to protocols where available) for all other Endangered, Threatened, Candidate, and Regional Forester's Sensitive species as

well as sensitive species identified in the California Natural Diversity Data Base and by the California Native Plant Society. Do not treat occupied habitat for these species outside of the Developed Area Interface Land Use Zone;

- Collect and present population trend data on any Management Indicator Species in any NEPA documentation, and;

- Flag and avoid any areas within 33 feet (10 meters) of downed logs, rocky outcrops, boulders, pack rat middens, and brush piles. Trees should not be felled across rocky outcrops or downed logs.

7. Support full public participation and environmental review

    - Do not undermine public participation and environmental review of the Mount Laguna / Pine Valley project by processing the project under the Healthy Forest Restoration Act.

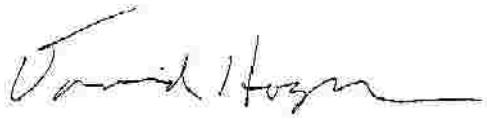
8. Disclose and analyze cumulative effects

    - Fully disclose and analyze the cumulative environmental effects of the Mount Laguna / Pine Valley project alongside ongoing related activities such as fuels / vegetation management, hazard tree removal, and cattle grazing in the project area by the Forest Service, CalFire, the County of San Diego, private property owners, and others, and;

    - Prepare a Cleveland National Forest-wide fire and vegetation management plan and environmental impact statement.

Thank you for your consideration. Please contact David Hogan with any questions at 760 809-9244.

Sincerely,



David Hogan
Board Member
California Chaparral Institute

CALIFORNIA CHAPARRAL INSTITUTE

...the voice of the chaparral

September 18, 2009

Greg Casselberry, Acting District Ranger
San Jacinto Ranger District
PO Box 518
Idyllwild, CA 92549

Re: Scoping Comments on the Santa Rosa Fuels Reduction Project

Dear Mr. Casselberry,

Thank you for the opportunity to comment on the Santa Rosa Fuels Reduction Project in the San Jacinto Ranger District of the San Bernardino National Forest.

We strongly support project goals to "reduce the fuel hazard near communities, rural residences, evacuation routes, and other infrastructure." At the end of these comments we provide detailed recommendations for measures to maximize the effectiveness of vegetation management in the Forest Service's designated Defense Zones around at-risk communities and facilities. Treatment activities in the Defense Zone should be considered the highest project priority and implemented before all other Santa Rosa project activities.

We also support project goals to *"restore or maintain vegetation that is resilient to wildfire and is within the historic range of fire behavior..."* as they apply to conifer forest vegetation at the higher elevations of the project. We appreciate the Forest Service's proposal to apply prescribed fire in this area. Treatment of conifer forest vegetation in the high elevations of the San Rosa project should be implemented as the second highest priority.

However, the Forest Service's stated goal to restore vegetation within the historic range of fire behavior cannot be reasonably applied to areas dominated by chaparral vegetation in the Santa Rosa project area. Proposed prescribed fire in chaparral would be unnecessary and even harmful and counterproductive. The Forest Service's own data shows that chaparral in this area is already within the historic fire regime or has burned too frequently, and because too much fire in chaparral can actually increase the risk of fire when native shrubs are replaced by highly flammable invasive grasses and weeds in a process known as type conversion.

Overall, the District's approach to the biologically rich and unique chaparral ecosystem that surrounds the lower portions of Santa Rosa Mountain appears to be based on significant misunderstandings about the chaparral's natural fire regime, a strong bias against shrublands in favor of forested communities, and an unfamiliarity with the Forest Service's own research.

We would also like to point out that this project should not be processed under the Healthy Forests Restoration Act. For past projects processed under the HFRA, the San Jacinto Ranger District has restricted public participation and formal "objections" to just those groups or individuals who have provided comments on scoping notices such as that for the Santa Rosa project distributed in August 2009. However, in the case of the Santa Rosa project scoping notice, the question of whether the project would be processed under the HFRA was never addressed. As such, the public has not been reasonably notified that their future opportunities to comment or object to this project may be limited. In recent negotiations on the Thomas Mountain project, Forest Service staff also expressed regret for not conducting more extensive public outreach on potentially controversial issues and proposed vegetation treatments. The Santa Rosa project provides an excellent opportunity to improve public outreach. Processing the Santa Rosa project under the HFRA would unnecessarily extend the past trend of excluding public participation in this important and potentially controversial project.

Creating Chaparral "Mosaics" is Wasteful and Ineffective

The District states that in applying prescribed fire to shrub ecosystems, *"the main focus within the montane chaparral is to reduce a portion of the old perennial chaparral in a mosaic pattern to perpetuate younger and more vital shrubs and reestablish a varied age class of chaparral across the landscape."*

It is crucial that the District understand that there is no scientific justification for such a focus from either a biological or fire safety perspective.

Forest Service scientists have concluded that, "*landscape mosaics are impractical, unnecessary, and probably not particularly effective***"** in creating a strategic approach to fuel and fire management in chaparral (Conard and Weise 1998).

Large-scale prescribed burns have also been rejected by the current California Fire Plan:

> *The typical vegetation management project in the past targeted large wildland areas without assessing all of the values protected. Citizen and firefighter safety and the creation of wildfire safety and protection zones are a major new focus of the new prefire management program.*

> *The vegetation management program will shift emphasis to smaller projects closer to the new developments.*
>
> *Given that department funds for prefire projects are limited, the department must carefully and systematically select the projects that provide the greatest benefit for a given investment.*

We concur with the State of California that shifting our fire management focus to the wildland/urban interface (WUI) with smaller fuel modifications directly around and near structures and communities is the most effective strategy to reduce wildfire risk. If a thorough analysis of the true costs of various fire-risk reduction strategies is performed, **it becomes clear that concentrating efforts directly where loss of life and property can occur will produce the greatest and most effective benefit.**

By attempting to create artificial "mosaics" in the valuable old-growth chaparral that surrounds Santa Rosa Mountain, the District is wasting taxpayer money that could be better spent directly around the nearby rural communities.

We also challenge the District's contention that "mosaics" need to be "reestablished" within the montane chaparral stands on Santa Rosa Mountain. We are unaware of any scientific evidence that supports the claim that mosaics are the natural condition of chaparral on Santa Rosa Mountain. In fact, there is nearly unanimous scientific consensus that the natural condition of chaparral in Southern California is large, dense, contiguous stands that are typically entirely burned during infrequent, large fires (Please see Attachment #1).

There is no Strong Relationship Between the Age of Shrubland Fuel and the Probability of Fire

Contrary to the apparent assumptions used to justify the project's proposed vegetation treatments in chaparral, the age of vegetation (time since last burned) does not have a strong relationship to hazard of burning. Analysis of several hundred fires over a broad expanse of California shrublands has demonstrated that extreme weather conditions (Santa Ana winds) overwhelm the influence of the age and spatial patterns of fuels (Moritz 1997; Moritz et al. 2004). This has also been demonstrated in Australian shrublands (Bradstock and Gill 2001; Whelan 2002). Such fires can burn easily through 5-10 year old stands (Dunn 1989). A study of the 1985 Wheeler fire in Santa Barbara County concluded that only 14% of the fire perimeter was established due to wildland fuel type changes (Dunn and Piirto 1987). Similar observations have been made regarding the 2007 Zaca Fire in Santa Barbara County: 50% of the fire perimeter stopped at vegetation more than 70 years old (Keeley et al.2009).

The inability of younger age classes to stop a fire was also shown during both the 2007 Witch Creek and Poomacha fires in San Diego County. Of the total acreage burned in the County's 2007 firestorm, **more than 20% or approximately 70,000 acres was 4-year-**

old vegetation recovering from the 2003 firestorm. In the Witch Creek Fire hundreds of acres of overgrazed pasture land in Pamo Valley burned despite the fact that very little vegetation was present.

> *"The extent to which landscape level fuel treatments are effective is a function of weather conditions during the fire event. Under extreme weather conditions, there is overwhelming evidence that young fuels, or even fuel breaks, will not act as a barrier to fire spread" (Keeley et al. 2004).*

Misunderstanding Chaparral Fire Regimes

Chaparral has a crown fire regime. By definition, low and moderate intensity fires are not associated with crown fire regimes. **The natural pattern in the chaparral ecosystem is for infrequent, high intensity, crown fires to burn through vast areas, especially under severe weather conditions.** In fact, high intensity fires are vital for the proper recovery of chaparral plant communities. Extensive research has shown that older chaparral stands with high "fuel loads" show significantly greater seed recruitment levels for many obligate seeding species after a fire than do younger stands (Keeley et al. 2008). Such high intensity fires also destroy the seeds of invasive species, allowing the recovering chaparral to resist the colonization of non-native weeds.

The notion that mixed-aged "mosaics" are needed to "perpetuate younger and more vital shrubs" implies that valuable, old-growth chaparral of the type on Santa Rosa Mountain "needs" to burn. There is no scientific research that supports such a conclusion. Old-growth chaparral stands remain dynamic, healthy plant communities (Fenn et al. 1993, Halsey 2008, Hubbard 1986, Keeley 1973, Larigauderie et al. 1990, Patric and Hanes 1989, Specht 1969, Zedler and Zammit 1989).

One sign of a healthy, chaparral ecosystem that is recovering from a fire are large areas of blackened ground (punctuated with resprouting shrubs and tiny shrub seedlings) remaining long after the first rainy season. **Attempts to alter the chaparral's natural fire regime through prescribed fire by will risk its ecological health and alter its natural successional processes.**

In fact, fuel treatments in shrubland ecosystems involving mastication or prescribed burning should only be done with the recognition that the resource is being sacrificed for fire hazard reduction. Dr. Jon E. Keeley (2009) addressed this issue in a comment letter to San Diego County. He wrote,

> *When treatments such as mastication are applied to shrubland ecosystems they have major environmental impacts on both the flora and fauna. Some have suggested that these impacts are temporary and the systems will recover to form perfectly natural functional ecosystems after a period of years. There is no scientific evidence to support such allegations. In addition, that sort of thinking is*

inconsistent with the purpose of using these treatments, which is typically to produce permanent fuel breaks.

Negative Impacts of Unnecessary Fuel Treatments

Much of the chaparral and sage scrub habitat in the San Bernardino National Forest has burned in excess of their natural fire regimes. This has been graphically illustrated by a recent map of the Forest developed by Forest Service scientists (Please see Attachment #2).

The statement that the majority of the project area has "missed two or more cycles of low-to-moderate intensity fires" is inaccurate and fails to consider the Forest Service's own data as shown in Attachment #2. As mentioned above, chaparral has a crown fire regime, so missing a "low-to-moderate" fire cycle is not possible. Secondly, the chaparral near the Santa Rosa Mountain Truck Trail that is scheduled for mastication shows a negative departure from its natural fire regime. Rather than missing any fire cycle, it is bordering on having too much fire. The area on the north side of the mountain scheduled for prescribed burning is old enough to be able to recover from a natural fire, but it is by no means in need of fire as the District implies.

We urge the District to not over-generalize mixed-conifer fire regimes and apply them to other plant communities. While there is clear evidence the forest on Santa Rosa Mountain shows a significant positive departure (not enough fire) from its natural fire regime, this is **not** the case for the surrounding lower elevation chaparral plant community.

Understanding this issue is critical because high fire frequencies are leading to the elimination of healthy chaparral and other shrubland ecosystems throughout Southern California to the process of type conversion and the expansion of highly-flammable, weedy grasslands. Applying even more fire to the ground in the form of large, prescribed burns, or conducting large mastication treatments will only make this problem much worse.

Invasive, grassy fuels can create a more dangerous fire environment because they dry out sooner than native plants, ignite more easily, and create massive amounts of heat instantly. One of the common factors in firefighter fatalities is the presence of highly-flammable grassy fuels.

As the Jackson fire in Sacramento County clearly illustrated in 2008, grass fires can be extremely dangerous. Five homes were destroyed, 6,400 acres were burned, and a fire captain was seriously injured when he was overcome by flames. The fuel was dried, non-native, invasive grasses. Grass fires that swept across Texas and Oklahoma between December 2005 and April 2006 burned more than two million acres and killed 11 people.

The 2006 Esperanza fire in Riverside County that killed five Forest Service firefighters was started and made its initial moves in grassy fuels.

We find the proposed project's claim that, *"Historically we have not experienced type conversions as a result of mosaic prescribed burns within the montane chaparral fields on the San Jacinto Ranger District,"* extremely shortsighted. With climate change, continuing drought that may or may not be associated with such change, and increasing human-caused ignitions, the District needs to look forward rather than backward in assessing the potential impact of its land management actions. Perhaps chaparral burned in just those prescribed fire treatments in the Santa Rosa project will recover, although this is questionable for chaparral in the western portion of the project that has already burned too frequently. However, the occurrence of additional accidental fires in these same treatment areas in the future during recovery of the chaparral is a near certainty. The cumulative harm caused by the combination of deliberate prescribed fire and future accidental fires will almost certainly cause large scale type conversion in this area.

There is also well documented evidence that cool-season burns can lead to type conversion (Le Fer and Parker 2005). Populations of fire dependent native species can be decimated if timing or heating requirements for regeneration are not met (Odion and Tyler 2002). Such a risk should not be dismissed by the District.

Regarding mastication, we know such fuel treatments can negatively impact the long-term survival and health of shrubland ecosystems by increasing the population and spread of invasive species (Merriam et al. 2006, Gelbard and Belnap 2003). In addition, masticated areas that burn during a wildfire can have significantly lower rates of recovery for native species (Moreno and Oechel 1994).

In field observations, we have already noted the entirely predictable spread of non-native grasses and weeds in the previously masticated areas along State Highway 74. With implementation of the Santa Rosa project, weeds will inevitably continue to spread in the proposed extensive mastication treatments along the Santa Rosa Mountain Truck Trail and other treated areas (Please see Attachment #3).

Cumulatively Significant Impacts

The San Bernardino National Forest is implementing vegetation modification projects on a scale that clearly requires increased scrutiny of cumulative effects.

NEPA documents must include an analysis of all effects of the proposed action, including cumulative impacts from other related activities. 40 C.F.R. § 1508.8 (effects include ecological, aesthetic, historical, cultural, economic, social or health impacts, whether direct, indirect, or cumulative). NEPA defines a “cumulative impact” as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts

can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7. If the combination of these cumulative effects would result in significant impacts to the human environment, the Forest Service must prepare a full EIS. Inland Empire Public Lands Council v. Schultz, 992 F.2d 977, 981 (9th Cir. 1993).

The District has implemented numerous fuels reduction projects and plans many more, according to the Environmental Assessment for the Thomas Mountain project. These projects and many other Forest Service and non-Forest Service fuels projects are radically changing the face of vegetation communities throughout much of the San Jacinto Ranger District and are resulting in significant harm to natural resources that has yet to be meaningfully reviewed in any systematic NEPA cumulative effects analysis.

For example, the Forest Service has implemented, and has plans to implement over 23,000 acres of prescribed burning on the District. Other agencies like CalFire are planning other nearby prescribed fire projects. This is a stunning level of modification to a valuable natural resource, with significant potential for harm to people, wildlife, and plants that must be considered in a cumulative effects analysis.

Chaparral as a Valuable Natural Resource

A common fire management approach to chaparral, seeing it as a “fuel” rather than a valuable natural resource, is a systematic problem within the Forest Service that needs to be rectified. In the land management plans for the four national forests in Southern California, forest types were carefully distinguished and management strategies were offered for each. Silvicultural methods were detailed for seven forest types. Yet when it came to chaparral, types were neither distinguished nor was a vegetation management plan developed.

The seeming focus of the proposed project to unnecessarily sacrifice chaparral to achieve the worthy goal of protecting higher elevation conifer forest vegetation on Santa Rosa Mountain continues this unfortunate bias by failing to recognize the intrinsic natural resource value of the old-growth chaparral on the mountain's lower elevations. Fuel treatments to protect the conifer forest should be conducted **within** the forest stand itself. The integrity of the valuable old-growth chaparral stands at the lower elevations must be preserved.

Rather than just seeing chaparral as "fuel," the old-growth stands of chaparral on Santa Rosa Mountain present a significant conservation opportunity and evoke the Forest Service’s duty to conserve a valuable and extremely threatened mature chaparral ecological community. Accidental wildfires in this area will inevitably occur, and are likely to occur with increasing frequency with growing nearby populations, and harm from these accidental fires should not be deliberately compounded by application of prescribed fire or mastication projects.

Cost/Benefit Analysis

We urge the Forest Service to conduct an honest cost/benefit analysis of the proposed landscape scale chaparral treatments vs. treatments to vegetation immediately adjacent to homes and communities and grants for fire resistant retro-fitting of homes. Although we know there is considerable pressure to perform fuel treatments because of "acres treated" quotas and available funding, such pressure must not prevent the implementation of the least damaging and most effective fire risk reduction strategy. Establishment and maintenance of defensible space around homes, retrofitting unsafe structures, and supporting community based fire safe education programs are in the long run much more cost effective in preventing the loss of life and property from wildfire than compromising large amounts of native vegetation in the National Forest (Please see Attachment #4).

Dr. Jack Cohen (2000), a research scientist with the Forest Service, has concluded after extensive investigations that home ignitions are not likely unless flames and firebrand ignitions occur within 120 feet of the structure. His findings have shown that,

> …*effective fuel modification for reducing potential WUI (wildland/urban interface) fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings* (Cohen 1999).

Cohen's work is consistent with the research on homes with nonflammable roofs conducted by other scientists. During WUI wildland fire events, the Stanford Research Institute (Howard et al. 1973) found a 95 percent survival rate for homes with a defensible space of 30 to 54 feet, and Foote and Gilless (1996) at Berkeley found an 86 percent home survival rate for homes with a defensible space of 84 feet.

We understand the objective of reducing fuel loads near communities and at strategic locations to create safety zones and assist fire suppression efforts. This is why we urge the Forest Service to focus fuel treatments within and adjacent to human communities. We also support the use of fuel treatments and prescribed fire to restore conifer forests. Unfortunately, a significant portion of the Santa Rosa Fuels Reduction Project fails to address such objectives by emphasizing the modification (and therefore destruction) of native chaparral communities in wildland areas.

The proposed 3,756 acres of prescribing burning of chaparral on the north side of the mountain is also extreme and will likely cause significant ecological damage.

The extensive nature of the mastication treatments of chaparral along Forest roads 7S02 and 7S05D are also beyond overkill and will destroy one of the most remarkable, old-growth stands of red shanks chaparral in the District. Mastication along these roads will become counterproductive as the inevitable highly flammable weeds that will colonize the area following mastication will in turn cause more accidental fire from careless

human activities. Forest Road 7S02 is far too long and windy to facilitate safe evacuation from the mountaintop in the event of fire, and much of this and Forest Road 7S05D are too dangerous and/or not strategic for fire fighting activities. For the purposes of mountaintop evacuation, the Forest Service should instead establish and post at least one shelter-in-place/helicopter evacuation site in the vicinity of mountaintop recreation sites.

Comply with environmental laws and the Forest Plan

Please take care to comply with several environmental laws and regulations and the San Bernardino Land Management Plan during preparation of the Santa Rosa project:

- NEPA requires preparation of an Environmental Impact Statement for a project of this magnitude where there are likely to be significant impacts to the environment. An EIS is required for the Santa Rosa project because, at least: 1) The project could significantly impact public safety; 2) The project area contains unique characteristics; 3) Project impacts on the environment are likely to be highly controversial; 4) Project impacts on the environment are highly uncertain or involve unique or unknown risks; 5) The project may establish a precedent for future actions with significant effects; 6) The project would likely result in cumulatively significant impacts, and; 7) The project could significantly impact special status species;

- NEPA requires that any Environmental Assessment disclose whether an Environmental Impact Statement will be prepared;

- Proposed Santa Rosa project hand/ground treatments in chaparral (that would include mechanical mastication) would be inconsistent with the Forest Plan's Back Country, Non-Motorized Land Use Zone;

- Proposed Santa Rosa project hand/ground treatments in chaparral would also be inconsistent with Forest Plan direction for the Anza Place to maintain "*…a historic and natural appearing* landscape…" and "*…providing a natural continuous expanse of vegetation as viewed from the High Country*." *See* Forest Plan at page 43. Chaparral vegetation in the Santa Rosa project is already within the natural fire regime or has burned too frequently so proposed prescribed fire in this vegetation would violate Forest Plan direction for both the Anza Place and the Santa Rosa and San Jacinto Mountains National Monument Place to maintain "*Chaparral communities … at pre-fire suppression conditions*." *Id.* at page 44. *See also Id.* at page 91. The extensive and unnecessary mastication of chaparral proposed in the project would also be extremely ugly in violation of Forest Plan Scenic Integrity Objectives.

Recommendations

The following recommendations should be incorporated and fully analyzed in a "Fire Safety and Chaparral and Forest Conservation Alternative" in any NEPA documents for the Santa Rosa project:

1. Implement effective vegetation treatment / fuels reduction to protect the public, firefighters, and private property

For the purposes of fire suppression to protect public and firefighter safety and private property, vegetation treatment and fuels reduction activities should take place only within the actual wildland/urban interface, identified by the Forest Service as the "Developed Area Interface Land Use Zone" in the Land Management Plan - Part 2 San Bernardino National Forest Strategy. Fire suppression activities in these areas should follow the Four Forests Guidelines for Development and Maintenance of WUI Defense and Threat Zones:

- WUI Defense Zone – For chaparral vegetation, break up vegetation fuel continuity within a maximum of 100 – 300 feet of structures. Remove vegetation immediately adjacent to structures, treat the structures themselves, and remove weeds at least annually from treated areas. The Chaparral Institute will vigorously oppose unfounded chaparral treatments as measured from the boundary of National Forest land instead of structures unless such treatments correspond to the recommended Forest Plan treatment distances from structures.

- WUI Threat Zone – No treatment of chaparral vegetation is necessary or effective in the WUI Threat Zone according to the Four Forests WUI guidelines, with the possible exception of removal of weed infestations using hand tools or hand-held power tools.

See Appendix K of Land Management Plan - Part 3 design Criteria for the Southern California National Forests. Threat Zone treatments are probably unnecessary on the Santa Rosa project as there is little or no forest vegetation within the Developed Area Interface Land Use Zone within the boundaries of the Santa Rosa project.

Vegetation treatment and fuels reduction activities may also be appropriate along limited, designated, and strategic fire access roads. However, proposed mastication treatments along Forest roads 7S02 and 7S05D are unnecessary and counterproductive.

The Forest Service must anticipate the problem of colonizing exotic invasive weeds and grasses as a part of the Santa Rosa project and include a long-term plan for at least annual treatment of weed infestations. Deferring this crucial project element to a future project or decision will greatly increase the risk of harmful wildlife to both people and chaparral vegetation.

2. Provide grants to homeowners in nearby communities for effective fire safety activities – Reduction of native vegetation and landscaping fuels near structures and retrofitting homes with fire resistant materials

3. Protect valuable chaparral vegetation

- Eliminate proposed prescribed fire treatments in chaparral vegetation so as to retain the unique and valuable mature stands of this natural community in the Santa Rosa Mountains and reduce future fire risk from highly flammable, colonizing exotic weeds and grasses;

- Bar use of mechanized masticators and other heavy equipment outside of the designated Developed Area Interface Land Use Zone and on any slopes exceeding 20 percent grade;

- Retain all monarch shrub specimens where any portion of the stalk is 6 inches or greater in diameter.

- Suspend cattle grazing in treated areas to limit the spread of weeds and facilitate ecological recovery, and;

- Anticipate, monitor, and provide for perpetual treatment of weed infestations anywhere within the project area using hand tools and hand-held power tools.

4. Implement beneficial vegetation treatment to protect conifer forests

- Retain all larger diameter trees and snags greater than 14 inches dbh;

- Selectively thin and remove conifers less than 14 inches dbh and shrubs less than 6 inches (at largest diameter of stalk) in and around conifer forest vegetation using hand tools or hand-held power tools. Retain all oak species where any portion of the stalk is 6 inches or greater in diameter. After initial thinning treatments use prescribed fire for maintenance;

  Please note that "conifer forest vegetation" means areas that are clearly dominated by conifer trees. Chaparral vegetation with the occasional scattered conifer should be considered chaparral vegetation and should be managed for the benefit of chaparral ecology, not for the protection of isolated conifers;

- Where patches of chaparral vegetation are present inside areas otherwise dominated by conifer forest vegetation, chaparral patches should be retained at a level roughly consistent with the amount of area located outside of the drip line of conifer forest patches.

- Selectively remove actual hazard trees near homes, along limited/designated/ strategic fire access roads, and recreation areas. However, given extensive past removal of hazard trees and snags on Santa Rosa Mountain (see Attachment #5), all larger diameter snags greater than 14 inches dbh should be retained away from homes, fire access roads, and recreation areas;

- Bar use of mechanized masticators and other heavy equipment outside of the Developed Area Interface Land Use Zone and on any slopes exceeding 20 percent grade;

- Suspend cattle grazing in treated areas to limit the spread of weeds and facilitate ecological recovery, and;

- Anticipate, monitor, and provide for perpetual removal of weed infestations anywhere within the project area using hand tools and hand-held power tools.

5. Implement specific California spotted owl protection measures

- Prohibit treatments in California spotted owl nest stands outside the Developed Area Interface Land Use Zone;

- In spotted owl Protected Activity Centers outside the Developed Area Interface Land Use Zone, retain all trees greater than 9 inches and snags greater than 12 inches. Please note that Mexican spotted owl PACs have a 9 inch diameter limit, and that the 2001 Sierra Framework California spotted owl PACs had a 6 inch limit when mechanical treatments were determined to be absolutely necessary (mechanical treatments in PACs were discouraged). For PAC stands with canopy cover over 70%, do not reduce to below 70%. For stands with canopy cover between 50% and 70%, do not reduce to below 50%;

- In spotted owl Home Range Cores outside the Developed Area Interface Land Use Zone, retain all trees greater than 12 inches and snags greater than 14 inches. For stands with canopy cover over 50%, do not reduce to below 50%. For stands with canopy cover between 40% and 50%, do not reduce to below 40%, and;

- Prohibit tree cutting and other proposed treatment activities in any California spotted owl habitat during the breeding season in owl habitat.

6. Implement other resource conservation measures

- Do not treat Riparian Conservation Areas outside the Developed Area Interface Land Use Zone;

- Identify suitable habitat for Bell's sage sparrow, Gray vireo, Quino checkerspot, and southern mountain yellow-legged frog. Do not treat suitable habitat for these species outside the Developed Area Interface Land Use Zone;

- Prior to treatment identify suitable habitat and conduct surveys (to protocols where available) for all other Endangered, Threatened, Candidate, and Forest Sensitive species as well as species identified in the California Natural Diversity

Data Base. Do not treat occupied habitat for these species outside of the Developed Area Interface Land Use Zone;

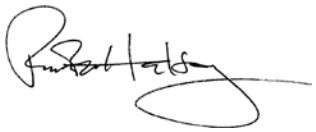
- Collect and present population trend data on any Management Indicator Species in any NEPA documentation, and;

- Flag and avoid any areas within 33 feet (10 meters) of downed logs, rocky outcrops, boulders, pack rat middens, and brush piles. Trees should not be felled across rocky outcrops or downed logs.

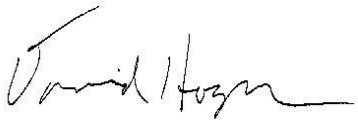
We are hopeful that the Forest Service will reevaluate their present proposal for Santa Rosa Mountain in order to better protect human communities and valuable natural resources, including the chaparral.

Thank you for your consideration.

Sincerely,



Director
California Chaparral Institute
www.californiachaparral.org



Boardmember
California Chaparral Institute

Attachments

1. Resolving the Controversy - Why Large Fires in Southern California? (Halsey 2008)
2. San Bernardino National Forest Fire Regime Departure Map (Safford and Schmidt 2008).
3. Fuel modification impacts on nonnative plant invasion (Keeley 2006)
4. Chaparral fuel modification: What do we know – and need to know? (Keeley 2005)
5. Photograph of logged hazard trees on Santa Rosa Mountain

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CALIFORNIA CHAPARRAL INSTITUTE

...the voice of the chaparral

August 17, 2009

Cindy Whelan
US Forest Service
Trabuco Community Defense Project
1600 Tollhouse Rd.
Clovis, CA 93611

Dear Ms. Cindy Whelan,

Thank you for the opportunity to comment on the Trabuco Community Defense Project in the Trabuco Ranger District of the Cleveland National Forest. We will offer our analysis of the proposed fuel treatments, but first we would like to address a serious concern we have over some of the Trabuco Ranger District's stated purposes for the project.

Misunderstanding Chaparral Fire Regimes

The District is claiming that some of the purposes of the planned fuel treatments are to, "preserve the natural diversity within fire adapted habitat communities" and to "help protect wildlife habitat and sensitive plant communities from high intensity fires in favor of low and moderate intensity fires."

It is crucial that the US Forest Service understands that there is no scientific justification for such goals. Chaparral has a crown fire regime. By definition, "low and moderate intensity fires" are not associated with crown fire regimes. **The natural pattern in the chaparral ecosystem is for infrequent, high intensity, crown fires to burn through vast areas, especially under severe weather conditions.** In fact, high intensity fires are vital for the proper recovery of chaparral plant communities. Extensive research has shown that older chaparral stands with high "fuel loads" show significantly greater seed recruitment levels for many obligate seeding species after a fire than do younger stands (Keeley et al. 2008). Such high intensity fires also destroy the seeds of invasive species, allowing the recovering chaparral to resist the colonization of non-native weeds.

One sign of a healthy, chaparral ecosystem that is recovering from a fire are large areas of blackened ground (punctuated with resprouting shrubs and tiny shrub seedlings) remaining long after the first rainy season. **Any attempt to alter the chaparral's**

natural fire regime will risk its ecological health and alter its natural successional processes.

The US Forest Service also needs to recognize that fuel treatments in shrubland ecosystems involving mastication, herbicides, or hand cutting of shrubs can only be done with the recognition that the resource is being sacrificed for fire hazard reduction. Dr. Jon E. Keeley (2009) addressed this issue in a comment letter to San Diego County. He wrote,

> When treatments such as mastication are applied to shrubland ecosystems they have major environmental impacts on both the flora and fauna. Some have suggested that these impacts are temporary and the systems will recover to form perfectly natural functional ecosystems after a period of years. There is no scientific evidence to support such allegations. In addition, that sort of thinking is inconsistent with the purpose of using these treatments, which is typically to produce permanent fuel breaks.

Unfortunately, the Trabuco Ranger District has a record of misunderstanding the ecology and natural resource value of chaparral plant communities. In 2008 the District masticated a remarkable stand of old growth manzanita in and around an artificial tree plantation in the Munhall Saddle area on the North Main Divide Road. The plantation was established starting in 1956 with a mix of Coulter pines and a hybrid between a Monterey and knobcone pine. Coulters are native to the area and have adapted to living within the chaparral plant community by having serotinous cones which open when exposed to fire: **being surrounded by chaparral is the natural condition.** Prior to the mastication, the area was featured as a distinctive habitat on the cover of Fremontia, the quarterly journal of the California Native Plant Society (CNPS 2007). Due to the mastication, the area has been seriously compromised. See Attachment #1 for photos.

A common fire management approach to chaparral, seeing it as a "fuel" rather than a valuable natural resource, is a systematic problem in the US Forest Service that needs to be rectified. In the recent land management plans for the four national forests in Southern California, forest types were carefully distinguished and management strategies were offered for each. Silvicultural methods were detailed for seven forest types. Yet when it came to chaparral, types were neither distinguished nor was a vegetation management plan developed.

Fuel Treatments

Regarding the proposed project and past fuel treatments conducted in the Trabuco Ranger District, it would be helpful to highlight the approach to fire risk reduction in the California Fire Plan:

> *"The typical vegetation management project in the past targeted large wildland areas without assessing all of the values protected. Citizen and firefighter safety and the creation of wildfire safety and protection zones are a major new focus of*

the new prefire management program…The vegetation management program will shift emphasis to smaller projects closer to the new developments…

"Given that department funds for prefire projects are limited, the department must carefully and systematically select the projects that provide the greatest benefit for a given investment."

Shifting our fire management focus to the wildland/urban interface (WUI) with smaller fuel modifications directly around and near structures and communities is an effective strategy. If a thorough analysis of the true costs of various fire risk reduction strategies is performed it becomes clear that **concentrating efforts directly where loss of life and property can occur will produce the greatest and most effective benefit.**

Focusing fire risk reduction efforts in this way will not only be the most efficient use of fire management dollars, but will also limit resource damage that will be caused when treatments are used in non-WUI areas such as along ridgelines and undisturbed wildland habitat unassociated with developed communities.

Reasonable Treatments

We find that the fuel treatments associated with the developments of Rancho Carillo and Rancho Capistrano as described in the Trabuco Community Defense Project can be justified under the above parameters because they are directly connected to at-risk communities. However, since some of these treatments will be within the San Mateo Wilderness, they must be done in a manner that maintains a measure of habitat quality in the treated areas. Broad scale and unselective mechanical mastication can negatively impact the long-term survival and health of shrubland ecosystems by increasing the population and spread of invasive species (Potts and Stevens 2009). In addition, masticated areas that burn during a wildfire can have significantly lower rates of recovery for native species (Moreno and Oechel 1994).

A less damaging treatment method could involve selectively thinning the vegetation to break up the contiguous fuel bed and removing dead material.

Excessive Treatments

In contrast, we find the fuel treatment area designated along the Ortega Highway between El Cariso Village and Decker Canyon to be excessive and unnecessarily damaging to the ecological health of the impacted habitat and the area's water and viewsheds. We also question the effectiveness of such treatments, especially the stated attempt to "create a continuous band of age-class managed fuels" between Elsinore Peak and Los Pinos. We urge the US Forest Service to conduct an honest cost/benefit analysis of such an effort. Although we know there is considerable pressure to perform fuel treatments because of "acres treated" quotas and available money, such pressure must not prevent the implementation of the least damaging and most effective fire risk reduction strategy.

Establishment and maintenance of defensible space around homes, retrofitting unsafe structures, and supporting community based fire safe education programs are in the long run much more cost effective in preventing the loss of life and property from wildfire than compromising continuous bands of native vegetation in the National Forest.

Dr. Jack Cohen (2000), a research scientist with the US Forest Service, has concluded after extensive investigations that home ignitions are not likely unless flames and firebrand ignitions occur within 120 feet of the structure. His findings have shown that,

> …*effective fuel modification for reducing potential WUI (wildland/urban interface) fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings* (Cohen 1999).

Cohen's work is consistent with the research on homes with nonflammable roofs conducted by other scientists. During WUI wildland fire events, the Stanford Research Institute (Howard et al. 1973) found a 95 percent survival rate for homes with a defensible space of 30 to 54 feet, and Foote and Gilless (1996) at Berkeley found an 86 percent home survival rate for homes with a defensible space of 84 feet.

We understand the need to reduce fuels, provide adequate safety zones, and create escape routes for both firefighting personnel and the public. However, it is important to remember that, as noted above and in other research (Merriam et al. 2006), fine, grassy fuels typically invade fuel treatments, spreading out into the surrounding ecosystem (Gelbard and Belnap 2003). These weeds can also be responsible for increasing ignition risk. The photos in Attachment #2 demonstrate the heavy weed invasion that has occurred in a large section of the Trabuco Ranger District's North Main Divide fuel break. Causing this type of resource damage is not an acceptable land management practice. Please see Attachment #3 for additional details.

We are deeply concerned that some fuel breaks that are supposed to protect communities may, at some point in the future, be counter productive. As the 2008 Jackson Fire in Sacramento County clearly illustrated, grass fires can be extremely dangerous. Five homes were destroyed, 6,400 acres were burned, and a fire captain was seriously injured when he was overcome by flames. The fuel was dried, non-native, invasive grasses.

Such negative consequences, as well as the loss of shrubland plant communities, need to be fully factored into the project's cost/benefit analysis. Please see Attachment #4 for additional details.

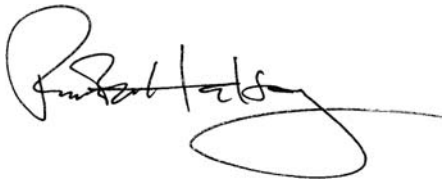
Considering all variables

Often times previous fire scars and firebreaks are used to demonstrate their effectiveness in stopping fires. This type of anecdotal evidence is not particularly compelling because

is fails to consider the many other variables impacting wildfire behavior. Wildfires often stop on ridges regardless of the presence of firebreaks.

What has troubled us for many years is the lack of solid research concerning the efficacy of firebreaks and their cost effectiveness. This has led us and several other scientists to work in a USGS sponsored study of firebreaks and other fire management practices over the next few years. It is our hope that we will be able to collect enough data to allow us to determine the best fuel modification options available to reduce wildland fire risk. Until that time, it is imperative for government agencies to minimize damage to shrubland ecosystems in their attempts to reduce fire risk.

Sincerely,



Richard W. Halsey
Director
California Chaparral Institute
www.californiachaparral.org

Attachments

1. Mastication of old-growth chaparral photos
2. Photo North Main Divide fuel break
3. Fuel modification impacts on nonnative plant invasion
4. Chaparral fuel modification: What do we know – and need to know
5. The California Chaparral Preservation Plan

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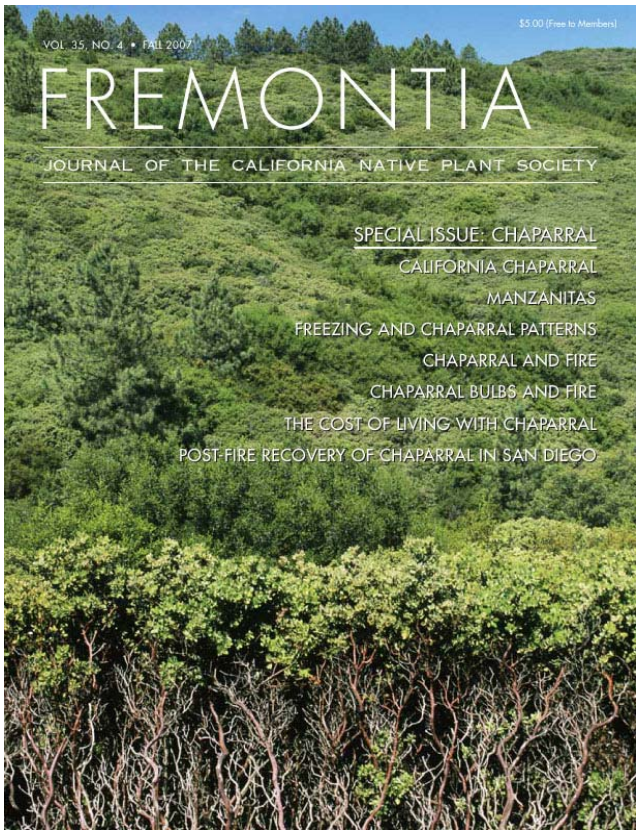
Mastication of old growth chaparral in the Trabuco Ranger District.



When chaparral is viewed primarily as fuel and not as a valued ecosystem, it is threatened by poor land management practices. On the cover of the Fall 2007 issue of Fremontia (left), the quarterly journal of the California Native Plant Society, a remarkable stand of manzanita chaparral was featured. The area was masticated by the US Forest Service shortly thereafter in an attempt to reduce "fuel" around an artificial tree plantation (right). The plantation was established starting in 1956 with a mix of Coulter pines and a hybrid between a Monterey and knobcone pine. Coulters are native to the area and have adapted to living within the chaparral plant community by having serotinous cones which open when exposed to fire: being surrounded by chaparral is the natural condition.

In past USFS land management plans for Southern California, forest types were carefully distinguished and management strategies were offered for each. Silvicultural methods were detailed for seven forest types. Yet when it came to chaparral, types were neither distinguished nor was a vegetation management plan developed. Chaparral needs to be treated as a valued ecosystem, not as an afterthought to trees.

The California Chaparral Institute

...the voice of the chaparral

April 9, 2007

John Bridgwater, District Ranger
c/o ACT2 Enterprise Unit
PO Box 377
Happy Camp, CA 96039

Dear Mr. Bridgwater,

I am writing to comment on the Environmental Assessment for the Ojai Community Defense Zone.

Although federal lands are not under state jurisdiction, I thought it would be helpful to highlight some fire risk reduction strategies as stated in the California Fire Plan:

> *"The typical vegetation management project in the past targeted large wildland areas without assessing all of the values protected. Citizen and firefighter safety and the creation of wildfire safety and protection zones are a major new focus of the new prefire management program. Now, increasing population and development in state responsibility areas often preclude the use of large prescribed fires…The vegetation management program will shift emphasis to smaller projects closer to the new developments, and to alternatives to fire, such as mechanical fuel treatment.*
>
> *"Given that department funds for prefire projects are limited, the department must carefully and systematically select the projects that provide the greatest benefit for a given investment."*

Shifting our fire management focus to the wildland/urban interface with smaller fuel modifications as suggested by the California Fire Plan is an effective strategy. If a thorough analysis of the true costs of various fuel modification treatments is performed (one has never been done), **we believe concentrating efforts directly where loss of life and property can occur will produce the greatest and most effective benefit.** Executing such a management plan will not only be the most efficient use of fire

management dollars, but will also limit potential resource damage that can be caused by large, landscape level vegetation management projects in the backcountry such as the proposed series of fuel breaks in the Ojai Community Defense Zone project. This is consistent with the Forest Plan Strategy Fire 1 to "Increase the efficiency and cost effectiveness of fire suppression activities."

One alternative to large backcountry fuel breaks would be to include wildfire buffer zones around developments themselves rather than compromising backcountry, native landscapes. Shea Homes designed such a community in Riverside County in which homes are separated from the Cleveland National Forest by the development's golf course.

Excessive fuel break widths

We seriously question the Environmental Assessment's reasoning and arguments supporting the need and efficacy of fuel breaks up to 2000 feet wide and the removal of vegetation around dwellings up to 1000 feet. There is no scientific support for such distances. On a long-term cost basis alone, such extensive clearing activity is not justified as it easily exceeds the presumed benefits. It not only destroys valuable native habitat, but increases erosion, allows the invasion of fine, highly flammable weedy fuels, and requires expensive maintenance year after year.

Increased risks

In addition to resource damage and expensive yearly maintenance, large fuel breaks can increase what they are supposedly designed to reduce, fire risk. Cleared areas are always invaded by annual weeds that increase the probability of an ignition and have little impact on suppressing embers, the primary cause of structure ignition in California wildlfires. While they can create defensible space **poorly maintained cleared areas can also increase the risk of a fire occurring**. Thus, any fuel break project needs to factor that into its cost/benefit analysis.

As a wildland firefighter I understand the need to reduce fuels, provide adequate safety zones, and create escape routes for both firefighting personnel and the public. However, it is important to remember that one of the common factors in firefighter fatalities is the presence of fine, highly-flammable grassy fuels. These fuels dry quickly and can be responsible for rapid ignitions, creating massive amounts of heat instantly. I am deeply concerned that the extensive fuel breaks being planned in the Ojai project may, at some point in the future, compromise firefighter safety.

Considering all variables

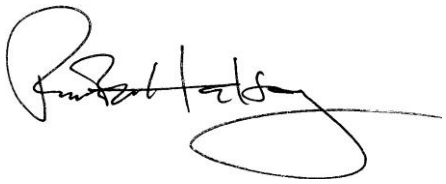
The Laguna fuel break photo shown in Figure 2 on page 21 of the Environmental Assessment is used to demonstrate the effectiveness of fuel breaks in stopping fires. This type of anecdotal evidence is not particularly compelling because is fails to consider the many other variables effecting wildfire behavior. Wildfires often stop on ridges

regardless of the presence of fuel breaks. I have attached a preliminary report on the Cedar fire that addresses this and other important factors relating to wildfire behavior.

What has troubled me for many years is the lack of solid research concerning the efficacy of fuel breaks and their cost effectiveness. This has led me and several other scientists to propose a USGS sponsored study of fuel breaks and other fire management practices over the next few years. It is our hope that we will be able to collect enough data to allow us to determine the best options available to reduce wildland fire risk. Until that time, it is imperative for government agencies to focus on creating wildfire management/risk-reduction strategies that minimize impacts on natural resources and backcountry wildlands.

Therefore, I am recommending that the Forest Service adopt Alternative 2 as described in the Environmental Assessment document.

Sincerely,



Richard W. Halsey
Director
California Chaparral Institute
www.californiachaparral.org

Attachments

1. The Chaparralian #21: The Cedar Fire

The California Chaparral Field Institute

…the voice of the chaparral

December 16, 2005

Mr. Bernard Weingardt
Regional Forester
USFS Regional Office R5
1323 Club Dr.
Vallejo, CA 94592

Dear Mr. Weingardt,

I am writing this letter to you to express both my heartfelt appreciation to those in the USFS who have worked so hard to prepare the Final Environmental Impact Statement and Land Management Plan for the four Southern California National Forests and to detail concerns I have over some of the decisions and perspectives found within.

To be honest, I was prepared to find misunderstandings concerning fire regimes within chaparral, the dominate plant community in all four Southern California National (*Efin*) Forests. However, I found none. Those who researched and wrote the documents did an excellent job becoming familiar with recent scientific literature regarding fire ecology, wildfire behavior, and invasive species. This was especially true concerning the impact of fire suppression. It is common in many land management circles to erroneously assume that past fire suppression has caused "unnatural" fuel loading in all wildlands. While this appears to be true in some forest systems, such as dry ponderosa pine forests, it is definitely not so for chaparral. The Plan recognizes this important distinction.

Another important issue properly recognized in the Plan relates to the increase in fire frequency and the negative impact such an increase has had on chaparral systems. "Suppression of chaparral fires will be necessary to maintain fire frequencies within the range of natural variability: there is more concern for fire frequency than fire exclusion in chaparral" (FEIS 1-17). And, "Indeed, fire suppression may play a key role in maintaining these ecosystems closer to their natural fire regime than would be the case in its absence" (FEIS 1-307).

There is, however, one issue that is not properly addressed in the EIS or Plan and one that is required by Title 36 CFR 219.15: **"The vegetation management practices chosen for each vegetation type and circumstance shall be defined in the forest plan…"** I believe this is a potentially fatal flaw in the Plan that is linked to both historical

perceptions of what National Forests are and the generally unrecognized unique nature of Southern California ecosystems.

The chaparral dominated National Forests lands in Southern California were originally established to protect their watershed value, and unlike most reserves were enthusiastically supported by local interests (Pyne 1982). Despite the paucity of trees and merchandisable timber in these reserves, however, the classification of "Forest" stayed and misconceptions about the composition of Southern California National Forests have remained ever since. The public has little awareness of what chaparral is, the media and many public agencies continue to describe chaparral dominated fires as forest fires, and chaparral is not recognized as a natural resource on the same level as forested land. For reference, the chart below lists the percentage of shrubland in each of the four National Forests in Southern California. Due to the 2003 fires and the impact of continued climatic change, the percentages are likely to increase after future inventories are taken.

National Forest	Total acres	Acres in chaparral and other shrubland	Percent shrubland
Los Padres	1,774,520	1,149,277	64%
Angeles	662,409	474,506	71%
San Bernardino	664,830	346,940	52%
Cleveland	420,245	370,654	88%

Fig. 1 Percentage of Shrubland in Southern California National Forests. Despite overwhelming dominance of chaparral in Southern California open space, few residents are familiar with its presence. From Halsey (2005). Data source, USFS.

It is understandable that the USFS has an institutional bias toward trees since the regulation of timber harvesting is one of its primary missions. However, this bias should not interfere in the proper management of resources that can not be easily assigned an economic value. In the Plan, forest types are carefully distinguished and management strategies are offered for each type. For example, silvicultural methods for seven forest types are detailed under the Plan's vegetation standards (LMP3-3). Yet when it comes to chaparral, types are neither distinguished nor is a vegetation management plan developed. This is in violation of Title 36.

Such an omission can not be attributed to a lack of understanding of the different types of chaparral (Fig. 2). Extensive work has been done to distinguish the various forms of chaparral (Sawyer and Keeler-Wolf 1995) and how these assemblages differ in terms of fire response, drought conditions, and resilience to fire frequency (Keeley 1991, Keeley and Fotheringham 1998, Kummerow et al. 1977, Keeley 1995, Zedler 1995, Jacobson et al. 2004).

Developing a proper vegetation management plan for chaparral is critical not only because **the majority of the four Southern California National Forests are composed of shrublands and not forest**, but because improper management techniques have the potential of eliminating chaparral through type-conversion (as acknowledged by the

Plan), thus compromising one of the promises of the USFS of "advocating a conservation ethic in promoting the health, productivity, diversity, and beauty of forests and associated lands."

Type	Defining Species	General distribution
Red Shanks	*Adenostoma sparsifolium*	Above 2000 ft.
Ceanothus	Various ceanothus species	Generally below 3600
Chamise	*Adenostoma fasciculatum*	Common on lower elevation, xeric slopes
Mixed	No overwhelmingly dominant species	N. slopes below 3000 ft. & all above 3000 ft.
Manzanita	*Arctostaphylos* species	Generally higher elevations. 3-6ft. tall.
Scrub Oak	*Quercus berberidifolia*	N. slopes below 3000 ft. & all above 3000 ft.
Montane	*Arctostaphylos* and ceanothus species	Above 4500 ft.

Fig. 2 Basic Southern California Chaparral Communities. Adapted from Hanes (1977), Marion (1943), and Halsey (unpublished data). From Halsey 2005.

What I found particularly puzzling was that throughout the Plan, the sensitivity of chaparral to disturbance was noted numerous times to such things as fire frequency (FEIS 1-307), season of burning on germination success (FEIS 1-331), and invasive species (FEIS 1-194), yet the Plan does not lay out a way to manage such risks in a manner equal to what it did for forests. **Instead, chaparral is primarily considered "fuel", not a natural resource.** Fuel treatments in chaparral need clear management standards based on scientific understanding of each type, not generalities. This is why the Plan wisely rejected the use of recent interagency Fire Regime Condition Class (FRCC) categories for chaparral because they are based on broad assumptions about forested ecosystems that are not applicable to Southern California. The greatest risk to chaparral systems in Southern California today is too much fire, especially during the cool season which is when prescribed burning projects are usually conducted. See Le Fer and Parker (2005) for additional information on the risk of cool season burning.

The consequence of not having a clear management standard for chaparral may lead to decisions that will unnecessarily damage or eliminate chaparral, causing a reduction in biodiversity, the integrity of intact habitats and the enjoyment of experiencing native, natural landscapes by future generations. This should be clearly recognized by the Plan as important because "as the population continues to increase, so too does the desire of people to conserve these remaining vestiges of regional open space and scenic heritage in a natural-appearing condition" (Exec. Sum-5).

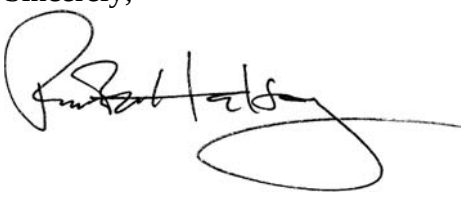
This lack of a proper management plan for chaparral calls into question land-use classification decisions such as the failure to classify as wilderness the small, triangular segment adjoining the northern boundary of the San Mateo Canyon Wilderness known as Morrell Canyon. This is a logical extension of a region that is unparalleled in wilderness values for Southern California old-growth chaparral, yet the Plan used the Back Country Motorized Use Restricted designation instead. This opens up the small parcel to the development of "Renewable Energy Resources" which is an accommodation to narrow economic interests supported by elected public officials such as Representative Darrell Issa and a violation of the Forest Service's guiding principle of using an "ecological

approach to the multiple-use management of the National Forests." The proposed hydroelectric plant planned for this site will consume more energy than it creates and will significantly increase wildfire risk. Without a clear **resource management plan for chaparral**, questionable land-use decisions such as this one will likely continue.

Mr. Weingardt, I invite you to take an aerial tour via http://earth.google.com/ of the Morrell Canyon area to see for yourself how well it fits into the value of wilderness and why a dam and associated electrical infrastructure will negatively impact the resource. The coordinates are 33° 37'44" N and 117° 23'01" W. The important thing to remember is that once a natural area is compromised by such a project, it is taken out of the inventory of wild places forever.

A tremendous amount of excellent work and energy has gone into the Final EIS and Land Management Plan for the four Southern California National Forests. The recognition by the Plan's fire management officers of the sensitivity of chaparral systems to increased fire frequency is commendably farsighted. But the time has come to seriously reconsider the Forest Service's perspective on chaparral and deal with it in a manner consistent with both Title 36 and the fact **that chaparral is the most extensive and characteristic vegetation community in Region 5.**

Sincerely,



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