



To: Environmental Protection Agency, EPA Docket Center (EPA/DC)  
Mailcode 28221T, Attention Docket ID No. OAR-2008-0699  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Re: Comments on Docket ID No. EPA-HQ-OAR-2008-0699

March 16, 2015

To Whom It May Concern:

The Northern California Prescribed Fire Council, Southern Sierra Prescribed Fire Council, and Central Coast Prescribed Fire Council represent diverse groups of fire managers, regulators, academics, tribes, and other parties who implement, research, or otherwise support the use of prescribed fire in California's fire-adapted ecosystems. We are writing this letter to provide comments on the EPA's proposed revisions to the ground-level ozone standards, and to outline potential implications for forest health, fuels management and wildfire hazard, and public health and safety.

We would like to preface our comments by highlighting our understanding of the health risks associated with ozone, and emphasizing our commitment to and concern for public health, especially as it relates to forest health and fire. As shown in the comments below, we do not dispute the regulation of ground-level ozone. However, we do see a need for the new rule to better articulate the natural role of fire in California's ecosystems; to better clarify how natural fire regimes, cultural burning, proactive fuels management, and forest restoration will be addressed in the rule; and to better account for the inherent connections among fire, forest health, and public health.

### **Fire in California**

Fire, ignited by lightning and Native Americans, has shaped the structure and composition of the majority of California's ecosystems for millennia, and is indisputably a major component of natural background conditions in the state. Scott Stephens, a fire science professor at UC Berkeley, estimates that approximately 4.5 million acres burned every year in California prior to 1800—that's just less than the average annual area burned in wildfires throughout the entire U.S. during the period 1994-2004, which was considered an extreme decade for wildfire. In California's most abundant forest types, these historical fires were frequent and of limited intensity, consuming dead material and killing small trees, but leaving most large trees alive and intact. However, a century of fire suppression has led to significant shifts in forest composition, structure, and function, resulting in fires that are now uncharacteristically intense and lethal.

Despite increasing expenditures on fire suppression, these intense fires represent a growing proportion of the annual area burned in California's forests, creating periods of severely degraded air quality, threatening human life and property, and altering the natural landscape, with implications for the conservation of threatened and endangered species.

Reversal of these trends requires the restoration and maintenance of forest conditions that once allowed for and were maintained by frequent, lower intensity fires. The scale of this task is immense, and fire itself, carefully and regularly applied under moderate conditions as either prescribed fire or managed wildfire, is the single most effective and efficient tool for restoring and maintaining forest health while protecting against future catastrophic fire and related threats to public health and welfare.



## Considerations for the Rule

The proposed rule highlights the importance of prescribed fire in reducing wildfire severity and maintaining ecosystem function. As stated in the rule, “EPA understands the importance of prescribed fire, which mimics a natural process necessary to manage and maintain fire-adapted ecosystems and climate change adaptation, while reducing risk of uncontrolled emissions from catastrophic wildfires” (p. 75384). We commend the EPA for including this language in the proposed rule.

However, there are a number of gray areas in the proposed rule, and it would benefit from more detail and clarification on a number of issues, including 1) the role and benefits of fire more generally (including prescribed fire *and* managed wildfire), and its rightful categorization as a source of natural background emissions; 2) the need to protect and enable cultural burning practices by tribal communities; 3) how the use of beneficial fire will be affected by and/or protected within the control strategies mandated by the rule, given the stated benefits of its use; and 4) potential issues with relying on the Exceptional Events Rule as a primary method for restoring and maintaining fire on the landscape.

### ***Prescribed fire and managed wildfire***

As prescribed fire councils, our primary focus is the use of management-ignited prescribed fires that meet objectives outlined in a thorough, upfront planning process. There is broad agreement within both the management and scientific communities on the effectiveness and unique values of prescribed fire, which cannot be fully achieved through other, non-fire-based means. Cultural burning fits under this umbrella as well, and we would like to emphasize our support for tribal efforts to revitalize cultural burning practices.

However, we also understand the harsh reality of California’s current fire and fuels management backlog, where annual treatments to reduce wildfire hazard cover a mere fraction of the area that needs attention. In addition, we know that it is not feasible to fully address wildfire hazard—and resulting harmful emissions, including ozone—with management-ignited prescribed fires and mechanical treatments alone. Many areas are either too steep or too remote for mechanical treatments, or are designated wilderness, where fire is the only tool for maintaining forest resilience. As a result, we recognize the need to define beneficial fire more broadly, and to regard both prescribed fire and managed wildfire as important tools for bringing fire-adapted ecosystems in California and throughout the country into a more resilient condition.

To this end, we would like to see clear language and processes in the rule that address a broader definition of beneficial fire, including prescribed fire and managed wildfire. The natural role of fire should be highlighted in the rule, and it should be clearly stated that fire is not an unknown contributor (as classified now), but rather a natural process that is necessary to avoid larger exceedances and emissions-related health problems from uncontrolled and uncharacteristically severe wildfire. Furthermore, as outlined by the Western Regional Air Partnership (WRAP),<sup>1</sup> it is important to categorize cultural burning and ecological burning as natural background emissions sources, and treat them accordingly. We strongly believe that it is neither appropriate nor feasible to limit a natural process as part of a control strategy in a non-attainment area, especially when that process can produce long-term net benefits for the resources at risk. We hope that the EPA can develop guidance for non-attainment areas that clearly articulates these points, and gives local air districts direction and tools to exclude natural, beneficial fire from their control strategies. These actions would be in the long-term mutual interest of both forest health and public health.

---

<sup>1</sup> Guidance for categorizing natural vs. anthropogenic fire emissions. Nov. 30, 2005. Prepared by the Natural vs. Anthropogenic Task Team of the Fire Emissions Joint Forum. Western Regional Air Partnership.



### ***Limitations of the Exceptional Events Rule***

We see that the Exceptional Events Rule (EER) is cited in the proposed language as a potential pathway for exempting beneficial fire under the new standards. We are concerned about the ability of the EER to allow for natural, beneficial fire to play a role to the extent that it is needed. Currently, the EER only treats wildfire and prescribed fire as exceptions under very particular circumstances that are not necessarily consistent with restoration and management goals on the landscape. For example, the EER can be used to exempt fires that are one-time events and not expected to occur again at the same location, but this contradicts management needs, where repeated application is necessary to restore more frequent fire and maintain resilience. This reiterates the need for ecological and cultural burns to be classified as natural background emissions sources and treated differently than other industrial and anthropogenic sources. Also, the process to monitor and apply for the EER is cost prohibitive and cumbersome; this is especially true for prescribed fire, and as a result, the rule is rarely used for that purpose. To our knowledge, it has never been used to exempt prescribed fire in California.

As we pointed out above, beneficial fire should be the primary component of any practical strategy to restore and maintain forest resilience on a landscape scale and protect the public from severe wildfire events and related pollutants. It would be prudent to outline clear strategies that protect and enable the use of beneficial fire, rather than offering costly, cumbersome pathways that continue to treat fire as an inherently negative process only permissible under exceptional circumstances. We understand that the EER will be up for revision later this year, but we find it unwise to roll out the new standards under the assumption that a to-be-revised EER will take care of fire-related concerns. Clear language and protections for beneficial fire are needed now in the proposed ozone rule.

Thank you for the opportunity to comment on the revised rule and shed light on the critical connections between forest health and public health. Fire is an inevitable and natural part of California's future, but the nature of that fire is in our hands. We hope that the EPA will offer a regulatory environment that specifically recognizes and enables the use of beneficial fire on the landscape, rather than promoting short-sighted or vague regulations that could make the existing problem worse.

Please feel free to contact us if you need any further information.

Sincerely,

Steering Committee members and other supporters of the Northern California, Southern Sierra, and Central Coast Prescribed Fire Councils, as listed below and on the following pages:

Lenya Quinn-Davidson, Director  
Northern California Prescribed Fire Council  
[nwcapfc@gmail.com](mailto:nwcapfc@gmail.com)

Karina Silvas-Bellanca, Chair  
Southern Sierra Prescribed Fire Council  
[ssierrapfc@gmail.com](mailto:ssierrapfc@gmail.com)

Nick Goulette  
Chair, Northern CA Prescribed Fire Council  
Executive Director, Watershed Research and Training  
Center  
[nickg@hayfork.net](mailto:nickg@hayfork.net)

Carl Skinner, Geographer (retired USFS)  
Steering Committee Member  
Northern CA Prescribed Fire Council  
[bmefguy@gmail.com](mailto:bmefguy@gmail.com)

Eric Moore, Steering Committee Member  
Central Coast Prescribed Fire Council  
[erdc2tails@mac.com](mailto:erdc2tails@mac.com)

Christopher Mallek  
Steering Committee Member  
Southern Sierra Prescribed Fire Council  
[christopherrmallek@gmail.com](mailto:christopherrmallek@gmail.com)



Jeff Kane, Professor, Humboldt State University  
Steering Committee Member  
Northern CA Prescribed Fire Council  
[Jeffrey.kane@humboldt.edu](mailto:Jeffrey.kane@humboldt.edu)

Eamon Engber, Interagency Fire Ecologist  
Redwood National Park and Six Rivers National Forest  
Steering Committee Member  
Northern CA Prescribed Fire Council  
[eamon\\_engber@nps.gov](mailto:eamon_engber@nps.gov)

Bill Tripp, Karuk Tribe, Department of Natural Resources  
Steering Committee Member  
Northern CA Prescribed Fire Council  
[btripp@karuk.us](mailto:btripp@karuk.us)

Will Harling, Executive Director  
Mid Klamath Watershed Council  
Steering Committee Member  
Northern CA Prescribed Fire Council  
[will@mkwc.org](mailto:will@mkwc.org)

Yana Valachovic, Forest Advisor & County Director  
UC Cooperative Extension, Humboldt/Del Norte  
Steering Committee Member  
Northern CA Prescribed Fire Council  
[yvala@ucanr.edu](mailto:yvala@ucanr.edu)

James K. Agee  
Emeritus Professor of Forest Ecology  
University of Washington  
Managing Editor, Fire Ecology  
[jagee@uw.edu](mailto:jagee@uw.edu)

Dr. Scott Stephens, Professor of Fire Science  
Co-Director, Center for Fire Research and Outreach  
University of CA, Berkeley  
[sstephens@berkeley.edu](mailto:sstephens@berkeley.edu)

Robert Sanders  
District Fire Management Officer  
USFS, Sequoia National Forest  
[rsanders@fs.fed.us](mailto:rsanders@fs.fed.us)

Deakon J. Duey  
Resource Forester, RPF# 2853  
Humboldt Redwood Company, LLC  
[dduey@hrcllc.com](mailto:dduey@hrcllc.com)

Kristen Shive  
University of CA, Berkeley  
[kshive@berkeley.edu](mailto:kshive@berkeley.edu)

Marcia Penner Freedman  
Author: Fighting Fire in the Sierra National Forest  
(release 3/30/15)  
[freedman@sti.net](mailto:freedman@sti.net)

John Buckley, Executive Director  
Central Sierra Environmental Resource Center  
[johnb@cserc.org](mailto:johnb@cserc.org)

Raul Recarey, CEO  
Karuk Tribe Health & Human Services  
[rrecarey@karuk.us](mailto:rrecarey@karuk.us)

Larry Luckham  
Resident, Marin County  
[Larry.luckham@cityofsanrafael.org](mailto:Larry.luckham@cityofsanrafael.org)

Tamara Hanna, Chair  
Southern California Society of American Foresters  
[Tjh2ogal@yahoo.com](mailto:Tjh2ogal@yahoo.com)

Robert Puls  
Agency Rep., Tulare County RCD  
President, Sequoia Fire Safe Council  
[bob\\_puls@tularecountyrccd.com](mailto:bob_puls@tularecountyrccd.com)

Don Rivenes, Executive Director  
Forest Issues Group  
[rivenes@sbcglobal.net](mailto:rivenes@sbcglobal.net)

William Basye, Fuels Management Specialist  
Sequoia and Kings Canyon National Parks  
[william\\_basye@nps.gov](mailto:william_basye@nps.gov)

Ramona J. Butz  
Northern Province Ecologist  
USFS, Klamath, Mendocino, Shasta-Trinity, and Six  
Rivers NFs  
[rbutz@fs.fed.us](mailto:rbutz@fs.fed.us)

Brian Peterson  
Botanist, Vegetation Ecologist, and GIS Specialist  
Nomad Ecology  
[peterston.n.brian@gmail.com](mailto:peterston.n.brian@gmail.com)



Andrew Spencer  
USDA Forest Service  
[agordonspencer@gmail.com](mailto:agordonspencer@gmail.com)

Bruce Courtright, Chair  
The National Center for the Elimination of Catastrophic  
Wildfire  
[bcourtright@sisqtel.net](mailto:bcourtright@sisqtel.net)

Phillip Dye  
Prometheus Fire Consulting  
[phil@prometheusfireconsulting.com](mailto:phil@prometheusfireconsulting.com)

Rich Fairbanks  
Fairbanks Forest Management, LLC  
[r\\_fairbanks@q.com](mailto:r_fairbanks@q.com)

Dave Kahan  
Full Circle Forestry  
[sparky@asis.com](mailto:sparky@asis.com)

Matt Berry  
Adaptive Management Services Enterprise Team  
USDA Forest Service  
[maberry50@yahoo.com](mailto:maberry50@yahoo.com)

Josh Hiller, Emergency Services Coordinator  
Firestorm WFS, Inc.  
[jhiller75@yahoo.com](mailto:jhiller75@yahoo.com)

Daniel Godwin  
University of Missouri – Columbia  
[danielg7@gmail.com](mailto:danielg7@gmail.com)

Kyle Keegan  
Educator and Land Restoration Practitioner  
[owlsperch@asis.com](mailto:owlsperch@asis.com)

Arielle Halpern  
University of CA, Berkeley  
[arielle.halpern@berkeley.edu](mailto:arielle.halpern@berkeley.edu)

Jose Luis Duce Aragues  
Northern CA Prescribed Fire Council participant  
[jlducearagues@yahoo.es](mailto:jlducearagues@yahoo.es)

Colin W. Campbell, Student  
Humboldt State University  
[colinwcamp@aol.com](mailto:colinwcamp@aol.com)

Ryan DeSantis, Forest Advisor  
University of California Cooperative Extension  
[rdesantis@ucanr.edu](mailto:rdesantis@ucanr.edu)

Amy Ziegler  
Interagency Fire Management Specialist – Planning  
Six Rivers National Forest/Redwood National Park  
[aziegler@fs.fed.us](mailto:aziegler@fs.fed.us)

Randy Striplin, Fire Planner  
USDA Forest Service  
Lake Tahoe Basin Management Unit  
[rstriplin@fs.fed.us](mailto:rstriplin@fs.fed.us)

Christina Restaino  
University of CA, Davis  
[cmrestaino@ucdavis.edu](mailto:cmrestaino@ucdavis.edu)

Rob York, PhD  
Research Stations Manager, UC Center for Forestry  
Adjunct Assistant Professor of Forestry  
Department of Environmental Science, Policy, and  
Management  
University of CA, Berkeley  
[rayork@gmail.com](mailto:rayork@gmail.com)

Jack and Sara Kimmich, owners  
Hydro Tech Transport  
[dirtdoctorjak@aol.com](mailto:dirtdoctorjak@aol.com)

Carmen Tubbesing, Graduate Student  
UC Berkeley Wildland Fire Science Lab  
[ctubbesing@berkeley.edu](mailto:ctubbesing@berkeley.edu)

Andrew Slack, Graduate Student  
Humboldt State University  
[aslack@humboldt.edu](mailto:aslack@humboldt.edu)

Madelinn Schriver, Graduate Student  
Humboldt State University  
[madelinn.schriver@humboldt.edu](mailto:madelinn.schriver@humboldt.edu)



Laura Lalemand, Graduate Student  
Humboldt State University  
[lbl12@humboldt.edu](mailto:lbl12@humboldt.edu)

Dan Stark, Staff Research Associate  
University of CA Cooperative Extension  
[stark@ucanr.edu](mailto:stark@ucanr.edu)

Adam C. Watts, Ph.D.  
Assistant Research Professor, Fire Ecology  
Deputy Director, Program for Climate, Ecosystem, and  
Fire Applications (CEFA)  
Division of Atmospheric Sciences  
Desert Research Institute  
[adam.watts@dri.edu](mailto:adam.watts@dri.edu)

Christopher Ruff, Fuels Officer  
USDA Forest Service, Tahoe National Forest  
[cruff@fs.fe.dus](mailto:cruff@fs.fe.dus)

Peter Kelly, Fire Management Officer  
USFWS, San Luis National Wildlife Refuge Complex  
[peter\\_kelly@fws.gov](mailto:peter_kelly@fws.gov)

Keith Mayer, Fire Program Supervisory Range Tech  
USFWS, San Luis National Wildlife Refuge Complex  
[ketih\\_mayer@fws.gov](mailto:ketih_mayer@fws.gov)

Tony Howard, Battalion 1114  
CAL FIRE, Mendocino Unit  
[tony.howard@fire.ca.gov](mailto:tony.howard@fire.ca.gov)

Gary Fildes  
Retired USDA Forest Service Prescribed Burn Manager  
Yuba County resident  
[gfildes2001@yahoo.com](mailto:gfildes2001@yahoo.com)

David Arsenault, Executive Director  
Plumas Audubon Society  
[david@plumasaudubon.org](mailto:david@plumasaudubon.org)

Robert K. Noxon, Battalion Chief  
USDA Forest Service, Tahoe National Forest  
[rnoxon@fs.fed.us](mailto:rnoxon@fs.fed.us)

Greg Suba  
Conservation Program Director  
California Native Plant Society  
[gsuba@cnps.org](mailto:gsuba@cnps.org)

Marko Bey, Executive Director  
Lomakatsi Restoration Project  
[marko@lomakatsi.org](mailto:marko@lomakatsi.org)

Dawn Pedersen  
Registered Professional Forester  
[dawn.pedersen@fire.ca.gov](mailto:dawn.pedersen@fire.ca.gov)

John Knight  
Registered Professional Forester #2475  
[jkdkok@yahoo.com](mailto:jkdkok@yahoo.com)

David Murray, Fire Management Crew Boss  
California State Parks  
[david.murray@parks.gov](mailto:david.murray@parks.gov)

Susan Britting, PhD  
Sierra Forest Legacy  
[Britting@earthlink.net](mailto:Britting@earthlink.net)

Guy Duffner, Conservation Associate for Planning and  
Training  
North America Fire Learning Network  
[gduffner@tnc.org](mailto:gduffner@tnc.org)

Zachary Anaya  
The Wildlands Conservancy  
[zach.a@twc-ca.org](mailto:zach.a@twc-ca.org)

Southern California Edison – Forest Management Team  
Key contact: Michael Esposito  
[michael.esposito@sce.com](mailto:michael.esposito@sce.com)

Richard Bagley, President  
Hwy 168 Fire Safe Council  
[richard.bagley@sce.com](mailto:richard.bagley@sce.com)

Shaver Lake Volunteer Organization  
Key contact: Dr. Rodney Wiens  
[rodney.wiens@sce.com](mailto:rodney.wiens@sce.com)



Defenders of Wildlife  
Contact: Pamela Flick, California Representative  
[pflick@defenders.org](mailto:pflick@defenders.org)

Kate Wilkin, PhD Candidate  
Stephens Lab for Research and Education in Wildland  
Fire Sciences  
UC Berkeley  
[kate.wilkin@berkeley.edu](mailto:kate.wilkin@berkeley.edu)

Hugh Safford, PhD, Regional Ecologist  
USDA Forest Service, Pacific Southwest Region  
[hughsafford@fs.fed.us](mailto:hughsafford@fs.fed.us)

Gabrielle Bohlman  
UC Davis  
[gnbohlman@ucdavis.edu](mailto:gnbohlman@ucdavis.edu)

Jens Stevens, Postdoctoral Researcher  
UC Davis John Muir Institute of the Environment  
[jtstevens@ucdavis.edu](mailto:jtstevens@ucdavis.edu)

Kenneth C. Baldwin  
CA Registered Professional Forester #1855  
Baldwin, Blomstrom, Wilkinson & Associates Inc.,  
Consulting Foresters  
[bravefriend@hotmail.com](mailto:bravefriend@hotmail.com)

Mark Rapp, Chair  
Oregon Prescribed Fire Council  
[oregonrxfirecouncil@gmail.com](mailto:oregonrxfirecouncil@gmail.com)

Lindsay Dailey, Wildlands Director  
The Occidental Arts and Ecology Center  
[ldailey@oaec.org](mailto:ldailey@oaec.org)

Ali Freedlund  
Working Lands and Human Communities Program  
Director  
Mattole Restoration Council  
[ali@mattole.org](mailto:ali@mattole.org)

Emma Vakili, National President  
Student Association for Fire Ecology  
[emma.vakili@colostate.edu](mailto:emma.vakili@colostate.edu)

Michael D. Wheelock, Vice Chairman  
Southern Oregon Prescribed Fire Network  
[mdwheelock@msn.com](mailto:mdwheelock@msn.com)

Sean Hendrix, Base Manager (Merlin, OR)  
Grayback Forestry, Inc.  
[sean@graybackforestry.com](mailto:sean@graybackforestry.com)

Paul Carmichael, Fire Protection Officer  
Nevada Division of Forestry  
[pcarmicheal@forestry.nv.gov](mailto:pcarmicheal@forestry.nv.gov)

Heather Anuhea Kramer  
University of California, Berkeley  
[anu.kramer@berkeley.edu](mailto:anu.kramer@berkeley.edu)

Erin Kelly, PhD  
Humboldt State Department of Forestry  
CA Registered Professional Forester #3001  
[eck107@humboldt.edu](mailto:eck107@humboldt.edu)

Gabrielle Boisrame, Doctoral Candidate  
UC Berkeley  
[gboisrame@gmail.com](mailto:gboisrame@gmail.com)

Don Hankins, Associate Professor, CSU-Chico  
Northern CA Prescribed Fire Council, Member  
California Indian Water Commission, Member  
Butte County Fire Safe Council, Secretary  
Forest Ranch Fire Safe Council  
[dhankins@csuchico.edu](mailto:dhankins@csuchico.edu)

Dale Shippelhoute  
North Central Valley Zone Fire Management Officer  
US Fish and Wildlife Service  
[dale\\_shippelhoute@fws.gov](mailto:dale_shippelhoute@fws.gov)

John R. Mount  
Forester  
[mount.john@ymail.com](mailto:mount.john@ymail.com)

Anna Higgins, Research Assistant  
University of Nevada, Reno  
[ahiggins@nevada.unr.edu](mailto:ahiggins@nevada.unr.edu)



Bruce McLean, Founder  
Forest Ranch Fire Safe Council  
[bruceclean.1@att.net](mailto:bruceclean.1@att.net)

Marlene Fune  
Forest Ranch Fire Safe Council  
[marlenefune@gmail.com](mailto:marlenefune@gmail.com)

BlueRibbon Coalition  
Key contact: Don Amador, Western Representative  
[brdon@sharetrails.org](mailto:brdon@sharetrails.org)

Dorothy Goodyear, General Partner  
Reading's Creek Tree Farm  
PO box 309, Weaverville, CA 96093

Travis Thane, Fire Management Specialist  
USDA Forest Service, Eldorado National Forest  
[tthane@fs.fed.us](mailto:tthane@fs.fed.us)

Jennifer Boyd, Retired Forest Fuels Officer  
USDA Forest Service, Eldorado National Forest  
[r5jsboyd@gmail.com](mailto:r5jsboyd@gmail.com)

Karen Derry  
Karuk Community Development Corporation  
[kderry@karuk.us](mailto:kderry@karuk.us)

Gail Goodyear  
Trinity County resident  
[ggoodyear@hotmail.com](mailto:ggoodyear@hotmail.com)