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To: California Board of Forestry and Fire Protection (BOF):

Subject: Comments on Recirculated Draft Vegetation Treatment Program (VTP) Programmatic Environmental Impact Report (PEIR)

We are ecologists with the Conservation Biology Institute (CBI), a nonprofit research and planning institution that performs applied research in biological conservation and resource management. Dr. Wayne Spencer is Chief Scientist at CBI, with decades of experience in natural resource management and conservation planning in California and the west, including research in fire ecology and management. Dr. Alexandra Syphard is a Senior Research Ecologist who has dedicated nearly 20 years to researching the impacts of fires and fire management actions on both human and wildland values.

We both have commented extensively on previous drafts of the VTPEIR with emphasis on the lack of scientific justification for proposed actions. Unfortunately, most of our concerns remain in the current document, which still inadequately describes the VTP; analyzes its impacts; outlines clear, enforceable, and effective mitigation measures; develops, presents, or fully analyzes an appropriate range of alternatives; or justifies the purpose and need for the PEIR with meaningful scientific support.

Some of our specific concerns:

Misleading Goals and Assumptions. Actions outlined in the PEIR are largely inconsistent with its stated goals (reducing risks to human life, property, and natural resources). Instead, the actions seem more intended for, and would be consistent with, a goal to achieve vegetation treatment acreage, *whether or not the treatments were actually needed or effective*. If the goal is actually to treat more acres with fewer regulatory burdens, then there is little incentive to consider more effective, less costly, or more environmentally friendly alternatives.

There is no scientific support demonstrating that treating more area for the sake of meeting quotas could attain the stated goals of the PEIR, except perhaps in

some dry, mixed-conifer forests where fire suppression has greatly altered vegetation composition and structure. However, even in those limited dry-forest regions, treatments must be strategically placed and timed, primarily to create "anchor points" for firefighting activities and to accommodate a return of these fire-suppressed forests to a more natural, frequent-fire regime (Stevens et al. 2016). This requires extensive mapping and spatio-temporal analyses to identify effective and comprehensive strategies. Studies show that, without strategic planning, a low percentage of treatments intersect with wildfires, regardless of the area of treatment, and thus, they result in inefficient and potentially negatively harmful ecological impacts without any benefit (Syphard et al. 2012, Rhodes and Baker 2008, Naughton and Barnett 2017). On the other hand, treating smaller areas that are placed and timed strategically can increase the likelihood that a fire would intersect a fuel break, and potentially function as intended (Fry et al. 2015).

In California's nonforest shrublands, not only is there no scientific support for acreage quotas, there is little or no scientific support that *any* vegetation treatments increase resource benefits or decrease risks to resource values. While strategic placement and timing of fuel treatments near communities can allow safe firefighter access to protect human assets (Syphard et al. 2011a, 2011b, 2012), even these treatments should be viewed as a resource sacrifice for human protection, and not a resource benefit, because they often result in permanent elimination of native woody vegetation in favor of invasive grasses and other weeds (Merriam et al. 2006, Brennan and Keeley 2015).

Also misleading is the fact that the VTPEIR consistently suggests that vegetation treatments are effective at fire *prevention*; however, fire prevention implies eliminating *ignitions*, especially during severe fire weather. In California, fire ignitions are almost entirely human-caused; more likely close to human infrastructure than in wildlands; and more likely during severe wire weather than are lightening fires (Syphard et al. 2007, 2008, Syphard and Keeley 2015; Balch et al. 2017; Keeley and Syphard in preparation). It is unclear how fuel treatments proposed under the VTPEIR could possibly reduce ignition potential or change fire weather. In fact; treatments that convert woody or shrubby vegetation into more flammable vegetation types, such as annual grasslands, may actually *increase* ignition potential (Syphard and Keeley 2015). A comprehensive fire management approach needs to include proven ignition prevention measures (e.g., Prestemon et al. 2010).

Insufficient Project Description. The project description is still so vague that the environmental impacts cannot be meaningfully analyzed. The PEIR provides broad categories of vegetation treatments and WUI-based land zones where they may apply, but fails to explicitly explain how these would actually be used in the project planning process. For example, the PEIR implies that the number and type of vegetation treatments would be selected based on a number of

parameters—such as "the potential for significant adverse impacts"—but it never specifies how the various parameters, criteria, and principles would actually be applied to project planning nor does it specifically define "adverse impacts." It also fails to define some key terms, such as "forest health," which appear to be used as loopholes in the already vague principles. Impact findings based on such a loosely described project are necessarily simplistic speculations that allow substantial leeway in the design, and subsequently in the actual impacts, that may occur. Consequently, the PEIR defers the analysis of impacts and mitigation to be determined project-by-project in the future.

The 1.5-mile WUI definition is not supported by any scientific evidence or rationale, but rather by citing the 2004 US Forest Service Sierra Nevada Forest Plan Amendment, which is a federal planning document that used 1.5-miles as an arbitrary distance to roughly assess the number of homes and communities that might be affected by that plan. Something as key to establishing the area within which treatments are planned to meet the VTP's stated goals (protecting human and natural resources) should be based on sound, objective analysis, not arbitrary analytical thresholds established by another agency for another purpose.

Furthermore, the 1.5-mile WUI definition vastly exceeds what the scientific evidence demonstrates as being potentially effective. As commented on previously by fire ecologists, and supported by recent peer-reviewed science, creating and maintaining fuel breaks not immediately adjacent to homes is not an efficient expenditure of funds (Naughton, and Barnett 2017), provides little if any protection to homes or other "high value assets" (especially under severe fire weather when most losses occur) and should be assessed as a resource sacrifice rather than a resource benefit (Cohen 2000; Keeley et al. 2009; Cary et al. 2009, Syphard et al. 2011, 2012, 2014; Calkin et al. 2013; Penman et al. 2014; Price et al. 2015).

Failure to Adequately Reflect Peer Comments. The PEIR seems to use the CFSC peer review to provide a veneer of scientific respectability, but fails to actually implement the peer comments in meaningful ways. For example, the peer review recommended that the PEIR should "provide an inventory and evaluation of the fuel breaks within the state that includes the development costs associated with continuing to develop and maintain a system… Across all of the Alternatives within the VTPEIR, different levels of investment (capital and maintenance) in fuels breaks should be clearly detailed (Agee et al. 2000)." We have been unable to find such an evaluation in the PEIR.

The review also strongly recommended using a formal adaptive management approach to improve understanding of VTP effects and effectiveness, and use of an outside party to monitor projects to "remove the ability of managers to rely on self-rating checklists that may not always show sound evaluation." The current

draft still defers development of a formal adaptive management plan to some future date.

Little Evidence the Proposed Treatments Will Be Effective. The PEIR still provides no evidence, references, or research studies demonstrating the effectiveness of the proposed treatments in protecting homes or other resources. Anecdotal case studies do not represent substantial, objective analyses. Cherry-picking case studies, such as cases when a fuel break may have helped stop a wildfire, can be highly misleading, particularly in the face of peer-reviewed studies showing low probabilities of this occurring over a large sample of fires (Syphard et al. 2011, 2012). Building construction materials and housing arrangements account more for structure losses during wildfires than do nearby vegetation characteristics (Syphard et al. 2012, 2017; Alexandre et al. 2016).

Inadequate Range of Alternatives. An EIR must analyze a range of reasonable alternatives that could feasibly attain the project objectives. However, other than the No Project Alternative, all alternatives in the PEIR are just variations on the theme of treating vegetation on wildlands to reduce fire risks to human or natural resources, despite all the science calling this approach into question. None of the alternatives is likely to achieve the stated objectives; and there are alternatives that are not only more environmentally friendly, but would be much more effective. Reasonable alternatives that would meet the VTP's stated objectives would need to take a comprehensive approach to fire management that includes community and regional planning (e.g., Syphard et al. 2012, 2013, 2016, Alexandre et al. 2016 a,b), reducing ignitability of structures (Syphard et al. 2017), properly implemented defensible space within 100 feet of structures (Syphard et al. 2015, Cohen et al. 2000), and ignition prevention planning (Prestemon et al. 2010, Syphard and Keeley 2016).

Vague Criteria and Guidelines. The VTP puts a lot of weight on use of various criteria, principles, and guidelines to avoid and mitigate impacts, but does not spell these out with sufficient detail for one to evaluate their effectiveness. For example, the principles for locating and implementing fuel break treatments are too vague, and no process is defined for how conflicts between project objectives would be resolved.

Continued Failure to Adequately Analyze Impacts. There is no defensible analysis of VTP impacts for any alternative, nor any meaningful comparison among alternatives. The impact findings are unsubstantiated opinions lacking factual support. In part this stems from the overly vague project description and unclear significance criteria, which provide no measurable thresholds of significance.

Conclusions

The VTPEIR remains fundamentally flawed and should be revised with a more scientifically valid and comprehensive approach to reducing risks to human and natural resources. We again recommend that the program be rethought from the ground up in collaboration with scientists, stakeholders, and other appropriate experts to develop a strategy that might actually achieve the goals of reducing risks to human and natural resources.

Sincerely,

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