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Forest Supervisor Patricia Grantham  
Klamath National Forest  
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37805 Highway 97  
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Re: Comments to the Draft Environmental Impact Statement, Hi-Grouse Project

Submitted electronically to: [comments-pacificsouthwest-klamath-goosenest@fsfed.us](mailto:comments-pacificsouthwest-klamath-goosenest@fsfed.us)

Dear Supervisor Grantham,

Californians for Alternatives to Toxics (CATs) submits the following comments regarding the Draft Environmental Impact Statement, Hi-Grouse Project of the Gooseneck Ranger District, Klamath National Forest (DEIS).

CATs is organized as a non-profit public interest organization with the mission of giving its members and the general public control over the use of toxic chemicals in their environment, primarily throughout the northern California region. This mission arises from a broader underlying concern for the membership in relation to their dependence on the environment for their sustained health, education, cultural activities and livelihood.

The comments below are submitted specifically on behalf of the CATs membership, particularly those who reside, recreate, study, engage in cultural activities, work or simply enjoy knowing that their public lands, including the Klamath National Forest, are managed to preserve and enhance the environmental quality of these places.

Our concerns about the project as it is currently proposed center around the use of sodium tetraborate decahydrate (borate) to control *annosus* root diseases and thinning and fuel reduction methods that will successively require herbicide use to control excessive regrowth of native plants and invasion by non indigenous plant species.

As it currently is proposed, the project intends to commercially as well as non-commercially thin and harvest 2,429 acres of coniferous forest and the aim is to prevent further spread of *heterobasidium annosum* (*annosus* or root disease/root rot) by applying borate to fresh stumps.

As stated on page 34 of the DEIS, "The selective cutting prescriptions that removed larger true fir over the last several decades in the true fir-dominating stands has lead to *annosus* root disease impacts on stand structure, including mortality." (Angwin 2008) About one-

third of the Hi-Grouse project area is early and mid-seral true fir stands that “have a high incidence of *annosus* root disease, primarily as a result of past management.” (DEIS 36) US Forest Service acknowledges that *annosus* is spread directly through thinning and harvesting activities. Additional research confirms that on true fir stands logged up to a decade earlier, *annosus* root disease could be found on 89% of the stumps (Filip et al. 1992). It’s clear that similar or the same types of forest disturbance proposed for the current project have, when used in the past, led to the development of root disease for which borate use is now proposed. What is to prevent the current project from causing the spread of root rot? Heavy-handed use of borate will not prevent the spread of disease caused by forest disturbance activities. It is not apparent that the project has taken into consideration an alternative that will PREVENT the spread of root disease by limiting, altering or changing the proposed management activities. This analysis is necessary to provide the basis for the development of alternatives for the project, but it is missing.

If thinning and commercial logging of true-fir and white-fir stands is to remain sustainable, a primary objective of the Region 5 Forest Service and with the current project must be to develop forest management alternatives that will prevent the use of borate by preventing the need for disease management.

In section 2.4.2 of the DEIS, an alternative eliminated from further study was to avoid all known root diseased areas; eliminating this alternative skews the analysis to inappropriately favor the preferred alternative.

What’s more, valuable research about alternative management for *annosus* root disease was not included in the analysis as required. Rather than contrasting a relatively extreme alternative (2.4.2), the USFS should develop an alternative that incorporates other, non-borate methods of managing *annosus*.

In coniferous ecosystems often similar to those of northern California, scientists and forest managers have utilized a natural and biological control agent to successively control *annosus*. The agent, *phlebiopsis gigantean*, is useful in an integrated pest management system that should be developed as an alternative for the current project. This has been successfully demonstrated in *annosus* control with *phlebiopsis gigantean* in Canada, the United Kingdom and the southeastern United States. (Annesi et al. 2005; Pratt et al. 2000; Ammon and Patel 2000; Pratt 1999; Flip and Morrison 1998; Rishbeth 1963). In southeastern forests of the United States, it has been recorded that *phlebiopsis gigantea* is completely effective in preventing *heterobasidium annosus* from stump colonization, and costs only slightly more than borate treatment (Flip and Morrison 1998).

One reason to consider a non-borate alternative is that borates are not necessarily successful in preventing or eliminating *annosus*. In a study conducted by a USFS Region 5 scientist, R.S. Smith Jr. concluded, “there is continuing concern that *annosus* can infect stumps via the roots rather than just through the stump surface, and that borax treatment may not be fully successful in preventing the disease” (1989). Additional research by Region 5 Forest Service scientists found that borax (aka borate) may be ineffective because it washes off stumps, and evaluation of forests two decades later revealed that stands with borax-treated stumps failed to have significantly lower infection than untreated stumps (Edmonds et al. 1989).

To minimize *annosus* spread to stump wounds, thinning should be done at low risk seasons, and with specific regulations on tree age, and diameter at breast height (DBH) (Morrison and Johnson 1999). It is apparent that this critical information was not integrated into the analysis presented in the DEIS.

As stated in the DEIS: “the application of borax to freshly cut stumps is not expected to have adverse effects on wildlife or surrounding plants, invertebrates, or microorganisms.” (DEIS 66) However, CATs contends that this is a misleading statement that skews analysis of the alternatives to support the favored alternative. A closer examination than that provided reveals additional research indicating that the use of borate has both direct negative impacts and possible long-term adverse effects on non-target organisms.

According to a study on conifer forests conducted in Sweden in the summer of 2000, “Both borate and urea [in separate tests] caused severe damage to most ground-vegetation species tested.” (Nohrstedt, Westland 2000) Borate as an herbicide interrupts photosynthesis in plants, and as an insecticide is abrasive to insects’ exoskeletons. (IPM of Alaska 2002) Borate remains in the topsoil unchanged for at least one year. High rainfall and/or groundwater can leach chemicals, and soil microorganisms cannot break it down (USFS 1995). Because the chemical is not natural in forest ecosystems there is a general concern about its long-term, indirect effects on soil nutrient cycling.

Has research been conducted to determine if Northern Spotted Owl (NSO) and Northern Goshawk (NGH)—as individual birds—are affected by borate? Borate is a pesticide with toxicological significance and as such an appropriate analysis of its effect on these species must be included in the development of the alternatives.

With 53% of the foraging and nesting habitat for NGH being treated with borates, it is likely that NSO and NGH populations could be indirectly effected, aside from the substantial direct effects both NSO and NGH face in habitat loss. The DEIS claims that there is no significant data reflecting NGH population trends in the western United States, but each both bird species is considered vulnerable; this adds to CATs’ concerns regarding the paucity of research the USFS has to assess wildlife, especially endangered species, concerns in relation to the use of borate. Yet the potential for significant impacts exists and must be analyzed for impacts that will result from implementation of the current project.

The policy statement outlined in Forest Service Manual 2080 Noxious Weed Management (USDA 1995) as referenced in the noxious weed assessment cannot be used as a substitute for the missing analysis of the potential for invasion and spread of non-native, invasive species plants (NNIS). Nor does the Klamath National Forest Noxious Weed List September, 2008 or other documents cited in the assessment.

The noxious weed assessment as it stands for the proposed project is inadequate, particularly for what it fails to mention (3.2.5.2). It finds the project area to currently be at low-risk to spreading weeds based on the “...weed-free nature of the area, low levels of disturbed areas, [and] high vegetative cover...” (DEIS 86) Although these are the current conditions, the opening of the canopy, thinning of up to 90% of particular stands and subsequent prescribed burning will inevitably alter the landscape, forest floor, and succession of plant species. (See attached Radosevich declaration for details. This document relates to another US Forest Service project but many of the issues are similar or the same as for the current project. Also see Radosevich 2008)

The results of both Alternative 3 and Alternative 4 will directly create habitat for NNIS; indirect, long-term effects of this project are not analyzed adequately for NNIS for when they are introduced and established as a result of the project, either within or beyond its immediate activities.

No data supports the contention that the season is too short or nearby weed species populations too small to support the spread of invasive weeds as a result of the project as is claimed in the noxious weed assessment.

The analysis fails to address the range of possible means of introduction of invasive species. Evidence suggests that one means of spread is likely to be birds, with ingested seeds deposited locally and seeds that are carried in plumage deposited further. For example, the common North American bird the Yellow-rumped Warbler (*Dendroica coronata*) was reported by bird watchers to feed on the invasive Chinese tallow, glossy privet and European olive plants in California; researchers later confirmed these accounts through field observations. (Aslan et al. 2010)

Invasive species, or as the project inappropriately identifies as “noxious weeds,” are also adapting to climate change and may be more likely to infest the project area than has been the case historically, a potential that must be considered when the potential for NNIS is analyzed. (Bradley 2010)

The noxious weed assessment does not provide criteria for determining when tools for weed control would be utilized. For herbicides, it determines that the chemicals are not currently used by Klamath National Forest, which we commend, but this statement does not replace the analysis of the potential for weed control with herbicides that could be undertaken with a change of management or some other factor that changes the current status.

Furthermore, misplaced under the *cumulative effects* of Action 1 (no action), the assessment reads: “Short-term reductions of canopy closure and bare soil from landings and burn piles could increase available habitat for weeds.” (DEIS 86) It is our understanding that short-term canopy reduction and fuels abatement are the results of Alternatives 3, and the preferred Alternative 4. Being such an important component of responsible silvicultural practice, the noxious weed assessment for the Hi-Grouse project skews the overall analysis and integrity of the proposed project and the analysis.

As stated in the DEIS, “Monitoring for the introduction and subsequent spread of weeds introduced as a result of project implementation may be conducted as time and funding allow”; this implies that no post-monitoring is possible but not assured. Both alternatives appear highly undesirable for the land and biotic community because neither aims to perform post-treatment evaluations. This does not help assess the effects of borate, either, and is redundant in the promotion of re-growth and renewable forest stands. It is likely that NNIS will be established without the oversight required in proper forest management.

Within the proposed 3,850 acres to be treated for healthier forest generation are two roads (44N80a and 44N52a) that will be further closed and removed from the forest system. The management plan put forth by the USFS to restore these areas is to seed and replant with native, non-invasive grasses and/ or shrubs; there is roughly 1.5 miles of road to restore, with an additional 1.3 miles of additional temporary road construction. It is a legitimate

concern that this area could be infested with NNIS, particularly without the monitoring required to ensure that it does not. This needs to be factored into the analysis.

Given the scope of the project and its encompassing 3, 487 acres we believe a thorough and careful analysis of the DEIS is beneficial to the USFS' goal to assist and maintain healthy forests. A stronger non-native, invasive species analysis must be undertaken, and non-chemical alternatives to controlling and minimizing *heterobasidium annosus* be integrated into the Hi-Grouse Environmental Impact Statement.

Sincerely,

Patricia Clary  
Executive Director

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