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Jay Mancini, President  
Bohemian Club  
624 Taylor Street  
San Francisco, CA 94102-1016

Re: Bohemian Grove NTMP 1-06NTMP-011 SON

Dear Jay:

As you know, I am quite involved in the opposition to the Bohemian Club's non-industrial timber management plan (NTMP). I thought it would be a good time to communicate directly with you, especially since I am concerned that you and the membership may not be aware of the information on which much of the opposition is based. It is my hope that if the Bohemian Club better understands our position the parties may be able to engage in dialogue and agree on a vision for the Grove, a place we all treasure.

At the outset, let me say that my only agenda in this entire matter has been to ensure that the Grove's management is based on accepted scientific principles. To that end, we have encouraged a number of scientists to opine on the NTMP. All have been quite critical. In addition, all that are mentioned in this letter have volunteered their time and service; none has or will receive a fee of any kind.

Although this letter is hardly the place to provide all of the evidence that we have gathered, there are three issues that I will address with some supporting documentation. At the least, the information should help you understand the reasons for opposition to the NTMP.

### **Failure to Achieve Sustained Yield**

Despite its assurances that it would achieve sustained yield, the NTMP originally proposed a rate of logging that exceeded growth. The error was first raised by Dr. Philip Rundel in his letter of May 8, 2007.<sup>1</sup> (Attach. A.) He explained that the plan's harvest levels were based on the timber volume in the 107-acre old growth grove, even though it could not be cut under the plan. He further demonstrated that this error would result in an unsustainable logging regime.

I was present last year during a meeting at CDF and raised Dr. Rundel's objection. In response, the Club's RPF, Mr. Nick Kent, assured CDF that his calculations were correct. Other experts advised us, however, that Dr. Rundel was correct based on the figures provided in the plan.

Yet one does not need to be an expert to see that the figures only work if the immense volume of timber in the old-growth grove is considered available for logging. Accordingly, by letter dated October 18, 2007, our attorney wrote CDF, with our own analysis demonstrating that the plan proposed a rate of harvest—1,137,774 bf/year—that exceeded the available growth per year of 1,110,163 bf. (Attach. B.) We requested CDF to rescind the plan, pointing out that the plan could not have been filed under the Forest Practice Act had CDF noticed that it violated the principle of sustained yield. Although CDF did not rescind the plan, it informed us that Mr. Kent agreed to correct the errors and amend the plan. This is why there has been no administrative action on the NTMP since October 2007.<sup>2</sup>

Jay, I realize that you were not copied on our letter and may not have seen it. If you haven't read it, please do. It expresses our considerable frustration. As the letter makes clear, the plan's error has caused an enormous amount of waste in terms of agency resources, taxpayer dollars, and public oversight.

But leaving those problems aside, the error and the Club's refusal to acknowledge it despite Dr. Rundel's letter has undermined the public's trust in the Club and the process. Indeed, had it not been for the public, it is unlikely that the error would have ever been uncovered. The result would have been approval of an unsustainable rate of logging in the Grove.

Given your commitment to the Grove, I trust that you appreciate the irony: It is the public rather than the Club that has ensured the Grove's protection from over-harvesting.

On a related matter, I am informed that the Club has objected to the characterization of the NTMP's proposed logging rates as "industrial" or "aggressive." Let me provide some perspective by comparing the Grove's proposed management to the management of Jackson Demonstration State Forest (JDSF). JDSF, as you may know, is located less than a hundred miles north of the Grove near Mendocino. At 48,625 acres, it is California's largest state-owned forest. Its central purpose is experimental and demonstration forestry. It is in essence a laboratory for forestry research, whose land is dedicated to the growing and cutting of trees for educational purposes.

The Board of Forestry recently approved a new management plan and 1,117-page EIR for JDSF (available online at [www.bof.fire.ca.gov](http://www.bof.fire.ca.gov)). The new management plan limits the yearly removal of timber from JDSF to 20 to 25 million board feet. Based on our calculations, this is proportionately less than the 1.1 to 1.6 million board feet originally proposed to be removed from the Grove.

As you can appreciate, the Club's original proposal to extract percentage-wise more timber than JDSF, a forest dedicated to logging, is cause for concern and can fairly be characterized as aggressive.

### **The NTMP's "Prescription" for Restoring Old-Growth**

One of the NTMP's most troubling claims is that its aggressive harvest will restore the old-growth conditions that characterized the forest before the first European settlers arrived. Some background is in order.

As you may know, the Department of Fish and Game (DFG) was very critical of the NTMP for proposing removal of stands of larger, older trees with dense canopies. (Attach. C.) DFG demonstrated that in year 2006 a large portion of the Grove is comprised of stands of two strata types, namely larger redwood and Douglas fir trees (24-32 inches dbh) with a dense (60-80 percent) canopy cover, known as the RD4D type; and larger redwood and Douglas fir trees (24-32 inches dbh) with a medium (40-60 percent) canopy cover, known as the RD4M type. By the end of the 100-year plan, both types will have dramatically declined. There will be no RD4D stands left except in very narrow strips acting as buffers along streams. And there will be significantly less RD4M than there was in 2006 and 2046. The area will be comprised mostly of smaller trees (16-24 inches dbh) with a medium canopy cover, the RD3M type: "Overall, the cumulative effects of the 100-year harvesting plan show a significant net reduction in the density and number of large trees." (Attach. C, p. 7.)

Larger, older trees provide important habitat elements for wildlife, such as decay, hollows, cavities, large limbs and large defective and/or damaged limbs. Because such trees will "decline dramatically" over the 100-year plan, DFG concluded that wildlife populations dependent on stands with older, larger and denser trees are likely to suffer. (Attach. C, pp. 8-9.) DFG therefore recommended a suite of mitigations to reduce those impacts. (Attach. C, pp. 9, 12-13.)

In his March 21, 2007, response to DFG (Attach. D), Mr. Kent conceded that DFG's description of the changes to the Grove was accurate: "The assertion on page 7, paragraph 4 that significant changes to the NTMP forest stand structure will likely occur is accurate...." (Attach. D, p. 14.) Mr. Kent rejected DFG's concerns, however, contending that the plan's effects will be positive. (Attach. D, p. 14.) Much of his rationale for removing stands with larger trees and a dense canopy appears based on his beliefs about the original conditions of the forest. According to Mr. Kent, the original forest was mainly comprised of RD3M or RD4M, that is, smaller trees (16 to 24 inches) with a moderate dense canopy cover (40 to 60 percent); and trees 24-32 inches dbh with a moderate dense canopy cover (40 to 60 percent), respectively. (Attach. D, p. 6.)

A number of scientists and experts have been extremely critical of the RPF's description of the original forest and his claim that the NTMP will recreate it. As Dr. Reginald Barrett<sup>3</sup> stated:

I am not aware of any scientific evidence that supports this description of the historic redwood forest. The best evidence we have of the Bohemian Grove's historic and original condition is the 107-acre old-growth redwood grove situated in the center of the NTMP's western half. The old-growth grove is described as "Late Seral Mature Forest." [Citation.] Its strata type is RD5D, that is, very large, old trees (> 32 inches dbh) with a dense canopy cover. Since the 107-acre old-growth grove is living piece of the historic forest, it is logical to assume that the original forest resembled it, and not that described by the RPF.

(Attach. E, p. 4.)

Dr. Barrett was involved in the development and testing of the California Wildlife Habitat Relationships System. He further points out that under that system old-growth redwoods are typically classified as RD6, with even larger trees than the Grove's RD5D, and have been so classified by CDF and DFG for decades. (Attach. E, p. 6.) Not surprisingly, Dr. Barrett concluded that the NTMP would retard rather than foster the development of old-growth conditions. (Attach. E, 5.) He also agreed with DFG that the plan would harm wildlife and that its mitigations were inadequate. (Attach. E, pp. 3-6.)

Dr. Don Erman<sup>4</sup> described the RPF's vision of old-growth redwood forests as a "myth" with "little basis in science":

The basis for supporting this new condition is the claim that the redwood forests of the North Coast were formerly composed of widely spaced trees, open canopy, multiage, non-old trees (and presumably a clean understory). Such a picture is surely the condition that will prevail under the proposed plan, but it has little basis in science as the natural condition. The description of this early condition sounds quite similar to the myths used to claim the Sierra Nevada forests looked the same way before intensive logging.

(Attach. F.)

I dwell on this issue again to help you understand the public's discontent with the NTMP. Whether you agree with DFG's concerns, the Club's response that the reduction in larger, older trees will somehow replicate old-growth conditions would strike any reasonable person as absurd.

## Fire Hazard and the NTMP's Prescription to Reduce It

No aspect of the plan has generated more opposition than its claim that 1.1 to 1.6 million board feet of conifers must be removed every year to reduce the threat of catastrophic crown fire. In making this claim, the NTMP contains no fire assessment and does not even acknowledge a scientific consensus to the contrary, namely that redwood groves are fire resistant in no small part because of the cool, moist coastal climate and lack of severe fire weather in which they thrive; and that opening up a dense redwood canopy will increase fire hazard by elevating temperatures, allowing in winds, and drying out the flammable fuels on the ground.

In 2004, the San Jose Water Company submitted an NTMP for its redwood forest in the Upper Los Gatos Creek watershed in the Santa Cruz mountains. Like the NTMP here, it proposed to thin the canopy to avoid crown wildfire. Three fire experts, Dr. Scott Stephens, Dr. Philip Omi, and Mr. Richard Montague were asked to critique the fire assessment and its prescription for reducing the threat of crown wildfire.<sup>5</sup> All three concluded that the thinning likely would exacerbate fire hazard:<sup>6</sup>

- To open up the normally dense crown cover to more sunlight and solar heating will reduce live and dead fuel moisture, thereby increasing fire spread, fire intensity and flame lengths. (Richard Montague, *Wildland Fire Analysis and Comments Based upon the San Jose Water Non-Industrial Timber Management Plan.*)
- Even with the recommended lop and scatter fuel treatment option described in the NTMP and Fire Hazard Assessment, it is my opinion that fire spread, fire intensity and flame lengths will be much higher after timber harvest than if the coast redwood and Douglas fir stands within the watershed are left in their natural state. (Richard Montague, *supra.*)
- The data used (by TSS) does not appropriately reflect how coast redwoods and/or Douglas fir stands within the Bay Area react to wildfire. (Richard Montague, *supra.*)
- Removing forest canopy by thinning this forest would not effectively reduce potential fire behavior and effects, especially in areas where redwood is the dominant species. Redwood foliage is not particularly flammable and there are few records of crown fires in redwood forests. (Dr. Stephens, *Review of Fire Hazard Assessment Section of San Jose Water Company NTMP.*)
- If thinning occurred it would open up the canopy and this would probably result in a forest with higher fire hazards. (Dr. Stephens, *supra.*)

- The report (TSS) is misleading insofar as it builds an apparent rationale for timber harvest under the guise of wildfire hazard reduction. (Dr. Omi, *Report on San Jose Water Company Fire Hazard Assessment*.)

Dr. Mark Finney is a leading expert in the fire ecology of redwood forests. He received his Ph.D. in wildland fire science from University of California, Berkeley, studying prescribed fire and effects in the coast redwood forests. He currently is a Research Forester with the U.S. Forest Service, Rocky Mountain Research Station, in the Fire Behavior Project at the Fire Sciences Laboratory in Missoula Montana. Notably, Dr. Stephens relied on Dr. Finney's expertise in evaluating the San Jose Water Company NTMP. (Stephens, *supra*, pp. 1-2.) We asked Dr. Finney to evaluate the Bohemian Grove NTMP's claims that the Grove's dense canopy poses a threat of catastrophic wildfire and that thinning the canopy would reduce such a threat. In a letter to CDF dated October 22, 2007, he rejected both propositions. Indeed, he concluded that removal of the Grove's larger trees was precisely the wrong prescription.

In forming his opinion, Dr. Finney reviewed the Stephens/Omi/Montague critiques of the San Jose Water Company NTMP. He pointed out that his conclusions regarding the Bohemian Grove NTMP are substantially the same as theirs regarding the Water Company NTMP. (Attach. G, p. 1.)

Dr. Finney first observed that crown fire is "quite rare in redwood, even under extreme weather conditions," and that logging often increases fire hazard:

Logging tends to remove the largest and most valuable trees, exposing the ground surface to sunlight and winds, and allows the rapid growth of residual trees and existing shrubs and sprouting vegetation. From a fire standpoint, this vegetation so close to the ground can increase fire spread rate and intensity – both common measures of hazard. Remaining trees are susceptible to injury or death since they are smaller in diameter and shorter.

(Attach. G, p. 2.)

He criticized the plan for its failure to assess fire risk or tie its logging rationale to such risk:

[T]here seems to be a discrepancy between the details of the written plan and the intention of this forest management activity to mitigate fuel hazard. Why was no analysis presented on the current fuel hazard situation or on any changes in fire behavior that are expected from the treatments? A great deal of information is presented on the expected volume of wood to be removed, suggesting to me that this plan is little more than a strategy for extracting commercially valuable products from the forests. Even if the logging could possibly lead to some reduction in hazard, I can find no evidence of an analysis capable of supporting this conclusion.

(Attach. G, p. 2.) Dr. Finney also concluded that the plan's prescription for removing the largest trees was completely wrong: Since they are the most fire resistant, they should be retained, not cut:

Since the foliage of the largest trees is held high above flames and heat generated from a fire burning on the ground surface, it is the least susceptible to ignition and would be of least concern for manipulation in a fuel treatment. Certainly, given our understanding that large redwoods and Douglas-fir trees are the most resistant and resilient to fire damage, *any legitimate fuel management prescription would specify retaining these trees.*

(Attach. G, p. 3, italics added.) Dr. Finney noted that some silviculture treatments could benefit the grove by "restoring or accelerating the development of old-growth forest structure." (Attach. F, p. 2.) "Restoration of second-growth redwood forests can benefit from silvicultural activities designed to enhance the growth of redwoods (sprouts or seed-origin reproduction) by reducing the dominance of hardwoods or, in some cases, of Douglas-fir." (Attach. G, p. 2.)

He also explained how he would deal with fire hazard in the Grove: "These treatments will generally consist of surface fuel removal (often by burning), removal of shrubs, and possibly trees with foliage that is low enough to ignite from a surface fire." (Attach. G, p. 3.)

Dr. Finney is not the only fire expert that has criticized the NTMP for failing to reduce ground fuels and prescribing logging measures that are likely to increase fire hazards. Drs. Rundel and Erman say the same thing. (Attachs. A, F.) Dr. Erman was the Science Team Leader for the Sierra Nevada Ecosystem Project that reported to Congress. As part of that project, he and others wrote extensively on forest fire and its management. Dr. Erman pointed out that the NTMP illogically proposes to remove the Grove's most fire resistant elements, namely larger, older trees, while increasing its most hazardous fuels by generating slash and leaving it on the ground. (Attach. F, p. 2.)

We have also been in touch with Dr. Ronald Wakimoto, a recognized fire expert who also obtained his Ph.D. in wildland resource management from University of California, Berkeley. He has informed us that he disagrees with the NTMP's proposal to reduce the risk of catastrophic crown fire by thinning the Grove and, in particular removing its larger trees. He has advised us that he will write a letter at the appropriate time.

Besides conifers, the Club's proposed treatment of hardwoods to reduce fire hazard also appears confused. For example, Jay, in your October 23, 2007, letter to the Club, you stated that the NTMP is designed in part to reduce fire hazard by—

removing large patches of dead or dying tanoak trees (due to sudden oak death) with are spread throughout our forest. There are now over 25,000 of these dead,

highly combustible trees in the Grove, and they constitute a real and present fire danger.

Your concern about the fire hazard of dead and dying tanoaks, however well-founded, is contradicted by the NTMP, which defends the use of herbicides on tanoak by claiming that the greater fire hazard is posed by live tanoaks, not dead ones:

Treated tanoaks cause a short-term fuel loading problem, but after the leaves fall off, the fine fuels deteriorate very rapidly. The limbs and trunks will also rot and deteriorate quite rapidly once they come into contact with the ground. This dead tanoak material re-enters the soil humus within 10-12 years. *Live dense tanoak stands may be more of fire hazard than treated stands* as live tanoak stands have very dense crowns, high leaf surface area, highly flammable leaf foils, and can trap fire heat under the canopy causing heat to build up, leading to very hot, destructive fires.

(NTMP, p. 139.2, italics added.) Contradictions such as these leave the impression that the Bohemian Club is not receiving coherent advice and so does not have a coherent vision for the Grove's management. They also appear self-serving. To justify use of herbicides on tanoaks, Mr. Kent argues—contrary to your letter—that the real fire threat is from live tanoaks, not dead ones.

As to the issue of dead and dying tanoaks, please understand that we have no objection to their removal. In fact, there is an exemption for dead and dying trees under the Forest Practice Act, allowing their removal without a THP or NTMP. The public's concern, of course, is that the removal of dead and dying tanoak does nothing to explain the need to aggressively remove the Grove's older and larger conifers.

In concluding, it is useful to return to the JDSF management plan and its massive 1117-page EIR. The issue of fire gets a mere eight pages in the entire EIR. While the EIR acknowledges that the North Coast region timberlands are characterized by "tremendous surface fuel accumulation," it points out that fire hazard is "mitigated by relatively wet climate and lower-than-average frequency of severe fire weather." (VII.8-1, 6.)

Since its acquisition in 1947, JDSF has suffered few fires greater than 100 acres. One occurred in 1951 from an escaped slash burn. More recently, ignitions have been considered "small." (VII.8-6.) In the recent past, the average number of acres of timberland in Sonoma County damaged by fire per year is four acres. (VII.8-4.)

The JDSF Management Plan and EIR include a number of strategies to deal with fire. Most involve improvements such as strategic placement of water tanks, water sources, helispot locations, road improvement and signage for rapid response, and shaded fuel breaks. (VII.8-7.) Catastrophic crown fire and thinning to avoid it are nowhere mentioned.



I hope this letter gives you a better appreciation of our perspective. And I hope that it is the first step in a mutual dialogue to preserve and enhance the treasured Bohemian Grove.

Very truly yours,

John C. Hooper

cc: Dr. William Libby

**(Footnotes)**

<sup>1</sup> Dr. Rundel is a Distinguished Professor of Biology, Department of Ecology, University of California (UCLA).

2

I am aware that the Club is in the process of amending the NTMP in response to agency and public objection.

3

Dr. Barrett is the Goertz Distinguished Professor of Wildlife Management in the Department of Environmental Science, Policy and Management, College of Natural Resources, University of California, Berkeley.

4

Dr. Erman is an ecologist and Professor Emeritus at University California, Davis.

He is the recent past director of the University of California Centers for Water and Wildland Resources.

5

Dr. Scott Stephens is an Associate Professor of Fire Sciences at the University of California, Berkeley. Dr. Philip Omi is Professor Emeritus in Forest Fire Science at Colorado State University. Richard Montague is a wildland fire manager and consultant.

6

Their reports can be accessed online at [www.mountainresoucece.org/nail/fire](http://www.mountainresoucece.org/nail/fire).

