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IN THE UNITED STATES DISTRICT COURT

FOR THE EASTERN DISTRICT OF CALIFORNIA

SACRAMENTO DIVISION

SIERRA NEVADA FOREST PROTECTION CAMPAIGN, PLUMAS FOREST PROJECT EARTH ISLAND INSTITUTE; and CENTER FOR BIOLOGICAL DIVERSITY, non-profit organizations, Plaintiffs, v. UNITED STATES FOREST SERVICE; JACK BLACKWELL, in his official capacity as Regional Forester, Region 5, United States Forest Service; and JAMES M. PENA, Federal Defendants, and QUINCY LIBRARY GROUP, an unincorporated citizens group; and PLUMAS COUNTY, Defendant-Intervenors.	Case No. S-04-CV-2023 LKK/PAN **DECLARATION OF CARL N. SKINNER**

I, Carl N. Skinner, in accordance with the provisions of 28 U.S.C. section 1746 declare:

1. I am a research scientist (Geographer) with the USDA Forest Service, Pacific Southwest Research Station (PSW), in Redding, California. Since 2001 I have been Science Team Leader for the Disturbance Factors Science Team. I have been in my present position for eight years. My principal responsibilities are to conduct research on the interactions of fire and forest development, fire effects, and fuels management. Since joining PSW, I have served as a special consultant on fire to the Sierra Nevada Ecosystem Project (SNEP) and authored or co-authored several sections of the SNEP final report. As the fire and old-forests specialist of the Sierra Nevada Science Review Team, I co-authored the Sierra Nevada Science Review, which synthesized recent scientific information for the Sierra Nevada Framework Project. The Meadow Valley forests are typical of the Sierra Nevada mixed conifer forests within my area of expertise.

2. Before joining the research staff at PSW, I was the Fuels Management Officer on the Mt. Shasta Ranger District of the Shasta-Trinity National Forests for approximately 8 years. I was responsible for a large fuels management program that included several thousand acres of mechanical and prescribed fire treatments each year. I frequently served as the Duty Officer of the day (Type 4 Incident Commander) in charge of initial attack fire suppression activities for the district. I was qualified as and performed the duties of Prescribed Fire Manager I, Prescribed Fire Burn Boss I, and Prescribed Fire Planner I (Level I is the highest level of complexity). I have attached my Curriculum Vita at the end of this declaration. *See* Attachment 1.

3. Prior to the 20th Century, forest structure and composition were profoundly influenced by the frequent, mostly low-intensity, surface fires that were originally an integral ecological process in development of the relatively open forests characteristic of northern California mountains within the Sierra Nevada and Southern Cascade ranges (Kilgore 1973; Chang 1996; McKelvey and others 1996; Skinner and Chang 1996; Weatherspoon 1996). Though fires were generally frequent, the frequency of fire occurrence varied with the spatial scale of interest. At the local site level of less than 100 acres, fire intervals generally varied from 5 to 35 years with a mean between 8-12 years (Skinner and Chang 1996; Taylor 2000; Beaty and Taylor 2001; Norman and Taylor 2002). Years in which fires were extremely large (greater than

10,000 acres) appear to have occurred with a median fire interval of approximately 20 years (Norman 2002).

4. Primarily because the frequent fires helped limit fuel accumulations and forest density, fires were predominantly of low-moderate intensity; this tended to leave many larger trees alive while killing mostly smaller, younger trees and only occasionally patches of larger trees (McKelvey and others 1996; Chang, 1996; Skinner and Chang 1996). Although all of the conifer species (ponderosa pine, sugar pine, Douglas-fir, incense-cedar, and white fir) found in these forests become resistant, in varying degrees, to low-moderate intensity fires when they mature, ponderosa pine achieves a fire resistant condition earlier than the rest because of relatively thick bark and open crowns (Minore 1979; Kilgore 1973; Agee 1993, Weatherspoon 1996; Miller 2000). Therefore, the high frequency of fires gave the advantage to ponderosa pine and inhibited the regeneration of the other species. Thus, these frequent fires created mixed species forests that were commonly dominated by or had major components of the fire resistant ponderosa pine (Leiberg 1902; Kilgore 1973; Minore 1979; Chang, 1996; Skinner and Chang 1996; Miller 2000). Because ponderosa pine generally has more open crowns than its associates, these types of forests are less likely to support crown fires, especially in the open nature of the original forests. Thus, extensive crown fires were almost unknown before the 20th century (Leiberg 1902; Kilgore 1973; Skinner and Chang 1996).

5. Forests of the northern California mountains prior to the 20th century were quite spatially variable, composed of variably sized but mostly small (less than an acre to a few acres) groups of trees that differed from each other primarily in terms of age classes (Kilgore 1973; Oliver and Ryker 1990; Weatherspoon and others 1992; Weatherspoon 1996). At the scale of a few tens-of-acres, the aggregation of these small groups led to stands that were generally multi-aged (sometimes referred to as all-aged) and multi-storied (Oliver and Ryker 1990). Additionally, the openness of the forests created conditions where the understories are believed to have been quite diverse, composed of significant components of grasses and other herbaceous plants and scattered, variably spaced shrubs (Chang 1996). These conditions promoted the regeneration and maintenance of ponderosa pine as a major component of these forests(Oliver and Ryker 1990; Chang 1996). Due to the openness of the forests and the low fuel loadings

compared to today, pre 20th century forests were generally resilient to fires (McKelvey and others 1996; Chang, 1996; Skinner and Chang 1996).

6. During the 20th century, fire suppression and forest management that focused on the removal of the largest trees have lead to great changes in stand structures and species composition in forests of the Sierra Nevada (Kilgore 1973; Dolph and others 1995; Chang 1996; Skinner and Chang 1996; Weatherspoon 1996; Beaty and Taylor 2001; Youngblood and others 2004). These changes in structure and species composition have negatively affected the fire resilience of Sierra Nevada mixed conifer forests. Regarding the change in species composition, excluding fire from the system has allowed the regeneration of non-pine species, especially white fir which is more tolerant of growing in shaded understories (Chang 1996; Weatherspoon 1996, Youngblood and other 2004). Because white fir and incense cedar regenerate well in shady conditions, they are often referred to as "shade tolerant," while ponderosa pine is considered a "shade intolerant" species due to its greater need for open, sunny conditions to regenerate. By excluding fire from the system, forest canopies have tended to become more dense and shaded, thereby favoring the regeneration of white fir instead of Ponderosa pine.

7. White fir an ponderosa pine differ not only in their ability to regenerate in shady conditions, but also in their ability to resist, or survive, fire. Generally, the resistance to fire increases with age for each of the species in these mixed conifer forests. However, ponderosa pine is usually much more resistant to fire throughout its life compared to white fir, due to a combination of factors. The primary difference is that ponderosa pine achieves thick bark – and therefore fire resistance – earlier than most associates, especially white fir. Ponderosa pine also develops more open crowns that are less likely to encourage crown fires than are its associates. Ponderosa pine has a deep rooting habit that allows it to persist well in warm, open environments when compared to shallow rooted white fir. Further, the deep rooting also helps to protect the root system from the heat of surface fires. Trees that are grown in an open environment, preferred by ponderosa pine, generally develop fire resistant qualities more quickly than do trees that grow more slowly in shaded environments. The long needles of ponderosa pine also protect the terminal bud from the heat of surface fires and allow the tree to survive with significant crown scorch. White fir is not able to withstand nearly so much scorch because the terminal buds

are more sensitive to heat (Miller 2000). Now, after many decades of fire exclusion often accompanied by selective harvest of individual large, old ponderosa pines, it is common for these forests to have developed dense understories composed the less fire-resistant species, especially white fir (Chang 1996; Weatherspoon et al. 1992; Skinner and Chang 1996; Miller 2000; Youngblood and other 2004).

8. Additionally, without the frequent fires to regularly remove surface dead organic matter, there has been a build-up of fuel in excess of that which would have historically been present (Parsons and DeBenedetti 1979; Biswell 1989; Skinner and Chang 1996; Skinner 2002). The result has been higher stocking densities and increased fuel accumulations that now lead to conditions that more readily support high-intensity fires than is likely to have been the case historically (Kilgore 1973; Chang 1996; Skinner and Chang 1996; Weatherspoon 1996).

9. In the context of disturbance ecology, resilience is defined as, "the capacity of a system to absorb disturbance and reorganize while undergoing change so as to retain essentially the same function, structure, identity, and feedbacks..." (Folke and others 2004). Thus, the way resilience is defined in any particular case depends on the type of ecosystem (its structure, function, and characteristics), and is scale dependent – in both time and space (Folke and others 2004). Forested systems like those in the Sierras, are characterized by fire regimes of frequent, mostly low-moderate intensity fires, and are dominated by large, long-lived organisms (trees), are considered resilient if the forested landscape exhibits a generally forested condition, including larger trees, shortly following a disturbing event such as fire. On the other hand, chaparral systems or forests where high-intensity crown fires are the norm are considered resilient if they respond to the typical disturbance (e.g., killing of dominant shrubs/trees) by initiating ecological succession. This succession would include the regeneration of species that will eventually lead to development of the dominant species similar to those that existed before the disturbance (Folke and others 2004). The definition of the term 'fire resilience' in Paragraph 11 of the Declaration of Dennis C. Odion submitted in this case is appropriate for chaparral systems, but is not the appropriate definition for forested systems where the natural fire regime would be characterized by frequent, mostly low-moderate intensity surface fires.

10. In the case of fire in a forested landscape in the northern California mountains where the pre-settlement fire regime was one of frequent fires of mostly low-moderate intensity, achieving resilience would be at best difficult if most of the forest landscape were burned in a high intensity fire that killed most of the trees, since they take so long to grow to larger sizes. In this sense, it is the characteristic of the landscape (not a particular stand or small patch) that is important. There will usually be a few trees and groups of trees killed where more intense surface fire burns in localized concentrations of fuel (these localized concentrations of fuel could be caused by a patch of trees killed by insects or disease, or the death and toppling of a single large tree). The small openings caused by the intense burns in localized conditions contribute to resilience since these open and sunny areas are those that encourage regeneration of the more fire-resistant and shade-intolerant ponderosa pine and help to perpetuate the forest. Over the remainder of the landscape, the general characteristic is still one of an open forest or woodland.

11. Group selection, as a component of a broader fuels management program, is designed to help develop the long-term resilience of forested landscapes by providing for small open areas conducive to regeneration of fire-resistant and shade-intolerant ponderosa pine, which keep the forest going while managing stand density (thinning) and surface fuels in the rest of the landscape (McKelvey and Weatherspoon 1992; Weatherspoon 1996). In the short run, stands can be made fire resistant by thinning smaller trees and keeping all the largest trees. However, if the entire landscape is treated this way, and the small trees are successfully kept out for long periods of time through management to help maintain low fire hazard, eventually enough large trees will die that provision must be made for regenerating the forest. That is, there must be small trees and medium sized trees somewhere on the landscape to take the place of the large trees that die. Group selection silviculture anticipates this need and begins the process of maintaining a multi-aged, heavily ponderosa pine forest, through scattering small regeneration patches across the landscape (Weatherspoon 1996). I have attached excerpts from two documents that discuss how group selection silviculture may help achieve fire resilient forests similar to those in the Sierra Nevada prior to the 20th century. *See* Attachments 2 & 3.

12. Fire resilience is different from fire risk or hazard in that fire resilience refers to a long-term potential of the landscape to maintain a forested condition and recover quickly from a

fire. Fire risk is simply the potential or likelihood of having a fire of any intensity. Fire severity refers to the degree of effects of a fire. Fire hazard refers to what the nature of a fire would be – its intensity, severity, and difficulty of suppression. A high fire risk is usually not of great concern if there is a low hazard, and a high hazard may not be of great concern if the risk is low.

13. The openness of the pre-settlement forests that encouraged the development of a diverse understory of grasses, herbs, and scattered shrubs created a condition of high fire risk. The physical structure of grasses, herbs, and shrubs along with the ponderosa pine needle cast makes these environments quite fire prone; that is, there is a high fire risk. This is why these forests were originally characterized by frequent fires. That these historical fires were mostly of low-moderate intensity and came to be dominated by large trees, heavy to ponderosa and sugar pine, attests to their low hazard condition. The low hazard leading to general low severity of the fires in this environment provided a fire resilient forested landscape.

14. Successfully managing fuel conditions across landscapes will increase fire risk because of changes in microclimate and increases in fine fuels (Deeming and others 1977; Weatherspoon 1996; Agee and others 2000). Thinning of stands for a fuel treatment and creating openings by group selection to encourage regeneration of ponderosa pine does allow more sun to reach the forest floor, contributing to faster drying of surface vegetation and more air/wind movement, and the open crowns encourage more fine fuels - herbaceous plants and fresh needle litter. However, when all the effects of these treatments are considered together (e.g., reducing stand density, reducing surface fuels, providing for long-term regeneration of ponderosa pine) fire hazard across the landscape is dramatically reduced, while the prospects of achieving multi-aged, multi-story, resilient forested landscapes are greatly improved. Additionally, fire suppression is generally made more efficient since the reduction of fire hazard more than offsets the increase in fire risk (Martin and Brackebusch 1974; Rothermel 1983; Agee 1996; van Wagtendonk 1996; Agee and others 2000).

15. For the Meadow Valley project, since the trees are to be whole-tree harvested (entire tree moved to landing and utilized or disposed of there), little slash will be added to the forest floor fuels. Therefore, there should not be a noticeable immediate increase in fire severity. Also, the reduction in stand densities and ladder fuels will reduce the potential for high intensity

crown fires – thus, reducing overall expected fire severity. Reducing the likelihood of crown fire will significantly reduce the associated fire severity (Agee and others 2000; Scott and Reinhardt 2001).

16. An example of the efficacy of reducing stand density through harvest and its impact on fire behavior is the Cone Fire of 2002, which burned into the Blacks Mountain Ecological Research Project (Skinner and others 2004). This project is located in the interior ponderosa pine forest type on the Blacks Mountain Experimental Forest on the Lassen National Forest to the north of this project area (Oliver 2000). Effects of the Cone Fire were 1) it burned as a severe crown fire through stands not managed for reduced stand density, 2) it ceased to be a crown fire and dropped to the ground immediately upon entering the thinned stands, 3) it burned as a low-moderate intensity surface fire through thinned stands that had not received follow-up prescribed fire treatment, and 4) it died at the edge of stands that had previously been thinned and received follow-up prescribed fire treatment (Skinner and others 2004).

17. There are several misleading or incorrect statements in the Odion Declaration that require some response. As to Odion's paragraph 4, to have 'chaparral' develop would require much larger openings than those created through group selection – especially in the time frames in which the patches would develop problems (generally less than 10 years). Research on group-selection patches from the Challenge Experimental Forest on the west side of the Plumas National Forest indicate that in 10 years there will be significant cover of grasses, herbs, and shrubs, but that they will have achieved little height growth (McDonald and Abbott 1994; McDonald and Reynolds 1999). That research showed that small openings characteristic of group selection suppressed growth of shrubs because of shading trees adjacent to the openings. (McDonald and Abbott 1994; McDonald and Reynolds 1999). It is therefore unlikely that, "dense, flammable chaparral shrub vegetation" will aggressively take over the openings created by group-selection cutting in the Meadow Valley project.

18. As to Odion's paragraph 5, he states, "The establishment of patches of shrub vegetation therefore would increase the potential for crown fire both in and around the clear cut patches." First, group selection silviculture is not the same thing as clearcutting, and the terms are not interchangeable. While they both involve cutting most or all trees within a given area,

they are distinct silvicultural methods with different purposes and they are applied at different scales. For example, group selection is an uneven-aged method of silviculture that seeks to create a well-distributed range of age classes within a forest stand, while clearcutting is an even-aged method that seeks to create a uniform age class across a forest stand. Second, and more importantly, Odion's conclusion is contradicted by the recent study conducted at the Black's Mountain Experimental Forest. In that study, a significant cover of shrubs (ceanothus and manzanita) had developed in areas where prescribed fire was used following thinning. However, though it occurred five years after the thinning and prescribed fire treatment, the Cone Fire at Blacks Mountain did not spread through these shrub areas (Skinner and others 2004). This was probably due to the low stature of the shrubs, their young, green foliage, and the lack of fine fuels to carry fire into the shrubs. For these reasons, montane chaparral usually does not burn as readily as does southern California coastal chaparral, which more people are familiar with. Just because some areas may develop shrubs, does not mean they will become ready to burn severely (Agee and others 2000).

19. Odion's conclusions that it is inappropriate to conduct group selection in previously treated areas overlooks certain benefits of such treatments. Paragraph 12 of the Odion declaration states, "It will be particularly counterproductive to these goals in areas where fuel treatments and prescribed burning had recently been undertaken to reduce fire hazard." Prescribed burning under relatively dense stands before opening them up with thinning can help to reduce the seed bank of the shrubs and reduce the potential for shrubs to be able to aggressively occupy the area. The prescribed fire will kill some of the seeds outright. It will also induce others to germinate, especially ceanothus species. However, these plants do not do well in a shaded environment and many seedlings will likely have died by the time the subsequent thinning and group selection cutting takes place (Weatherspoon 1985, 1988).

20. As to Odion's paragraph 5, he wrongly states, "the EA incorrectly assumes that understory saplings and pole sized trees are part of the forest canopy, and that removing these understory plants would raise the lower level of the canopy overstory." From a fire behavior perspective the understory saplings and poles *are* part of the forest canopy in terms of being the link that allows the surface fires, when the saplings and poles are dense enough, to move from the

surface into the crowns. Removing saplings and poles *would* raise the height of the lower canopy for the purposes of affecting fire behavior (Agee 1996; Agee and others 2000; Scott and Reinhardt 2001; Graham and others 2004).

21. Finally, Odion's Curriculum Vita does not indicate that he has significant expertise or experience in the Sierra Nevada mixed conifer forests, which are critical in making conclusions about fire behavior in these ecosystems. Odion's background appears to be primarily in studying chaparral ecosystems in the coastal areas of California. Except for some very recent and limited work, he has very little experience with montane forest systems. The coastal chaparral, especially where chamise or coastal sage are major components, burns quite readily and intensely, which contrasts with shrubs in areas of the Sierras like the Meadow Valley project area. Much of his perspective as presented in the declaration is typical of someone who has experience primarily with systems that regularly burn as crown fires (which is typical of chaparral) rather than someone that has worked with forests like those in the Meadow Valley project area that have historically experienced frequent surface fires.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed this 27th day of January 2005.

Carl N. Skinner

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References

Agee, James K. 1993. **Fire Ecology of Pacific Northwest Forests**. Island Press, Covelo, CA.

Agee, James K. 1996. **The influence of forest structure on fire behavior**. In: Proceedings seventeenth annual forest vegetation management conference. Forest Vegetation Management Conference, University of California, Shasta County Cooperative Extension, Redding, CA: 52-68

Agee, James K.; Bahro, Berni; Finney, Mark A.; Omi, Philip N.; Sapsis, David B.; Skinner, Carl N.; van Wagtendonk, Jan W.; Weatherspoon, C. Phillip. 2000. **The use of shaded fuelbreaks in landscape fire management**. Forest Ecology and Management 127:55-66.

Beaty, R. Matthew; Taylor, Alan H. 2001. **Spatial and temporal variation of fire regimes in a mixed conifer forest landscape, southern Cascades, California, USA**. Journal of Biogeography 28:955-966.

Biswell, Harold H. 1989. **Prescribed burning in California wildlands vegetation management**. Berkeley, CA, University of California Press.

Chang, Chi-ru. 1996. **Ecosystem responses to fire and variations in fire regimes**. In: Sierra Nevada Ecosystem Project: Final report to Congress, II: Assessments and scientific basis for management options. Centers for Water and Wildland Resources, University of California, Davis: 1071-1099

Deeming, John E.;Burgen, Robert E.; Cohen, Jack D. 1977. **The national fire danger rating system - 1978**. General Technical Report INT-39, Ogden, UT, USDA Forest Service, Intermountain Research Station.

Dolph, K. Leroy; Mori, Sylvia R.; Oliver, William W. 1995. **Long-term response of old-growth stands to varying levels of partial cutting in the eastside pine type**. Western Journal of Applied Forestry 10:101-108.

Folke, Carl; Carpenter, Steve; Walker, Brian; Scheffer, Marten; Elmqvist, Thomas; Gunderson, Lance; Holling, C. S. 2004. **Regime shifts, resilience, and biodiversity in ecosystem management**. Annual Review of Ecology, Evolution, and Systematics 35:557-581.

Graham, Russell T.; McCaffrey, Sarah;Jain, Theresa B.; Eds.), (Tech. 2004. **Science basis for changing forest structure to modify wildfire behavior and severity**. General Technical Report RMRS-GTR-120, Fort Collins, CO, USDA Forest Service, Rocky Mountain Research Station.

Kilgore, Bruce M. 1973. **The ecological role of fire in Sierran conifer forests: its application to national park management**. Quaternary Research 3:496-513.

Leiberg, John B. 1902. **Forest conditions in the northern Sierra Nevada, California**. Washington, D.C., USDI Geological Survey, Government Printing Office.

Martin, Robert E.; Brackebusch, Arther P. 1974. **Fire hazard and conflagration prevention**. In: Cramer, Owen P., editor. Environmental Effects of Forest Residues Management in the Pacific Northwest. General Technical Report PNW-24, USDA Forest Service, Pacific Northwest Research Station, Portland, OR: G1-G30

McDonald, Philip M.; Abbott, Celeste S. 1994. **Seedfall, regeneration, and seedling development in group-selection openings**. Research Paper PSW-RP-220, Albany, CA, USDA Forest Service, Pacific Southwest Research Station.

McDonald, Philip M.; Reynolds, Phillip E. 1999. **Plant community development after 28 years in small group-selection openings**. Research Paper PSW-RP-241, Albany, CA, USDA Forest Service, Pacific Southwest Research Station.

McKelvey, Kevin S.; Skinner, Carl N.; Chang, Chi-ru; Erman, Don C.; Husari, Susan J.; Parsons, David J.; van Wagtendonk, Jan W.; Weatherspoon, C. Phillip. 1996. **An overview of fire in the Sierra Nevada**. In: Sierra Nevada Ecosystem Project: Final report to Congress, II: Assessments and scientific basis for management options. Centers for Water and Wildland Resources, University of California, Davis: 1033-1040

McKelvey, Kevin S.; Weatherspoon, C. Phillip. 1992. **Projected trends in owl habitat**. In: Verner, Jared; McKelvey, Kevin S.; Noon, Barry R.; Gutierrez, R. J.; Gould, Gordon I., Jr.; Beck, Thomas (Tech., editors). The California spotted owl: a technical assessment of its current status. General Technical Report PSW-GTR-133, USDA Forest Service, Pacific Southwest Research Station, Albany, CA: 261-273

Miller, Melanie. 2000. **Fire autecology**. In: Brown, James K.; Smith, Jane Kapler, editors. Wildland fire in ecosystems: effects of fire on flora. General Technical Report RMRS-GTR-42-vol-2, USDA Forest Service, Rocky Mountain Research Station, Ogden, UT: 9-34

Minore, Don. 1979. **Comparative autecological characteristics of Northwestern tree species - a literature review**. General Technical Report PNW-87. USDA Forest Service, Pacific Northwest Research Station, Portland, OR

Norman, Steve; Taylor, Alan H. 2002. **Variation in fire-return intervals across a mixed-conifer forest landscape**. Association for Fire Ecology Miscellaneous Publication No. 1:170-179.

Norman, Steven Paul. 2002. **Legacies of anthropogenic and climate change in fire prone pine and mixed conifer forests of northeastern California**. The Pennsylvania State University, State College, PA. Dissertation

Oliver, William W. 2000. **Ecological research at the Blacks Mountain Experimental Forest in northeastern California**. General Technical Report PSW-GTR-179, Albany, CA, USDA Forest Service, Pacific Southwest Research Station.

Oliver, William W.; Ryker, Russell A. 1990. ***Pinus ponderosa* Dougl. ex Laws. Ponderosa pine**. In: Burns, Russell M.; Honkala, Barbara H. (Tech. Editors). Silvics of North America, 1, Conifers. Agriculture Handbook 654.USDA Forest Service, Washington, D.C.: 413-424

Parsons, David J.; DeBenedetti, Steven H. 1979. **Impact of fire suppression on a mixed-conifer forest**. Forest Ecology and Management 2:21-33.

Pierovich, John M.; Clarke, Edward H.; Pickford, Stewart G.; Ward, Franklin R. 1975. **Forest residues management guidelines for the Pacific Northwest**. General Technical Report PNW-33, Portland, OR, USDA Forest Service, Pacific Northwest Research Station.

Rothermel, Richard C. 1983. **How to predict the spread and intensity of forest and range fires**. General Technical Report INT-143, Ogden, UT, USDA Forest Service, Intermountain Research Station.

Scott, Joe H.; Reinhardt, Elizabeth D. 2001. **Assessing crown fire potential by linking models of surface and crown fire behavior**. Research Paper RMRS-RP-29, Fort Collins, CO, USDA Forest Service, Rocky Mountain Research Station.

Skinner, Carl N. 2002. **Influence of fire on dead woody material in forests of California and southwestern Oregon**. In: Laudenslayer, William F., Jr.;Shea, Patrick J.;Valentine, Bradley E.;Weatherspoon, C. Phillip; Lisle, Thomas E., editors. Proceedings of the symposium on the ecology and management of dead wood in western forests. 1999, November 2-4; Reno, NV. USDA Forest Service, Pacific Southwest Research Station, Albany, CA: 445-454

Skinner, Carl N.; Chang, Chi-ru. 1996. **Fire regimes, past and present**. In: Sierra Nevada Ecosystem Project: Final report to Congress, II: Assessments and scientific basis for management options. Wildland Resources Center Report No. 37, Centers for Water and Wildland Resources, University of California, Davis: 1041-1069

Skinner, Carl N.; Ritchie, Martin W.; Hamilton, Todd; Symons, Julie. 2004. **Effects of prescribed fire and thinning on wildfire severity: the Cone Fire, Blacks Mountain Experimental Forest**. In: Cooper, Sherry, editor. 25th Annual Forest Vegetation Management Conference, January 2004. Redding, CA; University of California, Shasta County Cooperative Extension: IN PRESS

SNEP. 1996. **Fire and fuels**. In: Sierra Nevada Ecosystem Project: final report to Congress, Vol. I, Assessment summaries and management strategies. Wildland Resources Center Report No. 36, Centers for Water and Wildland Resources, University of California, Davis, CA: 61-71

Taylor, Alan H. 2000. **Fire regimes and forest changes along a montane forest gradient, Lassen Volcanic National Park, southern Cascade Mountains, USA**. Journal of Biogeography 27:87-104.

van Wagtendonk, Jan W. 1996. **Use of a deterministic fire growth model to test fuel treatments**. In: Sierra Nevada Ecosystem Project: Final report to Congress, II: Assessments and scientific basis for management options. Centers for Water and Wildland Resources, University of California, Davis: 1155-1165

Weatherspoon, C. Phillip. 1985. **Preharvest burning for shrub control in a white fir stand: preliminary observations**. In: Cooper, S. L.; [Compiler], editors. Proceedings - 6th Annual Forest Vegetation Management Conference; November 1-2, 1984; Redding, California. University of California, Shasta County Cooperative Extension, Redding, CA: 71-88

Weatherspoon, C. Phillip. 1988. **Preharvest prescribed burning for vegetation management: effects on {ICeanothus velutinus} seeds in duff and soil**. In: Cooper, S. L.; [Compiler], editors. Proceedings - 9th Annual Forest Vegetation Management Conference; November 3-5, 1987; Redding, California. University of California, Shasta County Cooperative Extension, Redding, CA: 125-141

Weatherspoon, C. Phillip; Husari, Susan J.; Van Wagtendonk, Jan W. 1992. **Fire and fuels management in relation to owl habitat in forests of the Sierra Nevada and Southern California**. In: Verner, Jared;McKelvey, Kevin S.;Noon, Barry R.;Gutierrez, R. J.;Gould, Gordon I., Jr.;Beck, Thomas W.; Coords.), (Tech., editors. The California spotted owl: a technical assessment of its current status. General Technical Report PSW-GTR-133, USDA Forest Service, Pacific Southwest Research Station, Albany, CA: 247-260

Weatherspoon, C. Phillip. 1996. **Fire-silviculture relationships in Sierra forests**. In: Sierra Nevada Ecosystem Project, Final Report to Congress, II: Assessments and scientific basis for management options. Wildland Resources Center Report No. 37, Centers for Water and Wildland Resources, University of California, Davis: 1167-1176

Weatherspoon, C. Phillip; Skinner, Carl N. 1996. **Landscape-level strategies for forest fuel management**. In: Sierra Nevada Ecosystem Project: Final report to Congress, II: Assessments and scientific basis for management options. Wildland Resources Center Report No. 37, Centers for Water and Wildland Resources, University of California, Davis: 1471-1492

Youngblood, Andrew; Max, Timothy; Coe, Kent. 2004. **Stand structure in eastside old-growth ponderosa pine forests of Oregon and northern California**. Forest Ecology and Management 199:191-217.

CERTIFICATE OF SERVICE

I hereby certify that on January 28, 2005, I electronically filed the foregoing Federal Defendants' DECLARATION OF CARL N. SKINNER, with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to the following:

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I further certify that I caused to be served a copy of Federal Defendants' DECLARATION OF CARL N. SKINNER, by Federal Express overnight delivery, upon the following individual:

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