Board of Forestry and Fire Protection

<u>INITIAL STATEMENT OF REASONS</u>

"WHITE AND BLACK OAK WOODLAND MANAGEMENT SPECIAL PRESCRIPTION"

Title 14 of the California Code of Regulations (14 CCR):
Division 1.5, Chapter 4,
Subchapter 4, Article 3
Subchapter 5, Article 3
Amend: § 913.4 [933.4] Special Prescriptions.

INTRODUCTION INCLUDING PUBLIC PROBLEM, ADMINISTRATIVE REQUIREMENT, OR OTHER CONDITION OR CIRCUMSTANCE THE REGULATION IS INTENDED TO ADDRESS (pursuant to GC § 11346.2(b)(1))…NECESSITY (pursuant to GC § 11346.2(b)(1) and 11349(a))….BENEFITS (pursuant to GC § 11346.2(b)(1))

Pursuant to the Z'berg-Nejedly Forest Practice Act of 1973 (FPA, PRC § 4511, *et seq*.), the Board is authorized to construct a system of forest practice regulations applicable to timber management on state and private timberlands.

PRC § 4561.2 authorizes the Board to adopt alternative stocking standards that meet the purposes of PRC § 4561 if those alternative standards reasonably address the variables in forest characteristics, achieve suitable resource conservation, and contribute to specific forest health and ecological goals as defined by the board. PRC § 4551 requires the Board to adopt district forest practice rules to assure the continuous growing and harvesting of commercial forest trees and to protect the soil, air, fish, and wildlife… PRC § 4553 requires the Board to continuously review and revise the rules in consultation with other interests.

Pursuant to this authority, the Board amended 14 CCR § 913.4 [933.4] to enable landowners, through a new special prescription applicable in the Coast and Northern Districts, to manage stands for Oregon white oak (Quercus garryana) and/or California black oak (Quercus kelloggii) in which Group A species (§14CCR 895.1, "Commercial Species") are encroaching.

The history of the development of this regulation is as follows:

The <u>problems the proposed rule addresses</u> is 1) the loss of oak woodlands to conifer encroachment, which is widely recognized as a major conservation concern, and 2) the incomplete pathway in the existing rules for landowners to address conifer encroachment. The increased occupancy of oak woodlands by Douglas-fir and other conifers has been reported throughout portions of California and the Pacific Northwest in multiple oak habitat types. Studies point to altered disturbance regimes, and the

suppression of low-intensity fire in particular, as the primary cause of increased conifer establishment in oak woodlands.

The management and regulation of hardwoods has been an evolving topic since inception of the Z'berg-Nejedly Forest Practice Act of 1973. In the early rules (1974-75) adopted under this Act, hardwoods were minimally addressed and it was unclear to the Board and the Department of Forestry and Fire Protection (Department) the extent of regulation needed and what standards would be applied to hardwoods. In 1981 the Department withheld approval of a timber harvesting plan (THP) with questions revolving around hardwoods and referred the THP to the Board for direction (PRC § 4555). That THP was ultimately returned to the Department for approval. However, the question of how to address hardwoods remained before the Board. In 1981 the Board appointed a committee to review the management and utilization of hardwoods. A committee report was returned to the Board in 1982 with recommended actions. The committee recommended that the Board develop a new scheme for management of hardwoods under the Forest Practice Act and rules. The new scheme should show less bias against hardwoods and should encourage their growth and utilization where appropriate.

Following these events, the Board appointed a task force to carry forward the recommendations of the hardwood committee. The Board charged the new task force to take a large view of hardwood resources, to summarize the location of the existing resource, to describe and evaluate any ecological problems, to evaluate the need for any new forest practice rules or legislation, to describe and evaluate problems in hardwoods related to people, to look at research needs, and to make appropriate recommendations. This task force, under Chairman Dr. Norman Pillsbury, brought its preliminary report to the Board in December, 1983. The Board continued consideration of hardwoods for the next three years and in 1986 conducted a major review of new information gathered by the hardwood committee during a symposium at Cal-Poly in San Luis Obispo.

In 1987 the Board, Fish and Game Commission, U.C. Cooperative Extension and Department initiated the Integrated Hardwood Range Management Program (IHRMP). The IHRMP has provided a large amount of education and research on California hardwoods. In 1988 the Board utilized information from these efforts to modify rules clarifying the role of hardwoods as a commercially managed species. The new rules established two Groups, Group A and Group B. Group A contained the primary species, mainly conifers, while Group B contained the secondary species, mainly hardwoods. Commercial timberlands were defined by the presence of species currently or in the historic past of species in Group A. The changes clarified how hardwoods were to be treated where commercial management was involved. The rule changes did not effectively provide for the management of hardwoods where ecosystem benefits were a primary objective as they addressed minimum stocking standards that favored conifer.

The effect of the proposed action is to establish a special prescription for timber operations designed to conserve and restore designated true oak (Quercus) presence and viability in forest stands located on timberlands currently threatened due to conifer

encroachment. The proposed action establishes a clear and legal pathway to restore the forest stand balance of conifers (commercial Group A species) and certain designated oak species (commercial Group B species) as necessary to prevent imminent loss of Oregon white and California black oak where the action is applied.

The primary benefit of the proposed action is to conserve and restore white and black oak woodland habitats. Oak woodland habitat and the presence of oaks within forested landscapes are consistently identified in forest research as critically important for supporting wildlife needs and sustaining biodiversity in California. Oak woodland structures and ecological associations uniquely sustain or enhance wildlife populations and biodiversity, and are distinct from habitats within coniferous forests. Many oak species also represent economically and culturally important resources within the state, both currently and historically. The Board finds that native oak woodlands of California are a vitally important natural and economic resource. Native oak woodland habitats are extremely important to the fish, wildlife, and natural resources of California. Oak woodlands throughout California support a wide variety of wildlife species by providing habitat with feeding, breeding, cover, and related needs. In addition, native oak woodlands can benefit fishery resources by preventing the erosion of hillsides and stream banks, moderating water temperatures by shading and contributing nutrients and food-chain organisms to waterways. Native oak woodlands also provide substantial worth to landowners in the form of aesthetics, open space, recreation, wood products, range and property values, and these same values also provide certain public benefits.

Removal of encroaching conifers has been shown to be effective in maintaining and/or restoring oak tree health and associated plant communities in Oregon white oak and California black oak woodlands. There is strong landowner interest in being able to conduct commercial timber operations for the purpose of Oregon white oak and California black oak woodland conservation in the north coast and northern districts. Several incentive programs are encouraging landowners to restore these woodlands, including the USFWS Partners Program and the USDA Environmental Quality Incentives Program (EQIP), and through California Department of Fish and Wildlife's Private Lands Management approaches to wildlife conservation; however, the Forest Practices Rule are a barrier to the implementation of these programs.

The Board, along with the Fish and Game Commission, adopted in 1994 the Joint Policy on Hardwoods in recognition of the importance of hardwood resources and oak woodlands within the state along with the pressures that face the ecosystems that support oak species. The Joint Policy on Hardwoods also recognizes the continued need for the long-term perpetuation and geographic representation of hardwoods and oak woodlands across the landscape and the need for conservation management of these resources.

SPECIFIC PURPOSE OF EACH ADOPTION, AMENDMENT OR REPEAL (pursuant to GOV § 11346.2(b)(1)) AND THE RATIONALE FOR THE AGENCY'S DETERMINATION THAT EACH ADOPTION, AMENDMENT OR REPEAL IS REASONABLY NECESSARY TO CARRY OUT THE PURPOSE(S) OF THE STATUTE(S) OR OTHER PROVISIONS OF LAW THAT THE ACTION IS IMPLEMENTING, INTERPRETING OR MAKING SPECIFIC AND TO ADDRESS THE PROBLEM FOR WHICH IT IS PROPOSED (pursuant to GOV §§ 11346.2(b)(1) and 11349(a) and 1 CCR § 10(b)). ***Note: For each adoption, amendment, or repeal provide the problem, purpose and necessity.***

Pursuant to the Z'berg-Nejedly Forest Practice Act of 1973 (FPA, PRC § 4511, *et seq*.), the Board is authorized to construct a system of forest practice regulations applicable to timber management on state and private timberlands.

PRC § 4561.2 authorizes the Board to adopt alternative stocking standards that meet the purposes of PRC § 4561 if those alternative standards reasonably address the variables in forest characteristics, achieve suitable resource conservation, and contribute to specific forest health and ecological goals as defined by the board. PRC § 4551 requires the Board to adopt district forest practice rules to assure the continuous growing and harvesting of commercial forest trees and to protect the soil, air, fish, and wildlife… PRC § 4553 requires the Board to continuously review and revise the rules in consultation with other interests.

The purpose of the proposed action is to enable landowners, through a new special prescription applicable in the Coast and Northern Districts, to manage stands for Oregon white oak (Quercus garryana) and/or California black oak (Quercus kelloggii) in which Group A species are encroaching. Removal of encroaching conifers has been shown to be effective in maintaining and/or restoring oak tree health and associated plant communities in Oregon white oak and California black oak woodlands. There is strong landowner interest in conifer removal (across the diameter classes) in the north coast and northern districts.

The problem is the loss of oak woodlands to conifer encroachment, which is widely recognized as a major conservation concern, and it has been documented in a number of research and other publications. The increased occupancy of oak woodlands by Douglas-fir and other conifers has been reported throughout portions of California and the Pacific Northwest in multiple oak habitat types. Studies point to altered disturbance regimes, and the suppression of low-intensity fire in particular, as the primary cause of increased conifer establishment in oak woodlands.

Oak woodland habitat and the presence of oaks within forested landscapes are consistently identified in forest research as critically important for fulfilling wildlife needs and sustaining biodiversity in California. Oak woodland structures and ecological associations uniquely sustain or enhance wildlife populations and biodiversity, and are distinct from habitats within coniferous forests. Many oak species also represent economically and culturally important resources within the state, both currently and

historically. The transition of oak habitat toward conifer dominance greatly affects these unique resources and values, and results in social, economic, and ecological losses.

A 2011 report by the North Coast Regional Land Trust on the status of oak woodlands in Humboldt County specifically identified the increasing abundance of Douglas-fir in oak woodlands as "…a primary factor driving the loss of oak woodlands in Humboldt County." Among the obstacles to enhancement or restoration of oak woodlands identified in the Land Trust report are the minimum post-harvest stocking requirements of Forest Practice Rule Sections 912.7, [932.7, 952.7]. As stated in the last paragraph on page 12 of the report:

> **Current policy within the California Forest Practice Rules (FPR 14 CCR § 912.7, 932.7, 952.7) requires the restocking of conifers after harvest, even if the goal of the harvest is to reduce conifer stocking in oak stands. This requirement may pose a significant obstacle to oak woodlands enhancement and restoration efforts on private lands, especially where landowners seek to recoup project costs through conifer log sales. A change in the California Forest Practices Rules to address this issue may help to facilitate the recovery of oak woodlands in the county.**

Existing FPR regulation favors conifers over deciduous oaks through the requirements of 912.7 (d), 932.7 (d), and 952.7 (d) to balance group A and B species harvests to meet maximum sustained productivity (913.11). The proposed action addresses this by providing alternate stocking standards designed to maintain Oregon white oak and California black oak stands specific to application of the new special prescription.

The scope of the conifer encroachment problem is not limited to portions of the North Coast. According to the University of California Oak Woodland Conservation Workgroup (OWCW), conifer encroachment is an issue throughout many portions of interior and coastal California.

The OWCW notes that lack of fire or other disturbances in upland valley oak and Oregon white oak stands in the Valley Oak Woodland and Coastal Oak Woodland vegetation types appears to be encouraging both Douglas-fir and pine species encroachment.

Scientific research and forest ecology literature also document conifer encroachment in portions of the Klamath, Southern Cascades, and Sierra Nevada ranges, encompassing both coastal and interior zones and primarily affecting deciduous oak species, including both Oregon white oak (*Q. garryana*) and California black oak (*Q. kelloggii*). Research consistently identifies Douglas-fir (*Pseudotsuga menziesii*) and white fir (*Abies concolor*) as species that dramatically increase in abundance in the absence of fire and consequently suppress or out-compete oaks within mixed or pure stands. This process may also include increases of other conifer species, including but not limited to pine, cedar, and juniper.

Explanation for why the Proposed Action Duplicates and/or Rephrases Statute and Existing Rules

In some instances the language contained within the proposed rule text, duplicates language within §§ 913.6, 933.6, and 953.6 of Title 14 of the California Code of Regulations.

Duplication was used as tool to make the proposed rule text congruent with statute and to provide context and have all related information in one place so that the burden of having to cross-reference both statue and other portions of the Forest Practice Rules is not placed on the regulated public.

Also, duplication of relevant existing regulatory language in the proposed action was determined to be a prudent measure because they were developed and informed by experts in the field of forestry and through a collaborative effort between landowner, industry, agency and environmental representatives. These duplicated regulations were subsequently used to develop the provisions described in the proposed action.

Where the statute is made specific or interpreted, an explanation regarding why the proposed rule is reasonably <u>necessary</u> to carry out the purpose and to address the problem for which it is proposed is provided below.

Adopt 14 CCR § 913.4 [933.4](f)

The purpose of this subsection is to first establish a special prescription for Oregon white and California black oak woodland management.

Next the special prescription goals are established. They are predetermined as the special prescription is being provided to project proponents to address a specific problem. Identifying these goals is necessary to provide project proponents the context in which this special prescription may be used. Explicitly, the silviculture (the study, cultivation, and management of forest trees) shall be designed to reduce water, light, and nutrient competition from Group A species in order to promote the sustained viability of Oregon white oak and California black oak stands to restore or conserve the ecological, cultural, and economic values of historically oak-dominated stands that are being lost due to Group A species encroachment.

The sentence, “Group B species including white and black oaks may also be harvested.” is necessary to remind the project proponent that, where Group A species currently exist, Oregon white and California black oak species are considered commercial and may be harvested for commercial purposes, as well as for the purpose of reducing water, light, and nutrient competition for other Group B species.

The final part of this narrative requires the project proponent to design the prescription to balance the contribution of resource values attributable to Oregon white oak and California black oak stands with the other goals of forest management specified in 14 CCR § 897, namely the production or maintenance of forests which are healthy and naturally diverse, with a mixture of trees and under-story plants, in which trees are

grown primarily for the production of high quality timber products which meet objectives including (A) Achieve a balance between growth and harvest over time consistent with the harvesting methods within the rules of the Board and (B) Maintain functional wildlife habitat in sufficient condition for continued use by the existing wildlife community within the planning watershed. This is necessary to prompt the project proponent to design the special prescription to be commensurate with the intent of the FPA implementation. The final part of this narrative includes a leading statement that informs project proponents in order to use this special prescription and take advantage of the flexibility it affords in addition to the aforementioned context the following requirements must be met and is necessary to provide clarity.

Adopt 14 CCR § 913.4 [933.4](f)(1)
This paragraph provides a description of the preharvest stand eligibility for this special prescription.

The term "stand" is commonly understood and, pursuant to the McGraw-Hill Dictionary of Scientific & Technical Terms, means the basic unit of forest mapping; a group of trees that are more or less homogeneous with regard to species composition, density, size, and sometimes habitat.

The scientific names for Oregon white oak and California black oak are provided for clarity. In every instance that Oregon white oak and California black oak are used, they are equivalent to *Quercus garryana* and *Quercus kelloggii*, respectively.

The Board establishes a pre-requisite minimum Oregon white oak and California black oak presence as defined by a minimum basal area per acre. This is necessary to ensure the stand is in fact a true oak stand and therefore eligible for the special prescription. The Board deemed 35 sq. ft. of preharvest basal area was high enough to be commensurate with legitimate Oregon white oak and California black oak management, but not so high to exclude most stands facing encroachment. The Board did not set the thresholds lower in order to discourage abuse of this special prescription where a project proponent would cut out the more valuable Group A species under the safeguards of the predetermined goals.

The Board was informed by a UC power point presentation (10/27/15) to the Forest Practice Committee (FPC) reporting variability in stocking levels of white and black oak woodlands in the Coast district. The presentation provided information on current UC research on conifer encroachment in oak stands located in Humboldt and Mendocino counties. The focus of the research was on species basal area, age, diameter distribution, regeneration, and time to conifer dominance. The study addressed these parameters for conifer encroachment of oak stands at early, mid, and late stages. The mean value of white and black oak basal area for all three stages of encroachment varied from 33 – 107 square feet of either white or black oak. This data was taken from stand inventory plots containing ten (10) or more black and/or white oak trees, and excluded plots on the margins of oak stands where oak stocking lessens, typically in transition to either open grasslands or conifer forest. The FPC considered this

information in reaching the 35 square feet of basal area recommendation to the Board in the proposed regulation. Further support for this recommendation is found in the 1983 report of the Hardwood Task Force. The report recommendations recognize that a minimum of 15-35 sq. ft. of post-harvest hardwood are necessary for the maintenance of wildlife benefits.

Adopt 14 CCR § 913.4 [933.4](f)(2)
This paragraph is a leading statement that informs project proponents that in order to use this special prescription and take advantage of the flexibility it affords, a pre-project description of the proposed project area must be provided. In addition to the aforementioned requisite preharvest stand conditions, the following information must be provided for the stand in which the special prescription is to be applied and is necessary to provide clarity for the THP review process.

Adopt 14 CCR § 913.4 [933.4](f)(2)(A)
This subparagraph requires that the project proponent provide an estimate, by species, of preharvest stand composition, diameter distribution, and basal area and is necessary for clarity and to afford the Department and other reviewing agencies the information necessary to verify the eligibility of the stand for the special prescription.

Adopt 14 CCR § 913.4 [933.4](f)(2)(B)
This subparagraph requires that the project proponent provide a description of natural and any known anthropogenic factors conducive to Oregon white oak and/or California black oak historic and sustained occupancy of the site, which may include discussion of climate, soil, light, aspect, fire regime, management practices, or other relevant factors. This discussion is necessary for clarity and to afford the Department and other reviewing agencies the information necessary to verify the eligibility of the stand for the special prescription relevant to the predetermined goals. This information also provides the Department and reviewing agencies a stand background, with both natural and introduced affects, which may interact with the special prescription proposed. It is necessary to understand if those influences will aid in or be obstacles in meeting the stated purposes of the special prescription.

Adopt 14 CCR § 913.4 [933.4](f)(2)(C)
This subparagraph requires that the project proponent provide a description of any apparent or known trend in changing stand composition occurring over time and the factors likely to be contributing to this trend and is necessary for clarity and to afford the Department and other reviewing agencies the information necessary to verify the anticipated success of this special prescription.

Adopt 14 CCR § 913.4 [933.4](f)(3)

This paragraph requires the RPF to provide a description of the planned post-harvest stand condition including, by species, desired stand composition, diameter distribution, and basal area. The required information in this paragraph is necessary to assist the Department and reviewing agencies to evaluate the potential success of the proposed prescription in meeting the stated purpose of the regulation. That purpose is to reduce light, water, and nutrient competition with oak species and to promote the sustained viability of black and white oak stands. Information about the desired species and stand composition allow an evaluation of the ability of the oak species to maintain a dominant position in the future of the stand. Since conifers are more shade tolerant than the oaks, too high of a residual conifer stocking will result in conifer dominance of the future stand and defeat the purpose of the special prescription. Diameter distribution and basal area are also tools to evaluate the dominant species of the future stand. They are tools allowing reviewing agencies to evaluate the immediate post-harvest stand conditions affecting the sustainability of the oak species. High basal areas of conifers indicate a dominant site occupation of confers and a potential for successful encroachment of the conifers over oaks. The diameter distribution assists in determining which species are the largest and thus have the best opportunity to dominate a stand in the near future. This is consistent with information presented in GENERAL TECHNICAL REPORT PSW-GTR-251.

Adopt 14 CCR § 913.4 [933.4](f)(4)

This paragraph requires the RPF to describe what trees are to be harvested and the method by which those trees shall be identified, as well as any special instructions to the Licensed Timber Operator (LTO) regarding measures to be taken to protect residual oak trees during timber operations. If the trees to be harvested are to be marked, that must be done for a sample area before the preharvest inspection. The sample area is to be 10 acres per stand or 10% of the stand area to be harvested. The marking of trees can be waived for the remainder of the harvest area by the Director when justified in the THP. It is necessary to identify trees to be harvested so that the LTO doing the harvest produces a post-harvest stand that meets the description in the THP. It is a common business practice for harvest trees to be marked before timber harvesting begins. This provides greater efficiency during timber operations and assures the special prescription prepared by the RPF will be applied in practice by the LTO. There is a cost for the RPF or designee to mark trees to be harvested. Therefore to provide for cost savings the Board provides an opportunity to mark only a sample if justified by the RPF in the THP. This is consistent with the requirements for interaction between the RPF and LTO (14 CCR § 1035.2).

During timber harvesting, trees not harvested can be damaged either during falling or skidding. This can be minimized if care is taken by the LTO through use of such actions as directional falling and pre-marking skid trails. The success of a special prescription in achieving the described future stand conditions is dependent upon the care with which harvesting is performed and the condition of the trees not harvested. The requirement to describe special measures to protect trees left after harvest is necessary to assure the post-harvest stand will achieve the intent of the special prescription.

Adopt 14 CCR § 913.4 [933.4](f)(5)
This paragraph requires the RPF to describe how the boundaries of the special prescription shall be identified on the ground, under the supervision of an RPF. This is necessary to assure that timber harvesting takes place only on the areas described in the THP and as depicted on the maps attached to the THP. This is to be done before a pre-harvest inspection to provide the reviewing agencies a clear picture of the proposed harvest and special prescription on the ground.

Adopt 14 CCR § 913.4 [933.4](f)(6))
This paragraph requires Decadent and Deformed Trees of Value to Wildlife to be retained unless they pose a safety hazard or the RPF explains and justifies why removal is necessary to facilitate timber operations or the objectives of the harvest or special prescription. This paragraph is necessary to assist in meeting the standard in 14 CCR § 897(b)(1)(B) of maintaining functional wildlife habitat. This paragraph also provides consistency with Board rules requiring wildlife protection practices as set forth in 14 CCR, Chapter 4, Subchapters 4, 5, & 6, Articles 9. The exception for removal of decadent and deformed trees is provided to maintain landowner, employee, and public safety. The second portion of the exception also provides for removal where necessary to meet the desired future conditions of the oak stand.

Adopt 14 CCR § 913.4 [933.4](f)(7)
This paragraph requires that immediately upon completion of timber operations the post-harvest stand shall contain Oregon white oak and/or California black oak stocking levels that meet or exceed an average of 35 square feet of basal area per acre.

Board has authority pursuant PRC § 4561.2 to establish alternative stocking standards to PRC § 4561 as necessary to address variables in forest characteristics and achieve suitable resource conservation. The purpose of the special prescription provided by these proposed rules is the maintenance of oak habitat values such as biological diversity, and wildlife values. Oak woodland structures and ecological associations uniquely sustain or enhance wildlife populations and biodiversity, and are distinct from habitats within coniferous forests. Many oak species also represent economically and culturally important resources within the state, both currently and historically. The transition of oak habitat toward conifer dominance greatly affects these unique resources and values, and results in social, economic, and ecological losses. To avoid the loss of the unique values of oak woodland it is necessary to require post-harvest basal area meet the minimum preharvest basal area. The rule does not prevent the commercial harvest of oaks if the preharvest basal area exceeds the minimum of 35 square feet per acre.

Adopt 14 CCR § 913.4 [933.4](f)(8)
This paragraph requires that immediately upon completion of timber operations, Group A species shall not exceed 50 percent of the combined Group A and B species post-

harvest stand basal area. The paragraph also requires post-harvest stands to have the same proportion or higher of Group B to Group A species as the pre-harvest stand.

ECONOMIC IMPACT ANALYSIS (pursuant to GOV § 11346.3(b)(1)(A)-(D) and provided pursuant to 11346.3(a)(3))

The proposed action provides the landowner a regulatory pathway to manage for oak (Group B) species by reducing the amount of Group A species and specifying certain Group B species be used to meet post-harvest required to meet the stocking standards as allowed for in PRC § 4561.2 . The requirements for the submission and approval of the Timber Harvesting Plan (PRC § 4581), a Timber Operations Completion Report (PRC § 4585) and Stocking Report (PRC § 4587) will still apply. Thus the proposal cost impacts for these requirements are neutral.

The proposed action:

(A) will create jobs within California;
(A) will not eliminate jobs within California;
(B) will create new businesses; yes
(B) will not eliminate existing businesses within California; yes
(C) will beneficially affect the expansion of businesses currently doing business within California. yes
(D) will have nonmonetary benefits. Many public trust resources will be improved.

The types of businesses that will be impacted are industrial and nonindustrial forest landowners, forestry consulting, logging firms, restoration contractors lumber mills, biogenic energy producers and shavings plants. Therefore, both large and small businesses may have positive economic impacts.

Businesses will be beneficially impacted by the proposed action. Currently timber harvesting is not economical or practical on some ownerships where the state required stocking standards would not be met with Group A trees post-harvest (PRC § 4561). A portion of the receipts from the harvest would have to be expended on planting trees to meet the stocking standards. That expense together with the cost of THP preparation ($35-60,000) would make the project uneconomical. This proposal would allow all areas managed under this draft regulatory proposal to meet stocking standards with GroupB species. Due to this, a number of those projects may become marginally profitable or at least cost neutral.

This proposal may create 2-10 project opportunities per county with oak woodland stands in the Northern and Coast Forest Districts (14 counties), which could result in an additional 30-140 THPs per year. Thus, new opportunities would be created for the types of businesses listed in this section. The project estimate is partially based on an estimate of potential new projects provided by the U.C. Extension Service.

The oak woodland projects made feasible by this proposal will have lower net return from timber values than the average fully stocked conifer stands. The harvest trees

may have a wider spacing than typical harvest stands and therefore more equipment time will be required to remove the same board footage as fully stocked conifer stands. A high percentage of these potential projects will exist on land of lower site quality which means the volume per tree harvested may be smaller. There may also be a higher number of open grown trees on these projects. Open grown trees tend to have a greater number of large branches that produce in larger knots in lumber and thus results in a log with lower value. Together these factors will likely result in a significantly lower return per acre for the landowner than if harvest occurred on a fully stocked conifer stand.

The economic potential from these projects will be quite variable. It is reasonable to expect a potential harvest of 1 to 5 thousand board feet (Mbf) per acre. Board of Equalization values for Douglas-fir range from $100-350/Mbf. That provides a range of gross harvest value of $100-1,750 per acre. If we assume a logging cost of $150-200/Mbf, it is apparent that not all potential projects will provide a positive economic outcome.

A number of the projects conducted with this proposal will be accomplished with an economic “break-even” outcome. In these instances the landowner is driven to complete the project due to management objectives rather than economic incentive. Management objectives may include: 1) a desire to reduce the risk of large damaging fires, 2) maintenance of biological diversity, or 3) increase of wildlife benefits.

Given the many variables for starting and maintaining a business in California and the limited scope of the proposed action, the number of businesses that may be created as a result of the proposed action is relatively small. For the most part, existing businesses will have more work.

The primary benefit of this proposal is increasing the ability of the landowner to manage oak woodlands for their biological diversity, wildlife, and water quality benefits. That ability is increased by modification of stocking standards, which allows the landowner to avoid conifer encroachment of the oak stands and see greater economic gains from harvesting the conifers. The landowner will now receive some economic return to offset the costs of managing for oak woodland maintenance. That is a positive economic outcome of the proposal.

TECHNICAL, THEORETICAL, AND/OR EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENT RELIED UPON (pursuant to GOV SECTION 11346.2(b)(3))

The Board of Forestry and Fire Protection relied on the following list of technical, theoretical, and/or empirical studies, reports or similar documents to develop the proposed action.

1. Valachovic Oak Woodlands for Board of Forestry 10272015 ver 2

2. FPC 3.1 Adaptation of CA FPRs to Address Conifer Encroachment 2014

   FPC 3.1 Adaptation of CA FPRs to Address Conifer Encroachment 2014 (407KB PDF)

3. FPC 3.2 CA Black Oak Response to Conifer Encroachment 2012

   FPC 3.2 CA Black Oak Response to Conifer Encroachment 2012 (1.5MB PDF)

4. FPC 3.3 Conifer Encroachment in California Oak Woodlands 2014

   FPC 3.3 Conifer Encroachment in California Oak Woodlands 2014 (805KB PDF)

5. 1994 Board of Forestry and Fish and Game Commission, Joint Policy on Hardwoods

6. 2011 report by the North Coast Regional Land Trust

7. Excerpts from the Public Resources Code (PRC), 2015: § 4551, 4553, and 4561.2.

8. Excerpts from Title 14 of the California Code of Regulations (14 CCR), 2015: §§ 895, 912.7, 913.4, and 933.4.

9. California's Hardwood Resource, Preliminary Report of the Hardwood Task Force, 1983

REASONABLE ALTERNATIVES TO THE PROPOSED ACTION CONSIDERED BY THE BOARD, IF ANY, INCLUDING THE FOLLOWING AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES (pursuant to GOV § 11346.2(b)(4)(A) and (B)):

- **ALTERNATIVES THAT WOULD LESSEN ANY ADVERSE IMPACTS ON SMALL BUSINESS AND/OR**
- **ALTERNATIVES THAT ARE LESS BURDENSOME AND EQUALLY EFFECTIVE IN ACHIEVING THE PURPOSES OF THE REGULATION IN A MANNER THAT ENSURES FULL COMPLIANCE WITH THE AUTHORIZING STATUTE OR OTHER LAW BEING IMPLEMENTED OR MADE SPECIFIC BY THE PROPOSED REGULATION**

The Board has considered the following alternatives and rejected all but alternative #4.

Alternative #1: No Action
This alternative would not assist in maintaining oak woodland forest stands and their wildlife and ecological diversity values. The alternative would not reduce the extent of conifer encroachment on oak woodland forest stands.

The Board rejected this alternative due to the failure to meet the stated purpose of the regulatory proposal.

Alternative #2: Take Action to Increase the Specificity of the Regulation Needed to Implement the Statute
Under this alternative, the Committee would review the requirements of Forest Practice Rules Section 912.7, [932.7, 952.7] Resource Conservation Standards for Minimum Stocking to identify potential impediments to oak woodland restoration. Upon identifying such impediments, the Committee could propose amendments to this and other rule sections within the limits of the Board's statutory authority.

The Board Forest Practice Committee pursued this approach in consultation with the Department and found changes to the forest practice rules would be required in multiple sections including 912.7, [932.7, 952.7], 913.11 [933.11, 953.11], and 913.6 [933.6, 953.6] to establish a winding regulatory pathway for meeting the proposed actions objectives. Ultimately an alternative prescription approach, as allowed for in other sections of the FPRs, could potentially facilitate the desire oak woodland management; however the submitted projects utilizing this approach could be highly variable and require significant review and discretion by the Department in determining whether they met the intent of the Forest Practice Act.

Ultimately the Board rejected this approach as it would not establish a clear understanding of the regulatory minimum requirements for specific oak woodland management necessary for the Department to review and approve proposed projects in an efficient and consistent manner. Similarly, the Board found that project proponents and the public would not be provided with sufficient clear direction as to necessary minimum requirements for developing an oak woodland special prescription that

ensured adequate environmental protection and could be reviewed by the Department and review team agencies in a consistent and efficient manner.

Alternative #3: Take Action to Decrease the Specificity of the Regulation Needed to Implement the Statute

This alternative would decrease the specificity of the regulation needed to implement the statute. This alternative would provide maximum flexibility for participants allowing them to develop performance based standards to implement the statute.

Under this option, the Board would encourage and monitor use of prescribed fire, mastication, lop and scattering, or other vegetation management techniques in oak woodlands to reduce or prevent conifer encroachment. The use of prescribed fire, or other vegetation management techniques in encroached oak woodlands is effective for culling small conifers (e.g., <3-4 meters tall). However, where conifers are older and larger, mechanical removal, or hand felling of encroaching trees is generally necessary to achieve desired effects. Also, application of fire in heavily encroached stands may inadvertently top-kill suppressed, low-vigor oaks. This option would, therefore, be effective in maintaining un-encroached or early-encroached woodlands, but it would be limited in its effect on late-encroached conditions where mechanical treatment is necessary.

The Board rejected decreasing the specificity of the regulation, through performance based regulation, needed to implement the statute because the Board found that a minimum level of prescriptive standards was needed to implement the statute. Performance based regulations would generate broader interpretation by the participants and may result in enforcement complications for the Department, who must have the ability to enforce regulatory prescriptive standards for the protection of the public trust resources.

Alternative #4: Take Action as Proposed and Modified through the Formal Public Review and Comment Process

This alternative would result in making PRC § 4561.2 specific to the maintenance of oak woodlands thereby allowing the project proponent to manage oak stands to maintain the ecological diversity of the oak ecosystems. The proposal establishes alternative stocking standards consistent with the FPA for use with the special prescription. A conifer component may remain in oak stands harvested under the special prescription. However, by removing conifers from the stand under the supervision of an RPF, the oak component will be able to maintain the sought after ecological diversity. Over time there may need to be repeated entries into these stands to keep the ecosystem values provided by the oak component. The proposed action is a mix of performance based and prescriptive standards as is the entire Forest Practice Rules.

This is the preferred alternative as it fulfills the obligations, specified in statute, of the Board and represents a product based upon collaboration and the greatest degree of consensus achievable at the time the Board authorized noticing of the proposed action.

Public and Agency representatives have reviewed the proposed action and provided input, which is reflected in the proposed regulation. The Board struck a balance between performance based and prescriptive standards. The Board found that a minimum level of prescriptive standards is needed to implement the statute.

Board Findings Regarding Alternatives

The Board finds that none of the above-mentioned alternatives:

- would have any adverse impact on small business.
- would be less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing statute or other law being implemented or made specific by the proposed regulation than the proposed action.
- would be more effective in carrying out the purpose for which the action is proposed and would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law than the proposed action.

Prescriptive Standards versus Performance Based Standards (pursuant to GOV §§11340.1(a), 11346.2(b)(1) and 11346.2(b)(4)(A)):

Pursuant to **GOV §11340.1(a)**, agencies shall actively seek to reduce the unnecessary regulatory burden on private individuals and entities by substituting performance standards for prescriptive standards wherever performance standards can be reasonably expected to be as effective and less burdensome, and that this substitution shall be considered during the course of the agency rulemaking process.

The regulation does not mandate the use of specific technologies or equipment, but does prescribe specific actions or procedures. The proposed action is, in fact, a mix of performance based and prescriptive standards as is the entire Forest Practice Rules. Alternative #3 considered decreasing the specificity of regulatory standards, but was rejected for the reasons described above. Increasing the reliance on performance based standards was not reasonably expected to be as effective and less burdensome. Alternative #4 is preferred for the reasons described above and serves as the explanation for why prescriptive standards are required.

Pursuant to **GOV § 11346.2(b)(1)**, the proposed action does not mandate the use of specific technologies or equipment.

Pursuant to **GOV § 11346.2(b)(4)(A)**, performance standards were considered in Alternative #3 given that the proposed action prescribes specific actions or procedures. Alternative #3 considered increasing performance based standards relative to prescriptive standards, but was rejected for the reasons described above. Increasing the reliance on performance based standards was not reasonably expected to be as effective and less burdensome. The preferred alternative contains prescriptive standards for 1) the minimum basal area of oak post-harvest, 2) the maximum post-

harvest percentage of Group A species basal area, and 3) a requirement to retain oak trees with wildlife value.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE RELIED UPON TO SUPPORT INITIAL DETERMINATION IN THE NOTICE THAT THE PROPOSED ACTION WILL NOT HAVE A SIGNIFICANT ADVERSE ECONOMIC IMPACT ON BUSINESS (pursuant to GOV § 11346.2(b)(5))

The proposed action will not have a significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states. Businesses will be beneficially impacted by the proposed action.

Pursuant to **GOV §11346.5(a)(8)**, the agency shall provide in the record facts, evidence, documents, testimony, or other evidence upon which the agency relies to support this initial determination:

- Contemplation by the Board of the economic impact of the provisions of the proposed action through the lens of the decades of experience practicing forestry in California that the Board brings to bear on regulatory development.
- Board of Equalization Timber Tax Tables
- Testimony of Yana Valachovic.

DESCRIPTION OF EFFORTS TO AVOID UNNECESSARY DUPLICATION OR CONFLICT WITH THE CODE OF FEDERAL REGULATION (pursuant to GOV § 11346.2(b)(6)

The Code of Federal Regulations has been reviewed and based on this research, the Board found that the proposed action neither conflicts with, nor duplicates Federal regulations. There are no comparable Federal regulations for timber harvesting on State or private lands. No existing Federal regulations that met the same purpose as the proposed action were identified.

POSSIBLE SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATIONS

The California Environmental Quality Act (CEQA) requires review, evaluation and environmental documentation of potential significant environmental impacts from a qualified project. The Board's rulemaking process has been certified by the Secretary of Resources as meeting the requirements of PRC § 21080.5.

The proposed action would be an added element to the State's comprehensive Forest Practice Program under which timber operations on timberland is regulated. The Board's Forest Practice Rules along with the Department oversight of rule compliance function expressly to prevent significant adverse environmental effects.

The proposed action has the purpose of reducing an inadvertent significant impact resulting from a high level of wild fire disturbance regime. The Board received information during committee deliberations to support this impact. The high level of fire suppression and protection has resulted in conditions that favor the survival and proliferation of conifers in stands historically dominated by oak species. The conifers are more shade tolerant than the existing oaks and over time grow taller that the oaks and win the competition for light, water, and nutrients (encroachment). The University of California oak study in Humboldt and Mendocino counties has found the confer encroachment is successful in 20 to 80 years.

It is possible that an argument could be made that allowing the removal of conifers with the purpose of maintaining oak dominance prevents stands from naturally switching to conifer dominant stands. However, the unnaturally higher level impact from an altered fire disturbance regime has created conditions that favor conifer survival and the resulting encroachment on oak stands. This shift has a negative impact on oaks and a positive impact for conifers. The result is that the amount of oak woodlands is decreasing and conifer dominated stands is increasing. With that there is a loss of ecosystem diversity and wildlife values related to oak stands but an increase in conifers (Group A species) that are traditionally used for wood products. Significant public, and agency concern has been raised on the loss of oak woodlands and related ecosystem diversity and wildlife values.

This proposed regulation provides for the maintenance of existing oak woodland stands but does not necessarily or permanently eliminate the conifer component in the oak stands. The proposal places an upper limit (50%) on the amount of conifer basal area remaining post-harvest. Should conditions change to a situation where conifer dominance is desired, the landowner could allow the conifers to reoccupy and overtop the oaks and create a conifer dominant stand. The provision for future choices in stand objectives prevents impacts from reaching a level of significance.