THE BOARD OF FORESTRY AND FIRE PROTECTION

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TABLE OF CONTENTS

BOARD BACKGROUND AND ORGANIZATION ---------- 4

CURRENT STATUS AND TRENDS ---------- 7

MAJOR ISSUE SYNOPSIS ---------- 10

AB 1492 LUMBER ASSESSMENT----------11

SRA PREVENTION FEE ---------- 12

ROAD RULES ---------- 14

SMALL LANDOWNERS REGULATORY IMPROVEMENT----------16

STATE FORESTS AND STEWARDSHIP LANDS ---------- 19

FIRE SAFE REGULATIONS AND GENERAL PLAN REVIEW ---------- 21

VEGETATION TREATMENT PROGRAM ---------- 23

RESEARCH AND SCIENCE COMMITTEE

AND EFFECTIVENESS MONITORING ---------- 26

CUMULATIVE EFFECTS ---------- 31

COMMITTEE ON CRIMINAL TRESPASS ---------- 34

Board of Forestry and Fire Protection (Board) Mission

The mission of the Board is to lead California in developing policies and programs that serve the public interest in environmentally, economically, and socially sustainable management of forest and rangelands and a fire protection system that protects and serves the people of the state.

The California State Board of Forestry and Fire Protection (Board) is a Governor-appointed body within the Department of Forestry and Fire Protection (Department). Members are appointed on the basis of their professional and educational qualification and their general knowledge or interest in problems that relate to watershed management, forest management, fish and wildlife, range improvement, forest economics, or land use policy. Of its nine members, five are chosen from the general public, three are chosen from the forest products industry, and one member is from the range-livestock industry.

The Board is responsible for developing the general forest policy of the State, for determining the guidance policies of the Department, and for representing the State's interest in Federal land in California. Together, the Board and the Department work to carry out the California Legislature's mandate to protect and enhance the State's unique forest and wildland resources.

The strategic planning process defines and communicates the Board's guiding values and priorities. This planning directs resources and efforts on the most important issues. It also defines both the Board's and Department's desired future outcomes, and how performance is measured and reported. This reporting, in turn, provides for an improvement cycle that allows the Board and the Department to make informed and timely changes.

The process begins with the development of the Fire and Resource Assessment Program's (FRAP) thorough evaluation of the state's wildlands. This evaluation included participation and input by affected stakeholders and the public, and helps to provide the baseline information for the Board's policy statements.

After the Assessment is completed, the Board develops the framework for its mandatory policy statement or Strategic Plan. The Board utilizes a framework that allows for ongoing evaluation of current status and the ability to adapt strategies after that evaluation. The framework clearly describes the mission and goals of the organization.

The Strategic Plan is only one step in a process that will lead to further development of specific work plans, refinement of the indices that will define progress, and ongoing adaptation through a public process to ensure that the Board's vision is achieved.

To assure accountability, it is necessary to conduct annual evaluations. These evaluations will serve two purposes:

- Demonstrate what the Board and Department have been able to accomplish toward attainment of their goals

- Allow for the public to provide input on the direction of the Board and Department.

Through this process, it is the desire of the Board to achieve its vision and provide a methodology for accountability.

For the purpose of focusing on particular issues the Board in the past, and until mid year of 2011, was broken down into four standing committees. Each committee had at least three members. The four committees were: Legislation and Policy, Management, Forest Practices, and Resource Protection.

- The mission of the Management Committee is to evaluate and promote long-term, landscape level planning approaches to support natural resource management on California's non-federal forest and rangelands, and to evaluate State Forest management plans.

- The mission of the Legislation and Policy Committee is to evaluate and promote policy and legislation for the guidance of the Department of Forestry and Fire Protection, and to represent the state's interest in federal and non-federal forest and rangelands.

- The mission of the Resource Protection Committee is to evaluate and promote an effective fire protection system implemented by the Department of Forestry and Fire Protection and improve forest and rangeland health in California.

- The mission of the Forest Practice Committee is to evaluate and promote an effective regulatory system to assure the continuous growing and harvesting of commercial forests and to protect soil, air, fish and wildland, and water resources.

Lack of staffing forced the Board to re-evaluate the need for four committees. To achieve greater efficiency in time management and staff assignments, the Board now utilizes three standing committees. They are Resource Protection, Management, and Forest Practice. Policy issues are to be considered by the Board as a whole. In 2012, activities of the Management Committee were suspended, but have since been resumed.

To assist the Board in specific matters, standing committees can be appointed. One example is the Monitoring Study Group. The Monitoring Study Group's monitoring program provides timely information on the implementation and effectiveness of forest practices related to water quality that can be used by forest managers, agencies, and the public in California to improve water quality protection

When a committee is deemed necessary, members may be appointed by the chairman of the Board and may be drawn from specializations applicable to the committee's concerns. As an example, the Technical Advisory Committee (TAC) was a Board appointed committee of renowned scientists and agency representatives that provided

oversight on a literature review of scientific articles related to forest management effects on anadromous salmonids.

Various laws also establish committees to advise the Board in particular areas. Examples are the Professional Foresters Examining Committee, which advises the Board on implementations of the Professional Foresters Licensing Law; and the Range Management Advisory Committee, which advises the Board on range and livestock issues.

Committees of the Board

COMMITTEES REQUIRED BY STATUTE

1. Range Management Advisory Committee
2. Professional Foresters Examining Committee
3. Soquel Advisory Committee

INTERNAL STANDING COMMITTEES

1. Forest Practice
2. Resource Protection
3. Management

EXTERNAL STANDING COMMITTEES

1. Research and Science Committee
2. Monitoring Study Group
3. California Oak Mortality Task Force
4. Interagency Forest Working Group
5. Jackson Advisory Group
6. Committee on Criminal Trespass

Current Status and Trends

California law requires that periodic assessments and strategic plans be developed to inform policy decisions on the state's forest and rangeland resources. In addition, the USDA Forest Service State & Private Forestry Redesign Program has provided states with funding and direction to take a focused and systematic approach to evaluate opportunities for state-federal agency partnering for better forest and rangeland management. Addressing both assessment requirements, the FRAP report "California's Forests and Rangelands: 2010 Assessment:" was completed by the California Department of Forestry and Fire Protection (CAL FIRE) 's Fire and Resource Assessment Program (FRAP). It highlights key policy issues and options for the subsequent strategy document, which provides the framework for state and federal programs that support good forest and rangeland stewardship in California.

Forests and Woodlands

Monitoring of Best Management Practices (Forest Practice Rules) on private and public forestlands shows generally high compliance with implementation, and effectiveness when implemented properly.

Both private and public forestlands appear to continue to build inventory volume.

A recent U.S. Forest Service analysis indicates that while carbon sequestration is occurring, long-term carbon storage will be a function of management inputs over the next 100 years.

A carbon sequestration and storage analysis of California's private timberlands suggests that less total storage and sequestration is occurring relative to public lands, but given management inputs may be more sustainable in the long-run.

The propensity for the conversion of working forests and woodlands is increasing due to pressures from high costs, low income, infrastructure loss and generational turnover.

Forest Products Sector

The softwood sawmill capacity in California shrank by 25 percent in the last few years, which is indicative of the overall contraction of the sector in jobs, capacity and overall economic activity.

Ownership patterns have changed for large industrial landowners; they are now all privately held firms. Individual Timber Harvesting Plans (THPs) have increased in acreage (before 2009 their size was fairly steady). Acres under Non-Industrial Timber Management Plans (NTMPs) continue to rise but with smaller landowners increasing in participation. There are over 700 NTMPs covering over 300,000 acres.

The acres of alternative prescriptions have declined and clearcutting acreage has been generally constant over the last several years.

Cost reduction and regulatory streamlining is necessary for the forest products sector in California to compete and be sustainable in the long-term.

The forest products infrastructure of California is declining. Climate change adaptation, biomass energy production and restoration activities depend on that infrastructure, as do many of the rural economies of California.

Rangelands and Range Industry

Rangeland productivity is highly variable across space and time. Climate change may impact this further.

Buffering public lands with grazing helps protect ecosystem health from development and protect development from wildfires originating on public wildlands.

Like the timber industry, the ranching industry has been in steady long-term contraction. The maintenance of large ranches across California landscapes cannot rely on amenity values alone; these operations must be economically viable to avoid conversion, abandonment or fragmentation.

The propensity for the conversion of working rangelands is increasing due to pressures from high costs, low income, infrastructure loss and generational turnover. Permanent land cover change occurs most often (47,000 acres a year) in grassland/shrubland types, most dramatically in grazing lands along the edges of the Central Valley.

Current Trends in Wildfire

California is a complex wildfire-prone and fire-adapted landscape. Natural wildfire has supported ecosystem health and is critical to maintaining the structure and function of California's ecosystems. As such, the ability to use wildfire, or to mimic its impact by other management techniques, is a critical management tool and policy issue.

Simultaneously, wildfire poses a significant threat to life, public health, infrastructure and other property, and natural resources. The threat will remain significant, or grow worse, due to factors such as continued population growth, changing land use, and drought or other shifts in climatic conditions. Addressing wildfire as a threat is also a major management and policy issue.

The innate complexities associated with ecosystem dynamics in California make it difficult for statewide and even regional generalizations to capture specific conditions unique to particular areas. Local conditions may vary considerably within the scope of classifying fire regimes and effects.

Data suggests a trend of increasing acres burned statewide, with particular increases in conifer vegetation types. This is supported in part by the fact that the three largest fire years in the period since 1950 have all occurred since 2000.

Wildfire related impacts are likely to increase in the future based on trends in increased investment in fire protection, increased fire severity, fire costs and losses, and research indicating the influence of climate change on wildfire activity.

Managing fire risks requires understanding the specific mechanisms that have disrupted the natural fire regimes that once formed the stability of the ecosystem, and determining actions that best mimic or restore these natural processes. As such, tools must be tailored to the specific ecosystem.

Landowner Assistance

Addressing risk reduction on forestlands, high priority landscapes with significant timber or biomass energy assets at risk from wildfire or forest pests were found primarily in the Klamath/North Coast, Modoc and Sierra bioregions.

High priority landscapes with rangeland productivity at risk from wildfire were found primarily in the Bay/Delta, Central Coast, Sierra and South Coast bioregions. Bioregions with smaller acreages of high priority landscapes or extensive areas of medium priority included the Klamath/North Coast, Modoc and Sacramento Valley bioregions.

Regarding restoration, extensive areas of high and medium priority landscapes representing areas with significant timber or biomass energy assets that have been damaged by past wildfires or forest pest outbreaks are found in the Klamath/North Coast, Modoc and Sierra bioregions. Bioregions with smaller acreages of these priority areas include the South Coast and Bay/Delta bioregions.

A clear opportunity exists to implement strategies for improving forest conditions across California. The costs and benefits are variable, but competing for resources to implement stand improvement projects often benefits from both matching resources and economies of scale. Opportunities to tie projects to landscape plans are currently limited, especially across public/private boundaries. Examples of successful landowner aggregation are with existing watershed and firesafe groups and CFIP projects that aggregate landowners with less than 20 acres.

MAJOR ISSUES SYNOPSIS 2013

- **AB 1492 Lumber Assessment**
  - Finalize permanent regulations
  - Create guidance document to resolve any confusion about assessed products.
- **SRA Prevention Fee**
  - Continue to work on providing administrative relief, particularly where appeal periods are concerned
  - Begin review of SRA classification system, to address any inequities
  - Develop guidelines for a grant program utilizing funds that may be appropriated in the budget.
- **Road Rules**
  - Finalize permanent regulations
  - Create a technical guidance document to assist landowners
- **Small Landowner Regulatory Improvement**
  - Utilize an administrative permit for low impact harvest projects to allow economic management to occur.
- **Stewardship Lands, State Forests**
  - In 2013, the Board will review LaTour's updated management plan and Soquel's. In addition, it will review progress on additions to the system from the Stewardship Council.
- **PRC 4290, Safety Element Review**
  - Develop a process for local ordinance for certification of PRC 4290.Title 14 and Local Government's General Plan Safety Element process with utilizing PRC 4290 certification
  - Review and revise 14 CCR 1270;
- **Vegetation Treatment Program**
  - Provide a CEQA-compliant programmatic review document process/mechanism for the vegetation management program
- **Research and Science Committee/Effectiveness Monitoring**
  - The Effectiveness Monitoring Committee will establish monitoring to allow the Board to determine if the Forest Practice Rules and other laws and regulations related to forest resources are effective in achieving resource objectives.
- **Cumulative Effects**
  - Focus on effectiveness monitoring activities to provide adaptive management approaches.
- **Committee on Criminal Trespass**
  - Conduct a symposium at July meeting to further explore the above solutions, and to issue a paper on its findings.

AB 1492 Lumber Assessment

Assembly Bill Number 1492 (hereafter "AB 1492") was developed by a budget subcommittee during the 2012 Legislative Session. Among the provisions in the bill is the creation of a new retail sale assessment of 1% of the sales price for lumber products sold in California. The revenue generated from the assessment will be placed in the newly authorized "Timber Regulation and Forest Restoration Fund" created in the State Treasury. Monies deposited into the fund are to be expended in support of the regulatory activities of the Department of Forestry and Fire Protection, and other state and local agencies involved in the management of forest lands. The Fund will also be utilized to cover the costs of managing forest resource programs in the state, and for grants to state and local public agencies, qualified nonprofit organizations, and recognized Indian tribes. The grants are intended to fund fire protection and suppression, and restoration activities on timberland. On September 11, 2012, Governor Edmund G. Brown, Jr. signed AB 1492 into law.

Pursuant to the authority provided by the enacted statute, the Board of Forestry and Fire Protection added Chapter 14 to Title 14 of the California Code of Regulations. Within new Chapter 14, the Board adopted Sections 1667.1-1667.6 in accordance with the provisions of the statute.

The adopted emergency regulation provides descriptions of those lumber products included in the assessment and those specifically excluded. It also specifies that the Board may modify the list of products to be assessed as part of its annual review of the regulation pursuant to Public Resources Code Section 4629.4.

The regulation provides the process by which the State Board of Equalization may request Board of Forestry and Fire Protection review of a lumber product to determine whether or not that product should be subject to the assessment. It describes the preliminary determination to be made by the Board's Executive Officer as well as the final determination made by the Board as part of its annual review of the regulation.

The regulation also requires the Board to annually review the regulation at its April meeting, and to update the regulation as necessary pursuant to Public Resources Code Section 4629.4.

Recommendations

- Finalize permanent regulations
- Create guidance document to resolve any confusion about assessed products.

SRA Prevention Fee

At its regularly scheduled meeting of December 5, 2012, the California State Board of Forestry and Fire Protection (Board) adopted a regulation to make permanent the emergency "State Responsibility Area Fire Prevention Benefit Fee" (SRA Fee) regulations adopted pursuant to Assembly Bill X1 29, Chapter 8, Statutes 2011, Public Resources Code Section 4210, *et seq*. The proposed regulations will replace the emergency regulations adopted and readopted consecutively by the Board, and are necessary for continued implementation of the SRA Fee program.

The Board was directed to adopt emergency regulations to implement the SRA Fee program pursuant to Public Resources Code Section 4210, *et seq*. adopted by the State Legislature as Assembly Bill 29 of the First Extraordinary Session in 2011 (AB X1 29). AB X1 29 was authored by Assemblyman Blumenfield and sought to create a fee for State fire prevention services. According to the bill, this fee was to be exclusively charged to individual owners of structures in areas designated by the State Board of Forestry and Fire Protection as State Responsibility Area (SRA) for fire protection. The rationale for this exclusive fee for services, as specified in the bill, is that owners of structures in the SRA receive a "disproportionately larger benefit" from State fire prevention activities than the general citizenry (see Public Resources Code Section 4210(d)). As the Legislature found that structures within the SRA may pose an increased risk of fire ignition and increased potential for fire-related damage to the natural resources of the State, it was deemed appropriate to create a fee-based funding mechanism to support State fire prevention efforts in the SRA.

On June 15, 2011, the California State Senate and Assembly approved the bill with language specifying that the Board's adoption of emergency regulations, "…shall be deemed an emergency and necessary for the immediate preservation of the public peace, health, and safety, or general welfare." On July 7, 2011, Governor Edmund G. Brown, Jr. signed ABX1 29 into law and it was filed with the Secretary of State on the following day.

Concurrent with the passage of ABX1 29, a cut was imposed upon the Department of Forestry and Fire Protection's General Fund budget allocation. The implication of the SRA Fee legislation and budget cut taken together was that the Department would be compelled to restore its operating budget loss for fire prevention through collection of SRA Fees. Despite the Governor's express expectation that further revision of the enacted legislation would be necessary to reconcile General Fund cuts with fees for prevention services, no such revisions to the statute have been made. In the absence of statutory clarification, the Board is left to make a reasonable interpretation that the current executive and legislative branches of California's governance structure expect restoration of the State's fire prevention budget to occur through implementation of the newly enacted statutes.

As discussed above, the regulation is intended to provide funding for statewide fire prevention activities in areas designated as SRA. Absent this funding source, the California Department of Forestry and Fire Protection would be unable to deliver the prevention programs that are crucial elements of the "2010 Strategic Fire Plan for California." Though the proposed regulation does not itself promote fire prevention

activities, it does provide the financial foundation for such activities. The fire prevention actions and activities funded by SRA fees lead to improved protection of public health and safety, and firefighter safety. Where this fire prevention work includes hazardous fuels treatment or creation of strategic fire breaks, the potential for adverse impacts to the environment may also be reduced.

As the regulation is entirely focused on funding of fire prevention activities, it will have no effect upon the prevention of discrimination. It has been asserted in public comment correspondence that the regulation does impact the promotion of fairness or social equity in at least two contexts: rural versus urban property ownership, and the distinction between apartment and condominium ownership. The comment from local governments and rural community representatives has consistently questioned why, when CAL FIRE is a statewide organization, only rural residents are required to pay the SRA Fee. Similarly, condominium owners and association representatives have argued that a condominium unit bears very close resemblance to an apartment unit. Yet, the regulation requires each individual condominium unit owner to pay the fee while the fee would only be payable by the owner of the entire apartment building.

A very large number of commenters have also asserted that the creation of the SRA Fee program has not reflected transparency in business and government. The arguments offered focus on the lack of public awareness and involvement in the development of the legislation as well as the Constitutional question of whether or not the SRA Fee is a tax.

In response, the Board has expressed its sympathy to rural residents and understanding of the arguments raised by condominium owners. However, the Board has little latitude to deviate from statutory direction. The constraints upon and impacts to affected constituents are fundamentally provided by the enacting statutes and the Legislative findings contained therein. The Board has developed the implementing regulations within the limits of the statutes. It has strived throughout this endeavor to address social equity, fairness, and government transparency to the greatest extent possible while meeting its mandate.

Recommendations

- Continue to work on providing administrative relief, particularly where appeal periods are concerned
- Begin review of SRA classification system, to address any inequities
- Develop guidelines for a grant program utilizing funds that may be appropriated in the budget.

Road Rules

This regulation is intended to satisfy two long-term objectives of benefit to the regulated public, regulatory agencies, the general public, and the natural resources of the State. The first of these objectives is to ensure that all road-related Forest Practice Rules are adequate to prevent adverse impacts to beneficial uses of water. The second objective is to organize all road-related Forest Practice Rules into a logical, consistent order and locate them in one portion of the Forest Practice Rulebook for ease of reference and understanding by all. Logging roads and logging road watercourse crossings have long been recognized as the principal source of sediment delivered to watercourses (McCashion and Rice, 1983; Cafferata and Munn, 2002; Brandow and others, 2006).

It is for this reason that prescriptive and performance-based rules regulating the planning for, construction, use, maintenance, and removal of logging roads, landings, and logging road watercourse crossings are present throughout the Forest Practice Rules (hereafter "Rules"). Changes in the understanding of how road systems interact and influence hydraulic function in watersheds have resulted in periodic changes to road-related Rules. It has likewise resulted in the inclusion of road-related Rules provisions in otherwise non-road related sections. An unfortunate consequence of their ubiquitous presence across multiple Rules sections is that Registered Professional Foresters, review team agencies, and the public alike find it challenging to discern what is required by road-related Rules in any particular context.

As previously mentioned, road-related Rules have historically been the subject of numerous amendments and revision efforts. However, amendments or newly adopted road-related Rules are typically incorporated into Rules sections that are not exclusive to logging roads, landings, and watercourse crossings. Thus, in addition to the Rules specific to logging roads, landings, and crossings contained in Article 12, Title 14 of the California Code of Regulations, beginning with Section 923, there are road-related requirements contained in Rules for the contents of harvesting plans and protection of anadromous salmonids, among other sections.

As a result of the Board's receipt of one such comprehensive set of proposed revisions to road-related Rules in 1999, the Board appointed an "Inter-Agency Road Rules Task Force." This Task Force was directed to review existing road-related Rules sections and then advise the Board on possible revisions to these sections. The task force submitted their package of revised road rules to the Board's Forest Practice Committee in April of 2003. In December of 2004, following review and discussion of the Inter-Agency proposal, the Forest Practice Committee appointed another committee, the "Road Rules Technical Working Group," and tasked this body with reviewing and revising the technical aspects of the Inter-Agency proposal. In addition, and at the recommendation of the Working Group members, the Board directed the group to try and collate all Rules related to roads, landings, and watercourse crossings into one specific location rather than keeping them diffused throughout the rulebook.

In 2008, the Road Rules Technical Working Group presented their revised "Road Rules" proposal to the Board. Following a short hiatus to address other more pressing regulatory matters, the Board's Forest Practice Committee returned to its review of the

Working Group's proposal. Following years of subsequent review and discussion, the Board authorized at its November 2011 meeting a lengthy public review and comment period for the proposal in its current form.

This regulatory proposal is intended to ensure that waters of the State are adequately protected from the potentially harmful effects of road, landing, and watercourse construction, use, and abandonment associated with timber operations in compliance with the Z'berg-Nejedly Forest Practice Act. It is also intended to improve the utility and coherence of road, landing, and watercourse crossing-related Forest Practice Rules by reorganizing them into one distinct Article for ease of reference and use.

Recommendations

- Finalize permanent regulations
- Create a technical guidance document to assist landowners

Small Landowner Regulatory Improvement

California's small forest landowners find it difficult, if not impossible, to practice sustainable forest management on their private family ownerships. Non-corporate forest landowners control approximately 3.2 million acres of the state's nearly 8 million acres of private timberlands. Of these, the smallest landowners owning less than 160 acres of timber are particularly sensitive to costs and are geographically dependent on local revenue opportunities. These family ownerships are often not well represented in local and state venues that formulate tenets that regulate commercial forest management. The unintended consequence is the adoption of policies, often based on intensive industrial practices, which have culminated in a disproportionately burdensome regulatory system. This drives small ownerships towards more aggressive harvesting of timber to recoup costs or to engage in actions that would produce other sources of revenue. These alternative revenue generating projects including sub-dividing, forest conversion and fragmentation, all of which are in opposition of what was intended during the multi-decade development of the California Forest Practice Rules.

Management Strategies of small forest landowners:

This cohort of landowner consists generally of family ownerships. These properties are the location of a primary or secondary residence or undeveloped parcels that are utilized for purposes of recreation. Given this pattern of land use, the resulting management practices of these ownerships, including timber harvesting activities, are conducted under a conservation ethic. The goals of these landowners, with assistance of their Registered Professional Forester, often include:

"Light Touch" single tree and "Group" selection
Preservation of aesthetic values
Hazard reduction for wildfire
Timber stand improvement
Maintenance of wildlife trees and other biological legacies
Extended period of time between harvesting activities

Proposed Solution:

Various stakeholders including agencies, industrial landowners, mid-sized landowner and environmental advocates, have been working on solutions to identified problems within the forestry sector.. The solutions are proportional to the identified problem and/or type of timberland use. The low impact, diminutive scope and general stewardship demonstrated by these landowners should result in a contemporary permitting structure that represents a "streamlined" and cost effective approach. An administrative permit that provides for the necessary protection of public trust resources, including wildlife, water, archaeology, carbon sequestration, social and economic factors can be an effective permitting vehicle that will supply this cohort of landowner with the understanding that the state recognizes the importance of these family ownerships.

Benefits of the Administrative Permit:

The benefits of administrative permit are multifaceted and do not apply only to the landowner, but also to the State of California. These benefits span ecological, social and economic spectrums:

Ecological Benefits:

- Maintains terrestrial habitat values of forested landscapes
- Protects, maintains and enhances aquatic resources by incorporating standards that are more rigorous than current Forest Practice Rules
- Working forests are recognized for the long term sequestration and storage of green house gases.

Social:

- Incentivizes forest practices that are accepted by many conservation groups
- Promotes the conservation ethic within private small scale working forests
- Promotes long term sustained yield of high quality forest products
- Compatible with all Certification systems

Economic:

- Allows the small landowner to achieve compliance of the California Forest Practice Rules and CEQA in a cost effective manner
- Provides employment opportunity to rural communities
- Provides state agencies with cost effective review process
- Could generate additional revenue for the state

Conclusion:

The policies of the State of California have disproportionally affected the small timberland owners. This unintentional consequence has resulted in unfortunate circumstances as they relate to responsible forest management. Small family timberland ownerships contribute considerably to both the forest products industry and conservation of public trust resources within the state. To continue to disregard these landowners due to lack of representation will result in further degradation of the industry and the forested environment. Given that this is a policy level issue, it seems appropriate to address the issue with policy level reforms. Legislative action has been taken in the past to develop administrative permits to address other problems that face our forested landscapes. The

scope of management practiced by these landowners certainly warrants consideration of this proposed permitting structure.

Recommendations

- Utilize an administrative permit for low impact, small scale, harvest projects for small landowners to allow economic management to occur.

State Forests and Stewardship Lands

The Stewardship Council was formed as part of a PG&E settlement agreement with the California Public Utilities Commission (CPUC). This agreement establishes that 140,000 acres of PG&E's watershed lands will be conserved in perpetuity for:

- outdoor recreation
- sustainable forestry
- agriculture
- natural resource protection
- open space preservation
- protection of historic and cultural resources.

Below is a summary of fee title recommendations that have been made by the Stewardship Council Board of Directors regarding donation to CAL FIRE:

Name	County	Acres
Battle Creek	Shasta	2,326
Tunnel Reservoir	Shasta	1,798
Pit River	Shasta	5,221
Cow Creek	Shasta	2,251
N. Fork Mokelumne	Tuolumne	1,064

California's State forest system has been in existence since 1946 when the first large forest properties were acquired. Sections 4631-4658 of the Public Resources Code provide the authority for acquisition, administration, and operation of State forests by the Department. Most of these statutes were enacted in 1945 following recommendations of the Forestry Study Committee established by the Legislature in 1943. There are now seven State forests totaling 68,654 acres as shown below:

State Forest	County	Area (Acres)	Date Acquired
Jackson	Mendocino	50,505	1947-51, 1968
Latour	Shasta	9,013	1946
Mountain Home	Tulare	4, 562	1946
Boggs Mountain	Lake	3,454	1949, 1972
Soquel	Santa Cruz	2,681	1990

Las Posadas	Napa	796	1929 (gift)
Mount Zion	Amador	164	1932 (gift)
Ellen Pickett	Trinity		1939 (gift)

Jackson, Latour, Mountain Home, and Boggs Mountain State Forests are commercial timberland areas managed by professional foresters who conduct programs in timber management, recreation, demonstration, and investigation in conformance with detailed management plans. Las Posadas, Mount Zion, and Ellen Pickett State Forests were acquired as gifts to the State and are relatively noncommercial in nature. These smaller forests are used primarily for administrative and recreational purposes and are managed by local Department of Forestry personnel incidental to other responsibilities. Deed restrictions preclude some uses on these forests.

The significance of the State forest program is demonstrating improved practices will increase as the demand for forest products increases and as public interest in forest management practices intensifies. Demonstrations of the compatibility and conflicts involved in multiple use of forest land are essential as population and development pressures increase on California's forest lands.

The State forests require a stable land base to facilitate long range planning necessary in forest land management. There is an urgent need to preserve the integrity of the existing State forests to assure their continued management according to legislative intent contained in PRC Section 4631. Reduction of private and public inholdings through purchase or exchange is needed to allow more efficient management of the existing State forests. Additional small demonstration forests (under 2,000 acres) adapted to meeting local requirements for investigation, demonstration, and education are needed in those counties where management of small timber ownerships is inadequate and no demonstration forests exist.

The primary purpose of State forests is to conduct demonstrations, investigations, and education in forest management. Accordingly, in the operation of State forests, the Department will conduct a balanced program of demonstrations and investigations in silviculture, mensuration, logging methods, economics, hydrology, protection, and recreation; directed to the needs of the general public, small forest landowners, timber operators and the timber industry. This potential expansion of the State Forest system will provide a platform to conduct applied forest research, and to expand on the Board's adaptive management program (see also effectiveness monitoring in this document)

Recommendations

- The Board, by statute, has the exclusive authority to approve management plans for State Forests. In 2013, the Board will review LaTour's updated management plan and possibly Soquel's. In addition, it will review progress on additions to the system from the Stewardship Council.

Fire Safe Regulations and General Plan Review

Background

The State Board of Forestry and Fire Protection adopted regulations in 1991 for building construction and development in State Responsibility Areas. These regulations are titled "State Responsibility Area Fire Safe Regulations" and they are contained in 14 CCR 1270 et seq. The Board recognizes that these regulations have not been reviewed or updated since their inception. The Board has periodically received input on issues regarding the implementation and interpretation of these regulations from CAL FIRE units and stakeholders affected by the regulations. Also, CAL FIRE has reported to the Board that other regulations contained in Title 19 and in Title 24, Part 9, Chapter 5, known as the California Fire Code, have similar and potentially conflicting regulations. Beginning in September 2008, the Board began a review of these regulations to address specific issues brought to the Board. The review primarily focused on proposed regulatory changes for the Administrative Article related to Scope, Inspection Authority, and Exceptions. Given the continuing issues stated above, the Board and CAL FIRE Executive Team determined that it was necessary to do a complete review of the SRA Fire Safe Regulations and requested that a CAL FIRE and appropriate stakeholders initiate a review beginning in 2011.

Senate Bill 1241

This bill was chaptered in September of 2012. Every city and county must adopt a general plan with seven required elements on land use, circulation, housing, conservation, open space, noise, and safety. The purpose of the general plan is to guide all major land use decisions, which are required to be consistent with the plan. Existing law required the housing element to be updated on a specific schedule, depending on geographic location. Existing law also required local agencies to submit the safety element of their general plan to the Board for review. The Board may offer recommendations for changes regarding the use of SRA or very high fire hazard severity zone lands in order to protect life, property, and natural resources from unreasonable wildland fire risks. The local agency must consider the Board's recommendations but they are not required to adopt them.

SB 1241 made the following changes:

Requires a city or county, when it next revises its housing element on or after January 1, 2014, to also update the safety element to address the risk for fire on lands classified as SRA or very high fire hazard severity zones. The update must include:

- Consideration of guidance given in the OPR's Fire Hazard Planning document.
- Specific information regarding fire hazards.
- A set of goals, policies, and objectives to protect the community from unreasonable wildfire risks and a set of feasible implementation measures to achieve these goals, policies, and objectives.

Requires a city or county to make the following findings before approving a tentative map or parcel map:

- That the design and location of each lot are consistent with any applicable regulations adopted by the board regarding defensible space requirements.
- That structural fire protection and suppression services will be available for the subdivision.
- That the subdivision meets the regulations regarding road standards for fire equipment, to the extent practicable.

Requires OPR, as part of its next review of CEQA guidelines, to cooperate with CDF in recommending changes to the CEQA guidelines regarding fire hazard impacts on lands classified as SRA and very high fire hazard severity zones. These recommendations shall be reviewed by the Secretary of the Natural Resources Agency, and if certified, incorporated into the CEQA guidelines.

Project goals

- Complete a review of relevant statutes, regulations, and guidelines related to fire safe development. Provide recommendations that will ensure consistency in intent and language.
- Compare and evaluate Title 14, 19 and 24 for inconsistencies and conflict among the codes. Clearly identify the intent of the regulations and statute.
- Evaluate effectiveness of relevant guide books; Structure Fire Protection Field Guide; Fire Hazard Zone Field Guide, Fire Safe Guide for Residential Development,
- Develop a process for local ordinance for certification of PRC 4290.Title 14 and Local Government's General Plan Safety Element process with utilizing PRC 4290 certification and integrating the outcomes of the evaluation of the guide books.
- Identify, draft short term and long-term solution changes in statute, regulations, code, interpretation, IB, policy Change.
- Review and revise 14 CCR 1270; provide revisions to the Statewide Fire Prevention Committee FPAC and Resource Protection committee (RPC).
- Deliver 1270 revision report and recommendations to FPAC for Review and forward recommendations to Management Council (MC) using issue paper format.
- Deliver MC-approved 1270 revisions recommendation to the Board of Forestry and Fire Protection using is paper format.
- Recommendations to the Board of Forestry and Fire Protection, RPC, State Fire Marshal, Target completion: First Quarter 2013

Vegetation Treatment Program

Introduction

This section presents a summary of the California State Board of Forestry and Fire Protection (BOF) proposal to initiate the California Statewide Vegetation Treatment Program (VTP). The proposed program is intended to lower the risk of catastrophic wildfires on nonfederal lands by reducing hazardous fuels. Such fires can result in substantial loss of life and property as well as multi-million dollar suppression costs. Other VTP goals include control of unwanted vegetation, including invasive species, improvement of rangeland for livestock grazing, improvement of fish and wildlife habitat, enhancement and protection of riparian areas and wetlands, and improvement of water quality in priority watersheds. The initiation of this program is a project, subject to California Environmental Quality Act (CEQA). As the CEQA lead agency, the BOF will provide policy direction for implementation of the VTP to the California Department of Forestry and Fire Protection (CAL FIRE), which administers a wide range of vegetation management programs.

Purpose of the Program EIR

CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. The purpose of this PEIR is to analyze the environmental effects of the VTP, to indicate ways to reduce or avoid potential environmental damage resulting from the program, and to identify alternatives to the proposed program. CEQA requires that each public agency mitigate or avoid the significant environmental effects of projects it approves or implements, whenever feasible.

Purpose of a Program EIR

A program-level EIR is prepared for an agency program or series of actions that are closely related projects that have not been defined, but are considered under CEQA as one collectively large project with similar environmental effects. CAL FIRE will serve as the lead agency under CEQA for implementation of the VTP. This PEIR was prepared to eliminate the need for separate EIRs for each project. This approach streamlines the administrative process for subsequent projects by assessing the cumulative impacts of the larger program and developing program-wide policies, guidelines, and mitigation measures that should not have to be reconsidered for individual projects. (State CEQA Guidelines Section 15168.) Purpose and Need for the Program

The purpose of the VTP (the Program) is to modify vegetation on wildlands to reduce the costs and losses associated with wildfires and to enhance the condition of forests, rangelands, and watersheds.

The need for the Program is based on the fact that the wildlands of California are naturally fire prone. Past land and fire management practices have had the effect of increasing the intensity, rate of spread, as well as the annual acreage burned on these lands (BOF, 1996). Although the citizens of California expect these lands to provide a

wide range of sustainable economic and non-economic benefits, the state's expanding population increases the risk of arson or unintentional fire starts that jeopardize these expectations. The natural communities of plants and animals on these lands are at risk from catastrophic wildfire. Also at risk are the communities that interface with these wildlands, including those within wildland-urban interface (WUI) and rural areas. Strategic management and control of wildland vegetation is essential to the safety, health, recreational, and economic well-being of California's citizens.

In recent years, the severity and intensity of wildfires in the West has increased dramatically from levels in the 1970s and 1980s; currently, a million or more acres across the west burn annually. Changes in vegetation have resulted in increases in hazardous fuels and increased threat. Much of this change in threat can be attributed to fire exclusion policies instituted over the past 100 years (Bureau of Land Management, 2005).

Wildfires are becoming more intense and severe (University of California, Davis 1996) and, as more people move to rural areas, the potential for the loss of property and life continues to increase. For example, on the west slope of the Sierra Nevada, projections of risk from wildfire occurrence are highest in oak woodlands, chaparral, and low-elevation conifer forests (University of California, Davis 1996). The number of people living in these areas is projected to increase from 600,000 in 1990 to two million people in 2040.

Wildland fire is pervasive throughout California. The average annual acreage burned (by wildfires greater than 300 acres in size) between 1985 and 1994 was about 325,000 acres (FRAP 2006). Between 1995 and 2004, the average annual acreage burned statewide increased to about 471,000 acres, representing a 45% increase. Between 2004 and 2010 the average increased dramatically (due to the extreme fire year in 2008) to 600,000 acres, yet the last few years have been relatively low at around 230,000 acres. Excluding the extreme fire year of 2003, when 5,394 structures were burned, the average number of structures burned between 2000 and 2005 is 458 structures/year, with average structural damage of $109 million per year. Between 2005 and 2010 the average number of structures burned on all lands in California was 1,166 with damages estimated at $207 million per year. ([http://bof.fire.ca.gov/incidents/incidents_statsevents#2010] large fire statistics.pdf). In 2005 CAL FIRE suppression costs were $105.3 million; while costs in real dollars doubled in the latter half of the 1990-2005 period, increasing from a yearly average of $83.6 million to $160.1 million (in 2005 dollars) (CAL FIRE, 2011).

While the cause and degree is controversial, climate change may already be influencing trends in wildland fire acreage burned. Scientists at the USDA Forest Service Pacific Northwest Forest and Range Experiment Station have modeled the effects of global warming on vegetation and fire weather in California. Current forecast models indicate that there will be an increase in grasslands, an increase and shift to the east and upslope of mixed evergreen hardwood forests, a decrease and shift to the east and upslope of conifer forests, and a decrease in oak woodlands and shrublands (Lenihan, 2003). Some scientists project average air temperatures to increase significantly, perhaps 4-6° F over the next century. Precipitation will either increase or decrease, depending on the scenario modeled. Under wetter conditions, fuels will build up to such an extent that during drier summers, fires will burn with great intensity. More area will be

burned than at present, but at irregular intervals. Under drier conditions the fire season will lengthen and fires will burn more frequently. Again, the area burned by wildfires will increase. Also under these projections, snow packs at higher elevations are expected to decrease, with resulting in earlier snowmelts, which will decrease streamflows earlier in the year.

Goals of Program

The Program has multiple goals which can be summarized below:

1. Maintain and enhance forest and range land resources including forest health to benefit present and future generations.

2. Modify wildland fire behavior to help reduce catastrophic losses to life and property consistent with public expectation for fire protection.

3. Reduce the severity and associated suppression costs of wildland fires by altering the volume and continuity of wildland fuels.

4. Reduce the risk of large, high intensity fires by restoring a natural range of fire-adapted plant communities through periodic low intensity vegetation treatments.

5. Maintain or improve long term air quality through vegetation treatments that reduce the severity of large, uncontrolled fires that release air pollutants and greenhouse gases.

6. Vary the spatial and temporal distribution of vegetation treatments within and across watersheds to reduce the detrimental effects of wildland fire on watershed health.

7. Reduce noxious weeds and non-native invasive plants to increase desirable plant species and improve browse for wildlife and domestic stock.

8. Improve wildlife habitat by spatially and temporally altering vegetation structure and composition, creating a mosaic of successional stages within various vegetation types.

9. Provide a CEQA-compliant programmatic review document process/mechanism for other state or local agencies, which have a vegetation management program/project consistent with the VTP, to utilize this guiding document to implement their vegetation treatment programs/project.

Research and Science Committee/Effectiveness Monitoring

The Board has statutory responsibility for a comprehensive set of Forest Practice Rules (PRC §§ 4551, 4551.5, et al) that govern planning and conduct of timber operations on private timberlands in the State. The Board also has responsibility for determining forestry research needs and a public information program (PRC §745, §4789.6).
The Board has established a Research and Science Committee to:

- Review ongoing research programs;
- Advise the Board on research needs, priorities, policy, and such other matters as the Board directs;
- Provide science-based recommendations and technical information to advise and assist the Board in making its determinations on forest practice rules and fire regulations;
- Coordinate reviews of existing science and produce unbiased technical information for consideration by the Board;
- Provide oversight and coordinate the efforts of the Board's technical committees, such as the Monitoring Study Group (MSG);
- When funding is available, coordinate research projects at the request of the Board;
- Take the lead role to improve coordination and cooperation of the various industrial, educational, State and Federal agencies involved in research; and
- Recommend a system through which information can be collected, maintained and disseminated on all completed forestry research projects.

Best available science is considered to be relevant science from all credible sources, including peer-reviewed government and university research, other published studies, and Committee generated research products. Applicable historic information and unpublished data may have value and are to be considered if they can be assessed for accuracy and credibility. The Committee is responsible for providing a cohesive and coordinated approach to 1) focus on research needs, 2) understand available scientific information that is applicable to the questions at hand, 3) selecting the best and most relevant information, 4) synthesizing it into reports for policy and the Board, and 5) providing a biennial report to the Board at its November meeting for its consideration and possible submission to the legislature consistent with PRC §4789.6.

The Research and Science Committee (RSC) includes members drawn from the Department, forest user groups, other State and Federal agencies, the University of California, and other educational institutions as may be appropriate. The Board appoints the members and designates the Chairman. The Committee meets as required on the call of the Chairman of the Board, or of the Chairman of the Committee, or of a majority of its members. The Committee reports to the Board its recommendations for action biennially, beginning on June 30, 2008, and may submit interim reports of recommendations if needed.

The Committee may enter into arrangements with other agencies or advisory committees of the Board to assist in obtaining information and in conducting such

analyses as are required for it to fulfill its functions. The Director, to the extent feasible, provides necessary staff support and funds to assist the Committee in its work.

Purpose:

The purpose of the RSC is to provide science-based recommendations and technical information to assist the Board in determining if and when it is necessary or advisable to adjust rules and policies for forest and fire management to achieve resource goals and objectives.

The goal of the program is to affect change when it is necessary or advisable to adjust rules and guidance to achieve the goals identified by the Board. There are three desired outcomes: (1) to protect targeted resources, adaptive management will be utilized; (2) predictability and stability of the process of change so that landowners, regulators and interested members of the public can anticipate and prepare for change; and (3) application of quality controls to study design and execution, as well as to the interpretation of results.

The Board established a Research and Science Committee to impose accountability and formality of process. The purpose of Committee is to advance the science needed to support adaptive management, and to identify research needs. The Committee also has ongoing responsibility to continue research and education in resource issues. The Committee will be made up of members that have expertise in a scientific discipline that will enable them to be most effective in addressing forestry, fish, wildlife, and landscape process issues. Members will represent timber landowners, environmental interests, state agencies, and federal agencies from a scientific standpoint, not a policy view and will use their independent scientific judgement. The Committee members will be approved by the Board. This will not preclude others from participating in and contributing to the Committee process or its subcommittees. The Committee shall also develop and manage as appropriate:

- Scientific advisory groups and subgroups;
- Research and monitoring programs;
- A set of protocols and standards to define and guide execution of the process including, but not limited to: 1) research and monitoring data, 2) interdisciplinary team evaluations and reports, 3) literature reviews, and 4) quality control/quality assurance processes;
- A baseline data set used to monitor change; and A policy process for approval of research, monitoring, and assessment projects and use of external information.

Effectiveness Monitoring

Effectiveness monitoring is a key component of adaptive management and is necessary for assessing if management practices are achieving the various resource goals and objectives set forth in the California Forest Practice Rules. Despite an increase in forestry-related monitoring in the past decade, there is relatively little information regarding the type, distribution, statistical power, scientific relevance, or cost-effectiveness of monitoring in private and state forestlands of California. While a large amount of water quality-related monitoring is currently being undertaken, there has been a substantially less coordinated monitoring effort for terrestrial wildlife or botanical

resources. For both water/aquatic habitat and terrestrial/botanical resources, it is clear that: (1) agency-required monitoring needs to be better coordinated and reported; (2) increased scientific rigor, agency participation, and monitoring transparency is required to increase stakeholder acceptance of the extensive monitoring being conducted on non-federal forestlands; and (3) a process is needed that provides a feedback loop allowing the existing California Forest Practice Rules and other forestry-related laws and regulations to be evaluated and possibly modified based on sound scientific, verifiable monitoring results. A recent review of existing monitoring programs in California did not provide evidence of a consistently effective feedback loop between water quality-related monitoring data and decision making (Coe 2009). The State of Washington provides an example of how California could apply scientific research findings to generate science-based forest practice regulations (Cafferata et al. 2007).

Development of the Effectiveness Monitoring Committee (EMC) will allow the Board of Forestry and Fire Protection (Board) and the Natural Resource Agencies to determine if portions of the California Forest Practice Rules and other laws and regulations related to forest resources are effective in achieving resource objectives, or if rule modifications are required. As an example, one resource objective includes protecting beneficial uses of water, such as anadromous salmonid habitat,. Adaptive management is a structured, iterative process of decision making in the face of uncertainty, with an aim to reducing uncertainty and responding to changed conditions over time via system monitoring.

Implementing a statewide adaptive forest management program in California requires an integrated political, social, and scientific framework to address the various adaptive management implementation criteria. The Washington Forest Practices Adaptive Management Program and the Oregon Department of Forestry Indicators of Sustainable Forests Program offer templates for implementing a statewide effectiveness monitoring and adaptive management program here.

While implementation and limited short-term effectiveness monitoring focused on aquatic issues have been conducted over the past 20 years on California's private and state forestlands (Tuttle 1995, BOF 1999, Cafferata and Munn 2002, Brandow et al. 2006, Longstreth et al. 2008), no comprehensive, structured program has been established to provide an adaptive management approach. Beginning in 1989, the Board's Monitoring Study Group (MSG) has conducted implementation monitoring and short-term effectiveness monitoring, as part of establishing a long-term monitoring program. The MSG, however, has largely become a forum for sharing scientific information regarding water quality monitoring conducted in California since 2000. Additionally, the Board's recently established Research and Science Committee (RSC) reviews general research needs for forests in California. While these existing committees may be able to address some portion of the goals and objectives of an EMC, they cannot, either individually of cumulatively, provide the structure, scientific guidance or support of an EMC.

Purpose

The Effectiveness Monitoring Committee will act as a technical advisory committee to the Board of Forestry and Fire Protection (Board) to develop and implement an effectiveness monitoring program that can provide an active feedback loop to policymakers, managers, agencies, and the public. The EMC will receive oversight and

guidance from the Board's Research and Science Committee (RSC). The EMC will provide input to ensure a scientifically defensible monitoring effort is used to credibly evaluate the effectiveness of the California Forest Practice Rules and other forestry-related laws and regulations related to water quality, aquatic habitat, and wildlife habitats. Also, the EMC will provide input to a formal adaptive management approach to policy development and analysis.

Goals: To ensure a collaborative science-based monitoring effort and process-based understanding of the effectiveness of the California Forest Practice Rules and other forestry-related laws and regulations on water quality, aquatic habitat, and wildlife habitats, the EMC will:

(a) Support an adaptive management process by providing feedback regarding California Forest Practice Rules effectiveness (i.e., monitor actions and suggest to the Board where management actions could be adjusted).

(b) Help facilitate and recommend monitoring practices to evaluate how well current practices restore and maintain riparian, aquatic, and terrestrial habitat on private and state forestlands for state and federally listed species and priority species of concern (aquatic and terrestrial).

(c) Ensure that the process meets the requirements of the Clean Water Act for water quality on private and state forestlands.

(d) Establish a peer review process to evaluate monitoring and research products.

(e) Ensure that appropriate scientific methods and statistical evaluation, if necessary, are used to evaluate effectiveness of California Forest Practice Rules and other forestry-related laws and regulations.

(f) Encourage dissemination of information through general public and scientific outlets.

Objectives:

A. Involve representatives of key stakeholders that have demonstrated previous collaboration in resource monitoring or scientific studies.

B. Develop overall monitoring strategic plan or "road map" including:

1. Catalog and review past and ongoing monitoring project results, encourage continuation of valuable projects/monitoring programs, help guide development of new approaches, and ensure that duplication is avoided. The review should state in a hierarchical format the level of existing information for specific watershed and wildlife issues of concern.

2. Accept and consider questions from stakeholders and the interested public (key areas of concern) about the effectiveness of specific aquatic or terrestrial-related forest practice rules (e.g., consider questions on specific water quality-related forest practice rules in meeting established resource objectives).

3. EMC members themselves should identify critical monitoring questions that address various EMC goals and objectives.

C. Develop guidance for appropriate scientific methods and statistical evaluation used to evaluate effectiveness of California Forest Practice Rules.

1. Address the importance of understanding both temporal and spatial scales and variation which may potentially influence scientific results.
2. Address physical environmental factors, including ecological scales that may potentially influence scientific results.
3. Provide guidance for the acceptable level of scientific uncertainty across he broad spectrum of monitoring efforts from small-scale short-term monitoring to long-term replicated studies.

D. Develop methods to prioritize monitoring questions, and based on this method, help select the highest priority projects to collaboratively monitor.

E. Foster a collaborative scientific atmosphere to build partnerships and relationships.

1. Effective partnerships may help defer or share the costs of monitoring and help build mutual trust and understanding of scientific results.

F. Promote collaborative fact-finding and understanding of scientific results at local, regional, and state levels.

G. Spread awareness of results to stakeholders, decision-makers, and the public through:

1. Field tours.
2. Internet availability.
3. Workshops and conferences.
4. Scientific journals.
5. Other user-friendly formats.

Cumulative Effects

Court cases have refined and validated the Board's process. Recently, courts have found in favor of the Department despite numerous challenges.

Technical Issues-

- Natural systems are complex, natural variability of physical processes is extreme, and our knowledge of these processes is imperfect.
- On-site control offers the closest linkage to cause and effect, direct mitigation of problem sites, and more direct estimation of associated risks.
- Approaches for estimating CWEs in California have generally fallen into four categories: indices of land-use intensity, qualitative checklists, narrative discussions, and a research-based approach.

    - The primary index of land use intensity is the US Forest Service Equivalent Roaded Area (ERA) method. This approach provides a measure of ground disturbance, but does not directly relate to degraded channel conditions
    - Qualitative approach is the approach used in the FPRs, and is highly flexible. This approach relies on the user's expertise and experience, so results may not be reproducible. However, it meets both BOF and CEQA procedural requirements
    - Narrative descriptions of topics specified in the BOF's Technical Rule Addendum No. 2. This includes disclosing where continuing significant impacts exist in a basin and, if necessary, a discussion of offsetting mitigations that will be used to reduce overall impacts to insignificant levels.
    - Scientific Approaches. A good example is watershed analysis This approach utilizes a screening procedure to determine key issues and concerns, as well as the intensity of analysis needed for the basin under review. Monitoring to track the effectiveness of the prescriptions is an important component of this process. CEQA mandated CWE questions, however, are not directly addressed with this approach alone. It does not necessarily provide for evaluating the potential of future activities to contribute CWEs.

The best synthesis of the scientific literature regarding cumulative Effects is Beschta et al. (1995). Among their findings are the following points:

- Channel changes following periods of sedimentation or removal of riparian forests along unconstrained watercourse systems are likely to last decades to centuries.
- Early CWE methodologies attempted to develop a threshold level, beyond which catastrophic changes would occur. Natural systems, however, rarely recognize discrete thresholds and can respond incrementally and interactively to change.
- Limiting harvest to a certain percent of the basin per year to keep annual sediment levels below a set level is a simplistic approach that does not account

for regional or watershed variability, harvest location, yarding system, roading, etc. and assumes a direct causal mechanism between harvest and the magnitude of impact. In most cases, it is not the fact that trees were harvested, but how they were harvested, where on the landscape, methods of roading and yarding, degree of riparian protection, and other factors that determine the impact of a forestry operation.

- If the accumulation of individual impacts from various forest practices provides the mechanism for causing a particular cumulative effect, then the prevention of potentially adverse impacts at the project level is of fundamental importance to preventing CWEs.
- CWEs are ownership blind, in that they occur across a wide variety of ownerships and land uses. Basins seldom experience only one type of land use. Urbanization, grazing, agriculture, and other land uses can be important contributors to CWEs. Therefore, other land uses must be incorporated into solutions for cumulative effects.

Legacy Issues

Timber harvesting practices that have contributed to large scale erosion and sediment production include:

- Skidding down draws and otherwise disrupting intermittent stream channels.
- Constructing Tractor roads without waterbars.
- Abandoning road and skid trail crossings without adequate (or, in some cases, any) drainage.
- Diversion of streams at road and skid trail crossings onto road surfaces and hillslopes.
- Placement of roads and skid trails on unstable terrain.
- Inadequate compaction and other poor road and landing construction practices that created unstable cuts and fills.
- Inadequate drainage design for runoff from road and landing surfaces.
- Placement of roads adjacent to watercourses and sometimes within the high flow channel.

These practices, and many other potentially damaging timber operations, are now prohibited by the FPRs. The issue of these pre 1974 practices is that they persist in varying degrees within the system, and therefore create a difficult starting point.

Recommendations:

- Focus on effectiveness monitoring activities to provide adaptive management approaches.
- Review existing Guidance document, and identify areas of possible improvement.
- Research new computer modeling to improve analysis (e.g. NetMap)
- Improve collection of information from on-going analysis to create watershed databases for agencies and public use.

- Identify thresholds. Thresholds are commonly used to determine if an analysis is needed. “Light touch” forestry may not require in depth analysis, or any.
- Conduct a survey for examples of cumulative effect analysis to provide a comparative basis for further work.

Committee on criminal trespass

The purpose of the committee is the examination of policies and practices toward illegal drug growing in California's forest.

Scope of Marijuana Growing in California

The high value of marijuana has stimulated cultivation in northern California as well as other parts of the state. The street value of the state's marijuana crop was reported to be roughly $14 billion in 2011 (Freed, D. 2012). The Mendocino County Board of Supervisors commissioned a study in 2009 that reported marijuana accounts for up to two-thirds of the local economy. Though reliable numbers are hard to come by, marijuana growers in Mendocino County generate an estimated $1 billion a year (Regan, 2009). In 2008 over 5,000,000 marijuana plants were seized throughout California by federal, state, and county agents participating in the CAMP (Campaign Against Marijuana Planting) eradication program. The number of plants seized by CAMP in 2011 had dropped to 2.2 million plants, of this number 73% were on public land (Anderson, 2011). The decline in the number of plants was related to a shift in illegal marijuana growing from public to private lands, unseasonably cool weather that retarded growth, increased indoor and greenhouse growing of marijuana, and a drop in the wholesale value of marijuana.

Environmental Impacts

These activities often have serious environmental impacts on the sites where gardens are established (Carni, 2010; Gusti, 2011). Clearing of sites can remove forest regeneration that is returning the openings to full forest production. The slash and burn technique used by most illegal growers increases runoff and contributes to stream pollution. Irrigation requires water that is diverted from nearby streams. Elaborate irrigation systems has been found that involved damming of creeks and running irrigation water through hoses for considerable distance, diversion of streams and storage of stream water to be used for irrigation later in the growing season. Many of these irrigation systems have resulted in dewatering streams. At some locations gasoline powered generators are used to run pumps for the irrigation systems. Spillage of gasoline and oil used by these generators and pump can find its way into creeks and contaminate sources of drinking water. Fertilization has resulted in eutrophication of creeks where bags of fertilizers are abandoned at the end of the growing season or where plants are over watered and over fertilized. Use of pesticides, especially poisons to control herbivory probably takes an untold number of rodents normally operating in the forest. Growers sprinkle rat poison at the plant's base that eventually travels up the food chain to bobcats, hawks and other animals that eat the dead rodents. The California Department of Fish and Game found Furadan, a highly toxic insecticide banned by the EPA, at growing sites in Mendocino County forests last year. The chemical is fatal to birds that commonly mistake it for seeds.

Clean-up costs for restoring sites used for illegal gardens can cost up to $35,000 per acre. These costs must be borne by the land owners usually even though they were not involved in the illegal growing activities. The cost include dismantling and removal of

irrigation systems, removal of removal of trash, unused fertilizer and pesticides, and in some cases restoring the topography of the site and the removal of dams and water diversion ditches to restore stream flow. Not all site used for illegal growing are cleaned up. In 2011, 63 of the 99 sites raided by CAMP in Mendocino county were not cleaned up because of limited funding.

Impacts on Forest Operations

A variety of impacts to normal forest operations have resulted from illegal growing of marijuana in California. Illegal drug growers usually protect their gardens with trap guns and armed guards. There are reports of foresters and loggers being shot at without warning when the unknowingly approached a site being illegally used to grow marijuana. The threat of violence during the marijuana harvesting season has caused some companies to postpone normal maintenance of roads, installation of water bars, and culverts cleaning at the end of the logging season. Since California enjoys a Mediterranean climate these activities are usually scheduled in September and October before the shutdown of harvesting operations in October or November depending upon the county. Forest regeneration surveys are often conducted at the end of the season to comply with minimum stocking rules under the California Forest Practice Act. These, as well, have been cancelled or suspended until after the marijuana harvest season. Tree planting on National Forest land has also been suspended when planting crews encounter illegal growing sites.

Law Enforcement Agencies

A major problem in the control of illegal marijuana gardens has been the limited staffing of county sheriff's departments in California. Foresters working in northern California have reported small marijuana gardens on private timber land to local sheriff officers only to be told that small gardens could not be dealt with due to limited staffing. Early in the development of the marijuana culture in northern California some counties' law enforcement agencies turned a blind eye to small scale growers. In some areas marijuana growing was responsible for maintaining the economy of several small towns and this limited the suppression of marijuana activities (Tavares, D. 2011). Mendocino County adopted a program (Ordinance 9.31) in 2010 which authorized the county Sheriff to permit and supervise the growing of medical marijuana. The county's cultivation program enlisted over 100 growers and generated about $600,000 in permit fees (Montgomery, 2012a). Mendocino Sheriff Tom Allman supported the program because it allowed people who had been underground in the past to come forward and legitimize their medical marijuana operations. It allowed the Sheriff's Office to document and inspect permitted growing operations. The permits required that growing sites be on property owned by the individual seeking the permit. The program was ended on February 14, 2012 by the County Board of Supervisors because of a warning from the federal Drug Enforcement Administration (DEA). US Attorney Melinda Haag warned the county that it faced litigation if the program continued (Montgomery, 2012a; 2012b).

Solutions

Enhanced enforcement capability

- Increased support of local sheriffs and state and federal agents on private forest lands with regard to the control of illegal drug production.
- Increased resources are available to public land management agencies to address eradication efforts.

Problem Oriented Policing

- Effectively destroy/mitigate legacy infrastructure from eradicated gardens be in order to increase the difficulty of growing repeatedly in the same location
- Effect a paradigm shift in local communities who feel that the loss of timber and fishing jobs "justifies" the need to grow Cannabis.
- Establishment and enforcement of drug free zone (zones where vigorous enforcement would take place) around towns and parks.

Possible Changes to Law, Interdiction of supplies

- Interdict equipment and supplies being used by illegal growers as they are transported across public lands.
- Regulate the sale of greenhouse and irrigation supplies when these supplies are thought to be purchased by drug growers.

Intelligence gathering

- Increased early aerial surveillance and early interdiction verses late summer efforts that are currently being made.
- Create a data base of the locations of illegal gardens be established from which, overtime, we might learn something about the forest geography of the locations being used to grow marijuana.
- Surveillance cameras installed on forest roads suspected as being used to supply the people tending the gardens.
- An effective reporting system for professional foresters and others who work in the forest to report illegal gardens and other signs of possible illegal activities related to drug growing.

Recommendations

The Board intends to conduct a symposium at its July meeting to further explore the above solutions, and to issue a paper on its findings.