

THE CHANGING CALIFORNIA



THE 2007 POLICY STATEMENT **AND STRATEGIC PROGRAM** **OF** **THE BOARD OF FORESTRY AND FIRE** **PROTECTION**

GOVERNOR

ARNOLD SCHWARZENEGGER

SECRETARY OF THE RESOURCES AGENCY

MICHAEL CHRISMAN

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EXECUTIVE SUMMARY

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.

A policy statement is prepared following a comprehensive assessment by the California Department of Forestry and Fire Protection's (CDF) Fire and Resource Assessment Program (FRAP). The most recent assessment was completed at the end of 2003.

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 Key Elements of this plan include:

- The **Mission** statement expresses the strategic purpose and the functions of the Board.
- The **Vision** statement is a description of what the Board sees as the desired outcome.
- The **Values** statement describes the principles that will form the basis for the Board's decisions.
- The Summary of the **External Assessment** conducted by the Fire and Resource Assessment Program (FRAP)
- The **Internal Assessment** of the Board and the Department
- The **Programmatic Goals, Objectives and Strategies** of the Board and the Department to achieve the Vision Statement

This 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.

The process began 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.

After the Assessment was completed, the Board began developing the framework for its mandatory policy statement. It was decided after discussion in committee, and following three public hearings, to utilize a framework (in the policy statement) that would allow for ongoing evaluation of current status and the ability to adapt strategies after that evaluation. The framework would clearly describe the mission and goals of the organization.

After the completion of the framework, the next phase in the process shifted to determination of goals and strategies. The framework included many of the possible strategies, but is not absolute. As part of the process, the Board held several hearings over the second half of 2006 to ascertain what the framework ultimately identified as the key actions to pursue.

With the adoption of the Policy Statement, the next phase will have two concurrent activities. First, for each of the goals, a work plan will be developed to achieve the objectives outlined. The work plans will identify the resources and assets necessary to successfully accomplish the goals and objectives, as well as timelines to further demonstrate accountability. These work plans will be developed by Board staff and approved by the Board. Secondly, the indices outlined for each goal will receive further refinement and development. Indices may be modified, added, or dropped depending upon the ability of the Board and the Department to develop or sustain the quality and reliability of data.

Finally, to assure accountability, it will be 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.

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MISSION AND RESPONSIBILITIES**The Board of Forestry and Fire Protection will:**

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 Board of Forestry and Fire Protection's Statutory Responsibilities are:

1. **Establish** and **administer** forest and rangeland policy for the State of California, and
2. **Protect** and **represent** the state's interest in all forestry and rangeland matters, and
3. Provide **direction** and **guidance** to the Director and the Department on fire protection and resource management, and
4. **Accomplish** a comprehensive regulatory program for forestry and fire protection, and
5. **Conduct** its duties to **inform and respond** to the people of the State of California.

VISION

It is the Vision of the Board of Forestry and Fire Protection that California will have:

1. *A Department with fully integrated resource management and fire protection.*
2. *Healthy forests and rangelands providing a sustainable flow of environmental, economic, and social outputs and benefits.*
3. *Public and private investment to create healthy forests and rangelands.*
4. *Statewide natural resource policies that are coordinated among California's natural resources agencies.*
5. *An open public process that provides a forum for the citizens of the State.*
6. *An engaged citizenry that supports and contributes to the achievement of sustainable natural resource management and fire protection.*

VALUES

The Values that guide the Board in its decisions are:

1. *To protect the lives and property of the people of California.*
2. *To protect, sustain, and enhance the natural resources of the state.*
3. *To address the needs of communities through partnerships with local, state, and federal governments.*
4. *To adapt, innovate, and continually improve our methods and procedures to address the rapidly changing conditions of California.*
5. *To provide leadership in natural resource management and fire protection, with accountability for the Board's and the Department's performance.*
6. *To perform at all times with professionalism and integrity.*

EXTERNAL ASSESSMENT

California has undergone profound changes in the last two decades, and none has produced a greater impact on our forest and rangelands than the explosion in population growth.

The expanding population requires housing, and increasingly, forest and rangelands are being converted and subdivided to provide this housing. This results in the permanent loss of these areas through conversion. In addition, it places more people in areas that will be frequented by wildfire. This places additional importance on the fire protection system of the state to protect lives and property.

The population requires an increasing supply of water. Over eighty percent of the state's runoff originates in the forested landscape. This non-substitutable commodity is California's most economically valuable resource.

Scientists generally have agreed that the earth's climate is changing. The influence of global climate change on future fire regimes is uncertain. However, changes in the distribution of moisture and temperature regimes will cause changes both to fuel characteristics and to burning conditions, and may portend significant changes to both fire frequency and effects. The apparent increase in frequency of large fires in the years after 1970 may indicate interactions between climate change and increased fuel accumulations.

The increasing risk associated with wildfire threatens all of the values of these lands: people and property, water supply, wildlife, timber, and range. This highlights the continued need for integration between resource management and suppression activities.

Much of the forest and rangelands of California are in public ownership. However, issues relating to forest and range health, air quality, wildlife habitat, and water quality exist regardless of ownership, pointing to the need to forge new partnerships with federal and state governments

Twenty five years ago these lands, especially those in private ownership, primarily were managed for their commodity outputs. Conversion was not much of an issue. At that time, in the case of the forest products industry, over one hundred sawmills and secondary wood manufacturing facilities existed. Today there are less than forty. There are also fewer logging firms and related support companies. Without a viable forest products industry, landowners would be faced with increasing costs and diminishing economic incentive to continue managing their lands as working forests.

The loss of this harvesting and processing infrastructure in the forest products industry has several reasons. First, in early 1990's, significant changes to the federal government timber sale program resulted in harvest levels that went from producing 2 billion board feet annually to almost no harvest. This resulted in a 50% drop in harvested volume in the state. Secondly, foreign countries began exporting their products to California, and with their lower labor costs, put further pressure on the industry. Lastly, increasing regulation in California to protect environmental values lessened one of the main

advantages held by the forest products industry in California: proximity to markets. As a result, forest products companies tend to make investments in countries with lower costs and greater returns.

In large part, the primary forest products industry was, and continues to be, located in rural California. With its reduction, most of the infrastructure that remains is located near major transportation corridors. The impact of the reduction in the industry's size has had significant ramifications for the rural economy. Counties once dependent on a viable industry now are more dependent on transfer payments, such as payments from the state and federal governments. In some instances, local economies are more diversified. Still, there are many cases where rural areas have high unemployment rates and related negative social issues.

The livestock industry in California maintains a significant economic influence. In over 30 counties, cattle are in the top ten local agricultural industries in producing gross income. However, the cattle industry, and especially the sheep industry, has faced economic challenges. Reasons include: the breakup of ranches to development, international competition, changing tastes by consumers, increasing production costs, invasion of grazing land by non-native species, and animal disease.

For a variety of reasons, it is important that the forested landscape and rangelands remain available to continue to produce the commodity and non-commodity values that Californians will require now and in the future. The economic incentive for the private landowner to continue to manage their lands to provide these values, however, is rapidly disappearing. Landowners today can garner very lucrative economic benefit from the conversion of their lands to other uses, primarily development for housing. This trend has been documented for the past 25 years, but has not been effectively dealt with.

The State can either accept these conditions, or it can create innovative solutions to address them. The Board believes that this innovation is not only possible, it is imperative.

KEY ISSUES

- 1) **Integration of environmental, economic, and social goals:** The sustainability of California's forest and rangelands is at a defining moment. Improving inventories, diverse forest structure, and a greater attention to maintaining valuable biological legacies are juxtaposed against the pressures for forest and range conversion, declining forest health, and declining industry infrastructure. Continued progress will require continued investment and innovation in resource management from both the private and public sectors. Private sector investment in land ownerships and businesses selling goods and services generates employment and local government revenues in rural areas but is dependent on continued market-based profitability linked to a predictable and stable forest product stream. Public sector investments are dependent on the financial support of an increasingly urban population and the social value to both urban and rural communities and stakeholders.
- 2) **The Working/Private landscape:** The Working/Private landscapes are those lands managed for a wide range of purposes with commodity production as the major economic basis for ownership. Historically, the Working/ Private landscape has provided commodities, jobs, open space, and ecological services to the public at little direct cost. These lands have a history of investment and active management. Low profitability for timber and livestock operations and increasing regulatory costs create strong pressures for parcelization, fragmentation, and land use conversion. New ways to keep the Working/Private landscape viable while providing a wide range of public values are necessary.
- 3) **Watershed conditions:** Maintaining, and where needed, improving watershed conditions are vital to California. Many watersheds have historic legacy impacts, ongoing land use changes, and episodic intense wildfires that degrade water quality and aquatic habitat conditions. In degraded watersheds, a key policy challenge includes addressing linkages between current land uses, natural catastrophic events, and investments in restoration.
- 4) **Wildfire threats:** High fuel loads, the growing extent and intensity of wildfires, and increased population in forests and rangelands all magnify the risk of wildfire to people and resources. This threat requires continuing focus on the vegetation management of forest and rangelands. The tools necessary to manage these areas are becoming more costly and difficult to utilize due to competing regulations, conflicting values within the Wildland Urban Interface, and the lack of necessary infrastructure for cost effective treatment.
- 5) **Productivity and forest health:** Timberland growing stock volumes and densities have been increasing as a result of reduced harvesting (most noticeably on federal lands) and exclusion of wildfire. While this trend has had beneficial impacts for some terrestrial and aquatic habitats, it has also led to an increasing inventory of unutilized timber and dense forest stands. This results in a lost opportunity to generate the wood products needed by Californians, and also increases detrimental impacts such as insect and pest outbreaks,

catastrophic fire, and the loss of habitat for species dependent on open, less dense forest settings. Increasing temperature and drier moisture regimes via climate change will need to be addressed.

- 6) **The Wildland Urban Interface:** Forests and rangelands near urban centers, along with those adjacent to rural communities, are the most visible and are of the greatest value to the people near these areas. Management is needed for forest health improvement and wildfire risk reduction. If this necessary management is to be successful, it must address the array of social concerns of the neighboring communities.
- 7) **Land use pressures:** Conversion for new housing continues on rangelands and forests near metropolitan areas and in the wildland urban interface. Most of the development has a low density of houses per acre so the land impact is considerably greater than the population impact. This type of development removes natural vegetation and breaks rangelands and forests into smaller units. This reduces habitat value for wildlife species dependent on un-fragmented natural vegetation and makes it more difficult to manage the remaining larger parcels. California's population will continue to expand and will need to be accommodated while lessening the negative impacts to a high quality and safe environment.
- 8) **Carbon sequestration and air quality:** Our forests serve as vast reservoirs of carbon and forest management represents a foremost opportunity sequester carbon in several ways. Forests fix carbon as they grow; forest products can be used to produce clean, renewable energy; managed forests fix carbon at greater rates than unmanaged forests; and managed forests are less likely to be lost to catastrophic fire with the attendant large scale release of carbon into the atmosphere. Systems that encourage and reward carbon sequestration will be needed to address this.
- 9) **Policy coordination and integration:** Multiple regulatory processes often impede progress toward desired goals, discourage investment, incur substantial taxpayer funded regulatory costs, and add uncertainty that increases costs to landowners and other stakeholders. Better coordination and integration will be essential to holistically and effectively match appropriate tools to the many challenges.

INTERNAL ASSESSMENT**BOARD OF FORESTRY AND FIRE PROTECTION**

For the purpose of focusing on particular issues the Board is broken down into four standing committees. Each committee has at least three members. The four committees are: 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.

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) is a Board appointed committee of renowned scientists and agency representatives that will oversee 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.

As a result of the increasing, and time consuming, demands placed on the Board in the singular area of rulemaking, it has been unable to address broader policy considerations

which shape the future direction of fire protection and forestland management in California. There is a demonstrated need for the Board to become proactive, including the formulation of a strategic direction for future forest policy. The current inability of the Board to undertake this strategic planning function has resulted in federal land management decisions that have been instituted with only very minimal involvement by the Board and state regulatory agencies. Yet these decisions have a profound impact on the citizens of California. Similarly, the inability to establish a well-defined future policy direction has resulted in a continually increasing number of legislative bills that seek to establish policy in a piecemeal fashion. While legislative change may be seen as desirable mechanism by some, by its very nature it lacks coordination and continuity with present goals and policies. Failing to establish effective relationships between the Board and other governmental agencies, both state and federal, will result in the Board's increasingly smaller role in shaping a cohesive future policy direction for resource management in California. In addition to Departmental support, changing from a reactive to proactive stance will require increased staffing and budget levels to accomplish.

Other state agencies with focused interests in resources (water quality, air quality, fish and wildlife) have strengthened the regulations in their individual resource areas such that there is strong public and legislative confusion on forest policy interactions.

- These resources issues all merge within the forested and range landscape
- Piecemeal regulation may result in conflicting requirements
- The Board needs to coordinate these numerous regulations when applied in a forested setting
- The public needs a single regulatory and policy direction incorporating these concerns as they impact forest and range management
- There is a demonstrated need for strategic planning by the Board to achieve this goal

The demographics of the state show that there is a continuing movement of the population into foothill and coastal forest areas of the state. This movement involves more individuals and groups in the ongoing debates of forest resource allocation and protection.

- Increasing public awareness and involvement
- Lacking strategic direction, the Board is forced to piecemeal regulation and policy
- Increasing public frustration has resulted in legislative intervention
- "Band Aid" approaches, as opposed to cohesive policy, often result
- A need for focused Board policy direction to avoid future conflicts

To meet the numerous demands place upon the Board, it has prioritized tasks and either deferred or only minimally addressed many of its broader mandates set by the legislature.

Compounding this workload has been the continual turnover in Board members and staff, resulting in loss of institutional memory. The Board has only two members with more than one term of experience, and in the last eight years has had three Executive Officers and four assistant Executive officers.

Absent an appropriately staffed Board of Forestry and Fire Protection, it is unlikely that development of a holistic public policy which targets landscape level management objectives can occur.

Current Board Staff consists of the following:

1. Executive Officer
2. Staff Services Analyst
3. Executive Assistant
4. Executive Officer for Professional Foresters Registration (serves as the Assistant Executive Officer for the Board, job description allocates roughly one third of time to Board duties)
5. Office Technician (Tasked specifically for Foresters Registration)
6. Regulation Coordinator (Department employee, not in Board's chain of command)

DEPARTMENT OF FORESTRY AND FIRE PROTECTION

The Department engaged in an analysis of its programs over the first half of 2006. Among the issues that were identified to be addressed:

- Leadership / experience drain / inversion
- Department wide integration / coordination / organization
- Succession Planning / training capacity

The above issues speak to the need to organize the department for maximum efficiency, and to address potential gaps in key positions due to a variety of factors.

- Aging infrastructure / equipment
- Definition / consensus of the CDF Mission

This last issue reflects the fact that the department has been increasingly relied upon for “all risk” duties, as well as a growing urban responsibility that is different from its previous mission in wildlands.

The Department is currently devising work plans for each of its programs to address these and other key issues. The Board, in its policy role, will need to coordinate closely with the department in its review of each area and the work plans in order to ensure consistency and compliance with existing Board policies, or, where such policies do not result in intended outcomes, consider revision. Such an internal assessment will necessitate ongoing effort by the Board and the Department.

KEY ISSUES

1. Need for additional staff to respond to the increasingly complex issues before the Board, and to perform its independent oversight.
2. Strategic planning must integrate with Department’s planning process to allow for an efficient comprehensive approach.

GOALS, OBJECTIVES and STRATEGIES

1. BIOLOGICAL DIVERSITY**Goal:**

Contribute to the preservation, conservation, and maintenance of wildlife and native plant resources, so that the beneficial uses of those resources, both intrinsic and ecological, are available to the citizens of the State.

Objectives:

- 1. Reduce forest and rangeland plant community structure gaps to enhance fish, wildlife, and native plant habitats**
- 2. Where achievable as a result of forest and rangeland management, reduce declines in native species**
- 3. Ensure sustainability of species and natural communities found on forests and rangelands**

Potential Indices:**Ecosystem Diversity:**

- 1) Extent and distribution of area by forest or rangeland type relative to total area;
- 2) Extent and distribution of area by forest or rangeland type and by age class or successional stage;
- 3) Extent and distribution of area by forest or rangeland type in protected area categories as defined by IUCN2 or other classification systems or as part of the working landscape;
- 4) Extent of areas by forest and range type in protected areas defined by age class or successional stage;
- 5) Fragmentation of forest or rangeland types;
- 6) The number of forest or rangeland dependent species;
- 7) The status (threatened, rare, vulnerable, endangered, or extinct) of forest or rangeland dependent species at risk of not maintaining viable breeding populations;

Genetic Diversity:

- 8) Number of forest or rangeland dependent species occupying a small portion of former range;
- 9) Population levels of representative species from diverse habitats

Strategies:**Actions for forest or rangeland habitat structure gaps**

- A. Provide incentives for creation of diverse habitat.
- B. Strengthen analysis of cumulative impacts of land uses on terrestrial and aquatic habitat.

- C. Improve mapping and monitoring technologies and systems.
- D. Strengthen collaboration between regulatory agencies, the public, and the industry in addressing fish, wildlife, and native plant habitat concerns.
- E. Use long-term plans for larger scale analysis and monitoring schemes.
- F. Expand and focus use of conservation easements and incentives.
- G. Develop focused research program on State Forests for fish, wildlife, and native plant habitat.

Policy options for decline in some native species

- H. Continue to develop HCPs, NCCPs, or other long-term plans that provide for landscape level analysis, protection, and resource use.
- I. Develop additional reimbursement mechanisms that preserve habitat.

Policy options for using all landscapes to meet forest and rangeland habitat conservation objectives

- J. Recognize the continuing importance of ecosystem services from the Working landscape and support innovations in approaches.
- K. Develop an incentive based program for conservation and/or creation of habitat

2. PRODUCTIVE CAPACITY

Goal:

Encourage prudent and responsible forest resource and rangeland management to serve the public's need for timber and other forest products, while giving consideration to the public's need for watershed protection, fisheries and wildlife, and recreational opportunities in this and future generations.

Objectives:

- 1. Create the necessary environment for a sustainable forest and rangeland products sector for California.**
- 2. Protect and enhance the forest and rangeland resource base.**
- 3. Reduce dependency on the importation of timber products.**

Potential Indices:

- 10) Area of forest and rangeland and net area of forest and rangeland land available for production;
- 11) Total growing stock of both merchantable and non-merchantable tree species on forest land available for timber production;
- 12) The area and growing stock of plantations of native and exotic species;
- 13) Annual removal of wood products compared to the volume determined to be sustainable;
- 14) Annual removal of non-timber forest products (e.g., fur bearers, berries, mushrooms, game), compared to the level determined to be sustainable

Strategies:

- A. Consider alternative land trust arrangements to retain the productive capacity of forests and rangelands and prevent either conversion to non-timber and range uses or full administrative/regulatory exclusion from timber or range management.
- B. Increase active management in forest stands at highest risk of loss to fire or insect outbreak due to increased stocking levels. Prioritization of management activities can coincide with meeting other objectives such as fire reduction near urban areas or adaptation of stands to meet biological diversity needs.
- C. Promote retention and improvement of the forestland base and long-term forest investments by landowners through land-use and tax programs, performance-based regulations, forest products market development, and applicable incentives.
- D. Promote retention and improvement of the rangeland base and long-term investments in rangeland by landowners through land-use and tax programs,

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- performance-based regulations, development of markets for livestock and related products, creation of specialty and alternative products, and incentives
- E. Different owners have different objectives for land ownership with different emphases on conservation, commodity production, multiple use, and residential values. A policy framework that recognizes that the management of these different ownerships can provide a suite of benefits which collectively will meet California's environmental, economic, and social needs.
 - F. Encourage the federal government land management agencies to achieve their objectives by actively managing federal forestlands, including the use of commercial timber harvests where appropriate.
 - G. Support proper management to protect and enhance the multiple values of California's urban and community forests and forests in the wildland/urban interface.
 - H. Improve range management techniques to enhance range productivity
 - I. Encourage forest landowners to manage their forests in a manner that ensures long-term wood volume growth in California equals or exceeds rates of timber harvest and mortality across all ownerships.
 - J. Support for continued assessments and research on the capability of California's forests to produce timber, non-wood forest products, recreation, water, fish and wildlife habitat, and other forest values.

Land Development

- K. Maintain tax-related zoning, encourage county governments to support timber production through Timber Production Zoning.
- L. Support livestock and other range-based enterprises by preserve high quality rangeland through the Williamson Act or other local zoning
- M. Focus part of local general plans and related project design on integration and protection of productive areas.
- N. Increase use of easements and land banks.
- O. Anticipate growth areas and focus them away from the most productive forests and rangelands.

3. FOREST AND RANGE ECOSYSTEM HEALTH**Goal:**

Protect, maintain, and enhance the health of California's forest and rangeland ecosystems within the context of natural disturbance and active management.

Objectives:

- 1. Reduce the occurrence of catastrophic wildfires and reduce life, property and natural resource losses through the implementation of effective and efficient fire prevention, fire protection planning and suppression, financial management, and firefighter/public safety strategies.**
- 2. Improve the natural resiliency of forests and rangelands**
- 3. Reduce the occurrence of catastrophic mortality to pest and disease outbreaks**
- 4. Reduce and control non-native invasive species**
- 5. Reduce impacts related to poor air quality**

Potential Indices:

- 15) Area and percent of forest and rangeland affected by processes or agents beyond the range of historic variation;
- 16) Area and percent of forest and rangeland subjected to levels of specific air pollutants or ultraviolet B that may cause negative impacts on the forest ecosystem;
- 17) Area and percent of forest and rangeland with diminished biological components indicative of changes in fundamental ecological processes or ecological continuity

Strategies:**Planning**

- A. Complete a comprehensive review of the Board's Fire Plan and revise as necessary. Fully develop and implement Board/CDF Unit Fire Plans that focus fire protection hazard reduction strategies based on level of hazard and assets at risk. Review Department Strategic plan, Department annual work plans, Community Wildfire Protection Plans, National Fire Plan, Unit/County Fire plans, Fire Safe Councils and Local Hazard Mitigation Plans for consistency with Board's Fire Plan.
- B. Develop comprehensive fire prevention and land use planning strategies. Strategies should include local entities general plan reviews, relationships to local fire plans, and wildfire hazard mapping.
- C. Develop monitoring and reporting systems for legislative reporting requirements.

Urban Forestry Land Management Activities

- D. Maintain support for urban forestry and stream restoration programs.
- E. Enhance cooperation between agencies and groups with an interest in metropolitan forests.
- F. Retain strong fuel reduction, fire protection, and pest control programs. Streamline environmental review processes related to fuel reduction.
- G. Improve reporting of activities, such as acquisition of open space, to a statewide database.
- H. Enhance curriculum focus on metropolitan forest issues in forestry schools.

Pests and Disease

- I. Continue strong support for focused management practices, such as fuel reduction and control of exotics and pests.
- J. Maintain and improve early detection capability.
- K. Develop overall plan to guide forest and rangeland pest research and control, including public involvement.
- L. Expand research on control methods.
- M. Maintain California Department of Food and Agriculture quarantine capacity.
- N. Enhance support for County Agricultural Commissioners, University of California researchers, and landowner participation.

Exotic and Invasive Species

- O. Strengthen support for California Department of Food and Agriculture program on prevention, eradication, and education.
- P. Focus on the development of control methods, both chemical and non-chemical.
- Q. Enhance support for county Agricultural Commissioners, University of California researchers, and landowner participation.
- R. Promote efficient and effective control programs and strategies characterized by efforts that prevent invasions and quickly detect new occurrences so that the species may be removed or contained before spreading.

Air Pollution

- S. Continue to work with California Air Resource Boards and local Air Pollution Control Districts to address concerns over use of prescribed fire and particulate matter from forest and rangeland management activities.
- T. Maintain periodic assessments of impacts of ozone and other pollutants on forest and rangeland vegetation and aquatic resources.
- U. Develop improved modeling of air quality impacts of wild and prescribed fire.
- V. Promote development of fuel reduction and forest management alternatives that minimize use of fire and production of air contaminants.

Wildfire Strategies

Fire Prevention

- W. Implement defensible space strategies pursuant to PRC 4290, 4291 and the parallel Government codes for non SRA. Develop defensible space regulatory effectiveness/compliance monitoring/reporting program. Develop strategies to address hazardous fire protection situation in established neighborhoods/WUI areas that have substandard protection characteristics.
- X. Review and fully implement CDF Resource Management and Fire Protection vegetation management programs. Work with various regulatory agencies that affect vegetation management related hazard reduction (e.g. air quality, water quality, wildlife habitat, etc.) to accomplish vegetation management goals while meeting other agency mandates.
- Y. Develop public education programs that continue to address fire protection responsibilities and increase public understanding of changes to forest health with human action or inaction.
- Z. Expand and support the biomass industry as a tool for reducing hazardous fuels in including ensuring sustainable long term fuel supplies from federal lands, and research for utilization of small logs, urban green waste, and biofuels.
- AA. Review and revise as necessary wildfire design and engineering standards that support effective wildfire protection for areas where occupied properties interface with wildland areas.

Fire Protection and Suppression

- BB. Determine and establish a fire suppression level of service for personnel and equipment consistent with well defined standards and goals.
- CC. Determine and establish capital structure needs to support well defined fire protection.
- DD. Determine and establish aviation needs to support well defined fire protection.

- EE. Determine appropriate equipment replacements needs to supports levels of service goals and fire fighter safety needs.

Financial Management

- FF. Determine through business management, fire planning and protection information systems situations where funding does not match levels of service.
- GG. Support funding to correspond to statutory responsibilities and that match the levels of service and performance goals established by the Board.
- HH. Develop and implement cooperative agreements among local and federal partners that efficiently meet well defined fire protection standards and goals.
- II. Address personnel succession planning and wage/classification disparities.
- JJ. Ensure SRA designations are consistently applied and amended as necessary to reflect of State fiscal responsibilities.
- KK. Ensure mutual aid programs accurately reflect reciprocal financial cooperation.
- LL. Determine the optimal mix of wildfire prevention and suppression levels to minimize fiscal cost and reduce damages.
- MM. Develop oversight policies and use of information and planning tools for analysis of cost containment alternatives, staffing, and accountability for state spending.

Firefighter and Public Safety

- NN. Ensure all firefighters are trained and equipped to safety conduction efficient and effective operations.
- OO. Develop fire safety planning information/incident intelligence to prevent fatalities and serious injures to the firefighters and the public.
- PP. Develop interoperable communications needs of fire and emergency personnel.

4. SOIL CONSERVATION AND WATER QUALITY

Goal:

Protect, maintain, and enhance the soil and water resources of the State of California's forest and rangelands.

Objectives:

- 1. Control soil erosion to protect resources and forest productivity.**
- 2. Protect the beneficial uses of water.**

Potential Indices:

- 18) Area and percent of forest land with significant soil erosion;
- 19) Area and percent of forest land managed primarily for protective functions;
- 20) Percent of stream kilometers in forested catchments with altered stream flow and timing;
- 21) Area and percent of forest land with significantly diminished soil organic matter;
- 22) Area and percent of forest land with significant compaction resulting from human activities;
- 23) Percent of water bodies in forest areas with significant variance of biological diversity;
- 24) Percent of water bodies in forest areas with significant variation pH, dissolved oxygen, levels of chemicals, sedimentation, or temperature change;
- 25) Area and percent of forest land experiencing an accumulation of persistent toxic substances

Strategies:

- A. Continue support for watershed assessments using common watershed models and risk assessment capacity, enhancing cooperative mapping and monitoring techniques, and using long-term plans for large scale analysis and monitoring schemes.
- B. Continue monitoring, especially to link in-stream conditions to hillslope processes. Incorporate in-stream monitoring technologies to track effectiveness of regulations and restoration efforts, and provide the basis for adaptive management.
- C. Increase options for long-term plans (such as Rangeland Water Quality Management Plans) by forest and range landowners and connect plans to eased regulatory process requirements at the plan level.
- D. Foster collaboration between regulatory agencies, the general public, and private landowners including integrating Timber Harvest Plan review and rules and Total Maximum Daily Load requirements.
- E. Maintain funding and increase landowner incentives for restoration projects and maintain support for urban stream restoration.

- F. Use the Demonstration State Forests as a venue for testing and demonstrating watershed assessment approaches and restoration techniques.
- G. Conduct focused research on the dynamics of fish populations and their linkages to instream conditions and land uses.
- H. Validate forest practice regulations as appropriate water quality protection measures.

5. FORESTS AND CLIMATE

Goal:

Protect, maintain, and enhance the State of California's forestlands to promote a positive impact on the climate.

Objectives:

- 1. Promote the contribution of the forested landscape in the reduction of greenhouse gases.**

Potential Indices:

- 26) Total forest ecosystem biomass and carbon pool, and if appropriate, by forest type, age class, and successional stages;
- 27) Contribution of forest ecosystems to the total global carbon budget, including absorption and release of carbon;
- 28) Contribution of forest products to the global carbon budget

Strategies:

- A. Promote conservation of forest lands and vigorous stands, which can significantly contribute to large-scale air pollution reduction. Maintain healthy forests which are vital to protecting resources from air borne waste impacts and which provide opportunities to contribute to pollution reduction through carbon sequestration.
- B. Promote forest health and conserve forest lands from land use changes by providing financial opportunities to land owners who are managing their lands in ways that positively influence carbon storage.
- C. Create markets for carbon and other ecosystem services to provide additional funds to landowners.
- D. Refine carbon sequestration accounting and carbon trading mechanisms. Encourage systems that recognize all life stages of forests and forest products.
- E. Maintain and adjust capacity and flexibility of emergency services related to natural process such as flooding, disease, and wildfire.
- F. Develop a contingency plan for ecological impacts of climate change, including seed banks and land trades adjusted to ranges of vegetation types.
- G. Encourage counties and local governments to maintain the zoning of former industrial or light industrial production sites while reducing environmental permitting associated with using those sites, within the construct of the applicable zoning, for alternative forest product production purposes such as electrical generation.

- H. Identify “biomass management zones” in key forest and range areas of California, based on known resource, contribution to the maintenance of forest health, and reduction in large high-intensity wildfires by December 31, 2007.
- I. Along with Department, collaborate in further development of long-term harvest contracts or agreements with the Federal Land Management Agencies with California land holdings, in close coordination with the U. S. Forest Service, Bureau of Land Management, and the Bureau of Indian Affairs.
- J. Review and consider regulatory modifications that will further reduce harvesting costs of biomass while maintaining a balance with the protection of associated natural resource values.

6. SOCIO-ECONOMIC WELL BEING**Goal:**

Create and maintain conditions under which man and nature can exist in productive harmony to fulfill the social and economic requirements of present and future generations.

Objectives:

- 1. Create conditions that allow for a continued and predictable commitment of timberland and investment for growing and harvesting timber.**
- 2. Create conditions that allow for a continued and predictable commitment of rangeland and investment for livestock production**
- 3. Create conditions that contribute to rural economic vitality.**

Potential Indices:**Production and Consumption:**

- 29) Value and volume of wood and wood products production, including value added through downstream processing;
- 30) Value and quantities of production of non-wood forest products;
- 31) Supply and consumption of wood and wood products, including consumption per capita;
- 32) Value of wood and non-wood products production as percentage of GDP;
- 33) Degree of recycling of forest products;
- 34) Supply and consumption/use of non-wood products;

Recreation and Tourism:

- 35) Area and percent of forest land managed for general recreation and tourism;
- 36) Number and type of facilities available for general recreation and tourism;
- 37) Number of visitor days attributed to recreation and tourism, in relation to population and forest area;

Investment in the Forest Sector:

- 38) Value of investment, including investment in forest growing, forest health and management, planted forests, wood processing, recreation and tourism;
- 39) Level of expenditure on research and development, and education;
- 40) Extension and use new and improved technologies;
- 41) Rates of return on investment;

Cultural, Social, and Spiritual Needs and Values:

- 42) Area and percent of forest land managed to protect the range of cultural, social, and spiritual needs and values;
- 43) Non-consumptive use forest values;

Employment and Community Needs:

- 44) Direct and indirect employment in the forest sector;
- 45) Average wage rates and injury rates in major employment categories;

- 46) Viability and adaptability to changing economic conditions;
- 47) Area and percent of forest land used for subsistence purposes

Strategies:

Policy options for rising consumption and statewide limitations on California commodity output

- A. Develop an economic strategy that builds on comparative advantages of California industries vis a vis local and international economies.
- B. Promote more aggressive tax policies to favor development of innovative forest and rangeland technologies to meet production and conservation goals.
- C. Foster development of markets for new products and services, certification of wood and livestock products, and market mechanisms for carbon sequestration.
- D. Broaden remuneration methods to landowners for non-commodity products that complement commodity production.

Policy options for meeting changing demands for recreation and open space

- E. Develop a coordinated plan to define needed statewide recreational expansion on forests and rangelands with protection of environment.
- F. Promote local community and government efforts to acquire and managed additional open space and recreational lands.
- G. Encourage relevant expansion of private land and service capacities.

Policy options for meeting costs of resource protection

- H. Develop an overall policy for California resources that integrates approaches to fuel reduction, fire detection and protection, and prevention and control of exotics and pests.
- I. Continue to provide wildland fire protection sufficient to protect watersheds, habitat, riparian areas, flood-prone areas, and other factors.
- J. Maintain state and federal capacities to respond to pests and public safety threats.

Policy options for incentives for private production of ecosystem services

- K. By policy, recognize the overall role of private landowners in producing ecosystem services.
- L. Focus on long-term plans and conservation easement conditions that clarify land tenure questions and are approved as alternatives under Forest Practice Rules that reduce compliance costs to landowners.

- M. Examine use of systems of environmental management that depends on certified, insured and guaranteed operations rather than a permit with civil enforcement.
- N. Develop watershed approaches to permits and restoration activities that reward landowners for attaining socially desired future conditions.
- O. Refine trading and credit system for habitat provision, pollution reduction, and carbon sequestration.

Policy options for maintaining large landholdings in resource industries

- P. Recognize the continued importance of large scale unfragmented ownerships in the working landscape that are dependent on resource based activities.
- Q. Develop analysis of profitability limits at the industry levels and examine if state policies can be improved to assure both private and public benefits of large unfragmented holdings.
- R. Maintain tax policies that encourage retention of land ownerships in parcels that are economic to manage.
- S. Identify where new regulatory approaches are possible such as the use of environmental certification or long-range plans.
- T. Track the levels of management that will be permitted on federal lands and how they relate to overall resource supplies and protection strategies.
- U. Strengthen monitoring and adaptive management approaches for individual parcels as well as larger landscapes.
- V. Develop strategies to limit litigation costs by focusing on topics of common agreement such as exotics, pests, fuel reduction, and restoration activities.

Policy options for weak economies in local communities

- W. At the state level, promote diversification and strengthening of these communities and local economies.
- X. Foster community capacity to build restoration and other grants into support for local forest products, range, recreation, and ecosystem service industries.
- Y. Continue to leverage existing local watershed groups and Fire Safe Councils.
- Z. At the state level, develop additional supports to biomass industry.
- AA. Identify, make available, and guarantee fuel supplies from some sections of public lands.

7. GOVERNANCE

Goal:

Create a policy and regulatory system that encourages prudent management to serve the public needs.

Goals:

- 1. Encourage the continued productivity of timberlands.**
- 2. Provide the public with a regulatory system that is accountable and logical.**
- 3. Move the focus of the policy and regulatory system to outcomes, not process.**

Potential Indices:

Legal Framework:

- 48) Clarifies property rights, provides for appropriate land tenure arrangements, recognizes customary and traditional rights of indigenous people, and provides means of resolving property disputes by due process;
- 49) Provides for periodic forest-related planning, assessment, and policy review;
- 50) Provides opportunities for public participation in public policy and decision-making related to forests and public access to information;
- 51) Encourages best practice codes for forest management;
- 52) Provides for the management of forests to conserve special environmental, cultural, social and/or scientific values;

Institutional Framework:

- 53) Provide for public involvement activities and public education, awareness, and extension programs;
- 54) Undertake and implement periodic forest-related planning, assessment, and policy review;
- 55) Develop and maintain human resource skills across relevant disciplines;
- 56) Develop and maintain efficient physical infrastructure to facilitate the supply of forest products and services;
- 57) Enforce laws, regulations and guidelines;

Economic Framework:

- 58) Investment and taxation policies and a regulatory environment which recognize the long-term nature of investments and permit the flow of capital in and out of the forest sector;
- 59) Non-discriminatory trade policies for forest products;

Capacity to Measure and Monitor Changes:

- 60) Availability and extent of up-to-date data and statistics;
- 61) Scope, frequency, and statistical reliability of forest inventories, assessments, monitoring and other relevant information;
- 62) Compatibility with other countries in measuring, monitoring, and reporting on indicators;

Research and Development:

- 63) Development of scientific understanding of forest ecosystem characteristics and functions;
- 64) Development of methodologies to measure and integrate environmental and social costs and benefits into markets and public policies;
- 65) New technologies and the capacity to assess the socioeconomic consequences associated;
- 66) Enhancement of ability to predict impacts of human intervention on forests;
- 67) Ability to predict impacts on forests of possible climate change.

Strategies:*Policy options for levels of regulatory oversight and policy integration*

- A. Conduct an analysis of the impact of overlapping mandates and review processes to create an efficient structure.
- B. Connect policies for investment in energy and carbon sequestration to landowner incentives.
- C. Strengthen ability to use long term plans and forest certification to meet rules.
- D. Examine use of system of environmental management that depends on certified, insured and guaranteed operations rather than a permit with civil enforcement.
- E. Provide an annual reporting system on rule effectiveness as a means of providing necessary feedback.

Policy options for conflicts over forest and rangeland management practices

- F. Focus on achieving agreement on desired landscape goals and then address potential practices and conflicts.
- G. Evaluate performance based rules structures to replace existing prescriptive standards as a means to encourage innovative approaches to resource management.
- H. Learn from experiences of The Nature Conservancy, other non-profits, and regional parks on how to explain management needs.
- I. Review role of environmental certification in providing for broader acceptance of management tools.
- J. Provide for public input into decision making and monitoring.
- K. Strengthen skills of resource professionals regarding public involvement and values.
- L. Continue strong support for focused management practices, such as fuel reduction and control of exotics and pests.

Policy options for coordination in research and information sharing

- M. Develop overall forest and rangeland research plan for California.
- N. Increase use of web-based portals for public access.
- O. Maintain the forest and rangeland extension functions at University of California and applied programs at California State University.
- P. Continue to hold research symposia to share results.
- Q. Increase foundation support for research.
- R. Develop and support a science review team that will provide the Board with timely review of existing rules, and, where appropriate, recommendations for modification of rules and evaluation procedures.

Policy options for standardized, comprehensive information systems

- S. Develop and maintain a system of recording easement boundaries and purposes in a central database.
- T. Continue to develop interagency agreements that set standards for information sharing and use

APPENDICES

APPENDIX A: SUMMARY OF THE EXTERNAL ASSESSMENT**Two Decades of Change on California's Forests
Changing population, society values, and institutions**

The social setting of California's forest and rangeland has changed radically since the late 1980s. The State's growing population consumes increasing amounts of forest and rangeland products. At the same time, Californians increasingly demonstrate values and concerns that are redirecting the use of forest and rangeland resources towards non-commodity outputs. Accommodating these shifting values requires innovations in resource management, significant reductions in commodity outputs or both.

Continued population growth adds to concerns over water quantity, water quality, preservation of open space and habitat, species extinction, and wildfire risk. Implementation of the Federal Endangered Species Act, Clean Water Act, and Clean Air Act have made the provision of biological diversity, conservation of species habitat, and protection of air and water quality increasingly important forest and rangeland management themes—especially on public lands.

As a result of these emerging themes, the framework of laws and governmental structures that existed in the 1970s and 1980s has been expanded. Through litigation, ballot initiative, private sector innovation, legislative action, and administrative implementation a variety of modified and even new institutions have emerged. These include coordinated agency and private projects, watershed groups, fire safe councils, land trusts, and other non-profit organizations. Additional approaches, such as habitat acquisition, working forest and other conservation easements, forest certification, and trading of carbon credits are also being integrated into business operations.

Understanding how these themes play out requires that analysis be done at the watershed and landscape levels, using information systems to provide the full range of necessary data and analyses. Application of science, research, and technology transfer are becoming increasingly important as the methods are still evolving.

Many of these changes show up in the evolving status of the forest products industry and related employment. They can be seen in the decrease in the area available for timber production, decreased timber harvests, declining mill numbers and capacity, increased unemployment, and restructuring of local economies and revenue.

A major issue for the future of California's forests and rangelands relates to public perceptions of the appropriate mix of private investments, regulation, public investments, and governance processes needed to achieve desired goals. In public opinion polls, an overwhelming majority view overall environmental problems such as air and water pollution, growth, traffic, and water supply as a threat to their health and well-being. Residents also believe that insufficient progress has been made over the past 20 years in solving environmental problems. Innovative strategies to address these concerns and communicate successful approaches to the public will be required.

Changing Fire Patterns

Over millennia, fire has played an integral role in regulating the spatial pattern, composition, and structure of California's natural resources. With its Mediterranean climate, productive soils, and frequent ignitions from lightning and Native American peoples, fire has been an endemic force shaping the landscapes of the State. Many areas of the State have evolved under the natural selection pressure of frequent and relatively low intensity fires. Other areas have been subjected to less frequent, but higher intensity fires. From coastal grasslands to sub-alpine forests to the Mojave Desert, fire has been an active ecological agent in almost all vegetated areas.

Historically, fire has shaped ecosystems in California. This can be seen by interpreting fire occurrence and effects during discrete periods where human influences have managed both fire and fire environments differently. There are three periods: 1) prior to European settlement (before 1700); 2) the settlement period (1700-1920); and 3) the suppression era (1920-present).

In fire-adapted ecosystems, natural (pre-settlement) fire regimes provide long-term ecological stability that annually involved millions of acres of wildfire. Many California ecosystems depend on a particular fire regime for long-term resilience. Disruption of these natural cycles often has significant ecological ramifications regarding vegetation stability and ecosystem health.

While fire is often described as a destructive agent, the ecological role that fire plays on vegetation is often better characterized as fire-maintained or fire-recycled, rather than fire-destroyed. In areas where the regime indicates severe stand-replacing types of fires, often these fires served as forces of renewal for mature vegetation that required fire to restore vegetation life cycles.

Natural fire regimes that existed prior to European settlement in California involved a wide range of fire frequencies and effects on ecosystems; roughly one-third of the State supported fires every 35 years or less. Pre-European settlement fire patterns resulted in many millions of acres burning each year, with fire acting as a major cause of ecosystem change.

Eighty-seven percent of the State's wildlands supported mixed or low-severity fire regimes; only 13 percent supported high severity fires that would typically kill all the dominant vegetation present.

The settlement period was marked by increasing influence of changing land use, first from Spanish missionaries then by miners, which brought widespread changes to the fire environment. Subsequently, ranching, open range grazing, farming, timber/fuelwood harvesting, and residential and commercial land development all placed increased demands on land and resources, and led to significant changes in ignition patterns and to the vegetation landscape (i.e., fuels) with which fire interacts.

The modern-era has seen continued modification of land use with the added influence of active and highly effective fire suppression systems.

In the modern-era, statewide fire frequency is much lower than before the period of European settlement. Over the last two decades, California has averaged 250,000 acres burned annually, only a fraction of the several millions of acres that burned under the pre-settlement regimes. Land-uses such as agriculture and urbanization have reduced the amount of flammable vegetation, and most fires are effectively suppressed to protect resources, commodities, and people.

Area burned in wildfires varies greatly year to year, with climate driving much of the variability. When viewed statewide, the temporal variation masks any possible trends in total acreage, although there has been an apparent increase in high fire years (total area burned greater than 500,000 acres) since 1985 (see figure).

Modern era fire frequency differs greatly across the State. Of the 80 million acres (80 percent) of California where the Fire and Resource Assessment Program has sufficient data to calculate fire frequency, eight percent has a very high frequency of fire, 22 percent has a high frequency, and the majority (70 percent) has a moderate frequency of fire.

Trends in wildfire across vegetation types indicate the heavy influence of vegetation characteristics on expected fire frequency. Using the decadal averages of percentage of area burned in each broad vegetation life form, brushlands have burned the most frequently, remaining consistent over the last five decades.

When all vegetation types are combined and percent of area burned annually are compared between broad ownership groups, lands in public ownership began burning more frequently than private lands around 1970, and this has continued to the present. The trend over time for percent of area burned on public lands appears to be increasing.

Expected fire frequency using the fire rotation calculation, varies dramatically across the State. While the majority of California (70 percent of the area mapped in the analysis) shows only a low expected fire frequency, where fire rotation is greater than 300 years, certain areas of the State, such as much of the southern California brush and woodland areas, and some north Sierra foothill zones are in the high fire rotation class, indicating these areas have the highest expected frequency of fire in the future.

While modern fire frequency is much lower in most areas than prior to European settlement, much of California's wildlands support conditions of high or very high potential fire behavior if fires are not aggressively suppressed. Of the 85 million acres of vegetated areas statewide, 51 percent have fuel and slope conditions that would support high or very high fire behavior when burned under typical severe weather conditions. Fires that burn in these areas under hot, dry, and windy conditions are difficult to control even by the world's most comprehensive wildland fire protection system.

Extensive areas of very high potential fire behavior are adjacent to areas of population centers such as the Los Angeles basin, and the western flank of the Sierra Nevada forms a continuous belt of dangerous fuels.

A composite index of fire threat that reflects both the chance of wildfires (expected fire frequency) and the prevailing potential fire behavior finds 35 percent of the area mapped in the High threat class, 18 percent in the Very High class, and two percent in the

Extreme threat class (see table). Many of the locations of greatest concern for fire threats (High, Very High or Extreme) are also located in the Los Angeles basin, and the western flank of the Sierra Nevada.

Changing forest conditions and structures

California's forests provide a wide range of values including scenic vistas, recreation opportunities, wildlife habitat, watershed function, commodity forest products, and other uses. A long history of creating parks, wildlife reserves, and wilderness areas in our forests has endowed California with the highest percentage of forests in reserve status of all states, with the exception of Alaska. Old growth forests—primarily in parks, reserves, and national forests—constitute approximately 15 percent of California's conifer forests. In terms of both total area and as a percentage of total forest area, this is roughly twice as large as the equally renowned old growth forests of the Pacific Northwest region.

Across all 31 million acres of California's forests, there is a broad range of tree species, tree sizes, and levels of canopy closure. Conifer forests and woodlands cover over 21 million acres and are most extensive in the Sierra, Modoc, and Klamath/North Coast bioregions of the State. Hardwood forests and woodlands cover nearly 10 million acres and extend along the perimeter of the Sacramento and San Joaquin Valleys and throughout the coastal ranges.

Two dominant characteristics of California's conifer forest are the prevalence of medium size trees and dense forest stands. Forty-five percent of the conifer forest area in California is found in the 11 to 24-inch average stand diameter size class. By comparison, 31 percent of the area is in larger size classes, 17 percent of the area is in smaller size classes, and seven percent is unclassified. In terms of canopy closure, 53 percent of conifer forest is classified as having dense canopy closure (greater than 60 percent closure).

The most productive timber growing portion of California's forests are the 16.6 million acres of public and private timberland—that is, land capable of growing more than 20 cubic feet of wood per acre per year and statutorily available for timber management. In the case of public ownerships (56 percent of timberlands), many lands capable of timber production have been administratively withdrawn over the past two decades for a variety of purposes and have been directed to primary uses other than timber production. California has 7.3 million acres of privately owned timberland, of which 5.4 million acres are classified as timberland production zone (TPZ) where long term tax and regulatory structures favor timber production over potential conversion to other uses. Large private ownerships are most likely to grow and harvest timber on a continuing basis. Smaller owners are much more varied and typically also have numerous non-timber related management goals. Increased planning requirements, operational limitations, and habitat protection have increased the expense of timber growing and harvesting on private land.

While extensive, the total area of timberlands is slowly declining. Between 1984 and 1994, about 250,000 acres of the total timberland base, outside of national forests, were removed from production. The leading cause was change to Reserve status (e.g., wilderness, ecological reserves, parks, and open space uses). A smaller amount

(approximately 76,000 acres) was converted to non-timber uses (housing, roads, agriculture) from 1984 to 1994, but many more acres were effectively removed from timber production due to fragmentation of ownerships and growing residential uses. Land use data since 1994 does not specifically separate out timberlands, but the overall trend of conversion is continuing (Waddell and Bassett, 1996 and 1997).

The overall status of California's remaining timberlands in terms of total inventory is improving. While the average volume of growing stock per acre on all ownerships declined from the 1950s through the 1970s, it has been increasing since then. In 1994, California's timberland inventory, the volume of growing stock on timberland, consisted of a net volume of approximately 55 billion cubic feet. National Forest lands have over half of the growing stock, but private industry forests hold the most productive tree growing sites and have higher growth rates. Overall, private industry timberland inventories are growing at a 2.8 percent annual rate, while rates for other owners vary from 2.0 to 2.3 percent. Whether looked at on a volume basis or an area basis, California's timberlands have significant resources in stands dominated by trees over 100 years old. Across all ownerships, over 22 billion cubic feet (41 percent) is in stands less than 100 years old while, more than 32 billion cubic feet (59 percent) exist in stands greater than 100 years. National Forest timberlands have a higher percentage of their growing stock in stands greater than 100 years (88 percent) as compared to private timberlands (25 percent).

Across all ownerships, there are about eight million acres of timberland in stands under 100 years old and eight million acres of timberland in stands older than 100 years. Seventy-nine percent of national forest timberland area is in stands greater than 100 years old and 22 percent of private timberlands is in stands greater than 100 years old (Waddell and Bassett, 1996 and 1997). The silvicultural methods used by forest managers continue to shape forest conditions. Silviculture is the theory and practice of controlling the establishment, composition, and growth of forest stands. A silvicultural system is a program of forest stand treatments during the life of the stand and includes the development of young trees that will grow over time. Thousands of forest land acres are established or regenerated by natural processes, planting, or seeding each year. Forest composition and growth can be managed by stand improvement practices such as thinning and vegetation control.

For example, growth of new or existing trees can often be increased by the removal of adjacent trees that are competing for water, soil nutrients, and light. The Forest Practice Rules (FPRs), which apply to non-federal timberlands in California, describe and regulate standard silvicultural systems with details about regeneration methods, intermediate treatments, alternatives, and limitations.

There is a mixture of uneven and evenaged forest structure on both private and public timberland. In the unevenaged stands, only some of the trees are harvested in a given harvest and the remaining stand has a mixed aged of trees. Evenaged harvesting practices, which include clearcutting, seed tree, and shelterwood systems, are designed to replace a harvestable stand with well-spaced, growing trees of a uniform age in a single harvest operation (clearcutting) or multiple harvest operations (seed tree and shelterwood). Evenaged harvests represent about half of the total private harvest area in California, and are a controversial issue—particularly by clearcutting. The percentage of total area harvested that was clearcut has increased from 3.6 percent in 1993 to around 15 percent in 2002 (Cunningham, 2003). On one hand, evenaged harvesting systems

can increase habitat for certain species that benefit from open area, reduce the spread of insects by removing brood material, lessen the risk of wildfire by reducing fuel loading and continuity, and improve the growth rate of some types of forest stands. Negative aspects include visual impacts, loss of forest “biological legacies” and habitat structures such as snags and down logs, and localized intensity of harvest operations.

Over coming decades, it is possible that use of clearcutting or other evenaged systems may increase somewhat in the Sierra in stand conditions where current growth is below potential due to past harvesting and wildfire suppression efforts. In many stands, the practice of “high grading” removed most of the valuable pines and larger trees of all species and left diminished vigor in the remaining stand. This harvesting practice, together with successful wildfire suppression efforts, often caused stand composition to shift to less economically valuable species such as white fir and incense cedar. Many stands, especially in the Sierra, are in this condition and some land managers are considering the use of clearcutting or similar techniques to regenerate the stands to achieve better use of the site for desired tree species.

Forest managers are also considering other techniques such as variable retention, mixed evenaged, and small group selection that can achieve similar productivity levels while simultaneously achieving other desired goals of wildlife habitat, visual, aesthetics, and harvesting intensity.

Variable retention has been increasingly used in the Pacific Northwest and British Columbia, and involves retaining the structural elements of the harvested stand for at least a full rotation. This harvesting method is flexible and can lead to evenaged, multi-aged, or unevenaged stands. The spatial pattern of the retained trees may follow stream courses, focus on unique wildlife habitats, or be spread throughout the stand.

In all regions of California, net annual growth of timber exceeds annual harvest on both private and public timberlands. For example, the growth/harvest ratio of 1.52 for the Sacramento region indicates that growth on private timberlands in this region was slightly over one and one-half times as high as harvest. Localized conditions may vary greatly from these generalizations. In some places, large portions of watersheds have been harvested during the recent decades and considerable public concern has been generated in the areas where recent harvest rates exceed growth rates. In many other areas the continued increase in stand density, and more importantly, in surface fuel levels, presents an increasing challenge to the maintaining healthy forests and minimizing the risk of wildfire. Wildfire threats to urban interface communities, increasing forest density, and the synergistic effects of drought, pests, and other environmental influences are significant challenges to the health of California’s forests.

An increasingly important aspect of forests’ health is their relationship to protecting and improving water quality of the streams and rivers that travel through them. In addition to requiring higher levels of forest canopy along stream courses, there is increased investment in projects to improve fish habitat and reduce levels of sediment input to watercourses. These investments have been concentrated in watersheds with less stable terrain and where populations of salmonids such as Coho salmon, Chinook salmon, and steelhead trout are low. While conditions vary from watershed to watershed, most sediment analyses have identified road systems, and associated stream crossings and drainage systems, rather than the in-harvest operations, as the

major sources of additional sediment. New investments are aimed at improving forest road systems to reduce impacts to water quality.

Changing forest economics

Many broad social changes are affecting the economic status of the forest products industry and related employment. These include increasing consumption, declining timber harvest outside of privately managed lands, declining number and capacity of mills, and declining timber related employment in forest regions. On the consumption side, Californians use increasingly larger quantities of forest products, water, energy, and other forest values such as recreation. The consumption of lumber and paper products increases as population grows and California's population is projected to increase significantly in the coming years. California could produce most of the forest products it consumes if the majority of timberlands were managed for wood products production. However, due to a wider set of management goals for public and private forests, most wood products are now supplied by imports from other states and countries.

During the past half century, timber harvesting on both public and private lands in California has fluctuated considerably. Timber harvest volume in California increased from four to six billion board feet between 1948 and 1955, but has declined since then. Timber harvest volume on public lands has declined dramatically since 1989 and recent harvest levels are now less than 0.2 billion board feet per year. Harvest on private lands has declined since 1990, though not as steeply as on public lands, reaching the lowest level in more than a decade in 2001.

As a result of declining timber sales, global competition, and production efficiencies, production of timber products in California has changed significantly. California imports nearly all of its paper, pulp and structural wood products and although lumber remains the dominant forest product produced from trees grown in California, the number of sawmills has declined from nearly 100 large mills in 1988 to less than 40 in 2002.

Related employment has also declined as sawmills have installed more efficient equipment better suited to handling smaller diameter trees and have reduced operating hours as harvest levels declined. Employment related to the forest products industry in most rural counties has also declined as local economies have lost forest products as a viable economic contributor. The negative impacts have been most noticeable in smaller counties far from regional transport corridors.

As sawmill employment has declined, the wood remanufacturing industry has become the major employer of timber-related workers in California. Remanufacturing employment fluctuates with consumer demand and is typically located closer to the final markets in urban areas. Within California, wood remanufacturing employment (e.g. mill work, windows and doors, and molding) is primarily located in southern California. Almost 70 percent of California's wood products-related employment is now in the five counties of Los Angeles, Orange, Riverside, San Bernardino, and San Diego.

In addition to providing wood products, forests are the source of a significant portion of the state's surface water. While water runoff is not managed as a commodity until it is diverted into reservoirs, canals, or pipelines, it is the state's most important natural resource. The importance of water lies in the fact that it is an essential, non-

substitutable commodity needed for human survival. Usable water is a scarce resource in many parts of California, and water deficiencies (droughts) and excesses (floods) are recurring problems. Water represents the state's most economically valuable natural resource and is essential for ecological functions.

Most headwaters of California's streams and rivers are found within forested landscapes, both publicly and privately owned. More than 70 percent of the average annual runoff of 71 million acre-feet originates north of Sacramento. In contrast, about 75 percent of California's urban and agricultural water demands lie south of Sacramento (Department of Water Resources, 1998). Water is often transferred from one watershed or hydrologic region to another to meet these demands which are located in low rainfall agricultural and metropolitan regions.

The supply of water was insufficient to meet all demands in 1995 and is projected to be consistently insufficient by 2020, especially in low rainfall years. Periods of drought will exacerbate problems in meeting demand for water. Since the 1990s, use of water for environmental purposes has gained increased importance, but urban uses are projected to account for nearly all the projected increased demand for water by 2020 (Department of Water Resources, 1998).

From an economic perspective, the sale of wood products remains the only end use that generates the level of funds necessary to cover land ownership and management expenses, yet economic output and the associated employment levels associated with timber harvest have declined during the past decade. While forests will continue to play an important role in provision of water runoff and the protection of water quality, the economic linkages between society's downstream demands and upstream management costs remain weak.

Two Decades of Change on California's Rangelands

On an area basis, rangelands are the largest resource use designation in California. The State's total area of primary rangeland most suitable for grazing exceeds 57 million acres, or over one-half of the state. Approximately 34 million acres are actually grazed and are a vital part of the cattle and sheep industries in California. In addition to seasonal grazing, rangelands provide benefits such as wildlife habitat and recreational opportunities, at relatively little cost to Californians. In particular, near urban areas rangelands provide open space, viewsheds, and related values.

Significant shifts in plant species composition of rangelands have occurred since the late 1800s. Early changes were driven by heavy grazing, severe drought, introduction of large fires for forage improvement, and livestock impacts to aquatic/riparian areas (Kinney, 1996). Over the last two decades, large scale change in livestock management has substantially contributed to recovery of previously degraded landscapes. Where threatened or endangered wildlife and plant species overlap rangelands, some lands have been set aside or restricted in use in an effort to prevent further species loss. Riparian habitat and water quality issues are being addressed on some private ranches as part of Rangeland Water Quality Management Plans, developed by landowners to improve water quality under the federal Clean Water Act.

Rangeland ownership is dominated by public ownership (57 percent) in terms of total area, but productivity and use rates are considerably higher on private lands. Rangeland

consists of different vegetation cover types and the ownership of these types differs between the private and public sector.

Annual grasslands (including those within Hardwood Woodland types) are the most important source of range forage and provide over two-thirds of the forage for domestic livestock. California's hardwood rangelands also have historically been one of the most important rangeland areas in the State, providing a substantial portion of California's rangeland grazing capacity. Private lands provide the dominant amount of forage for grazing, as expressed by Animal Unit Months (AUMs) of grazing capacity. While the area of rangelands available for grazing is evenly distributed between private and public land, private lands provide nearly three times more AUMs for livestock and wildlife grazing.

With the exception of deer migration and other wildlife habitat, rangelands have been seen traditionally in the context of the State's cattle and sheep industries. In 1990, 40 of the State's 58 counties listed cattle and beef among the top five agricultural commodities in terms of gross value. Major rangeland commodities include animals, meat, wool, and a host of related byproducts. Despite widespread diversification of California's economic base over the past decade, cattle and beef were still among the top five commodities in 33 counties in 1999. California's cattle and sheep industries remain significant compared to those in other states.

California is a net importer of beef and other major rangeland commodities. Beef consumption in America has declined as consumers turn to chicken, turkey, and fish although this decline seems to have stabilized in recent years (U. S. International Trade Commission, 1999).

Based largely on increases in population growth, total consumption of beef in California is projected to increase over the next decade. Livestock is increasingly a global industry, with many countries importing and exporting livestock and livestock related products. This global movement of animals and meat makes the livestock industry very susceptible to transport of disease. Concerns over two diseases have recently dominated the U.S. and international arena: foot-and-mouth disease and mad cow disease. California has taken extra precautions to be able to detect and respond to any potential outbreaks.

Livestock production from forest and rangelands consists primarily of beef cattle and some sheep and lambs not in feedlots. Over half of the beef production is concentrated on larger farms and ranches. According to the National Agricultural Statistics Service (NASS), the total number of rangeland farms declined 22 percent between 1982 and 1997, with the majority of the decline being in farms less than 500 acres in size (NASS, 2001a). During this time the inventory on rangeland beef cattle farms varied by region, but statewide has remained stable with approximately two million head (Figure 6). Sales from rangeland farms were almost \$630 million in 1997, a four percent decrease from the 1992 levels. Almost half of total sales value comes from farms 2,000 acres or larger.

The inventory of sheep and lambs in California fluctuated over the last decade, ranging from a high of 1.1 million animals in 1994 to a low of 800,000 in 1998. Total production of sheep and lambs in California for all farm types over the last decade varied from 92 million pounds in 1993 to 47 million pounds in 1999. Roughly half of the sheep and lamb crop is sold annually. Wool production declined from 7.6 million pounds to four million

pounds between 1990 and 2000. Total gross income declined from \$85 million in 1996 to \$42 million in 1999.

In the opinion of some observers, California's range industry is at a crossroads. Many operators are nearing retirement age and could soon exit the industry. At least four key factors drive change and uncertainty on California's rangelands. One is the generally challenging economic context of ranching, which is common to the livestock industry in other parts of the United States. Another is changes in management of public rangelands with a marked decline in availability. A third is increasing cost of regulations for a variety of public goals. A fourth is the impact of population growth on land values, on perceptions of ranching, and on redefining the goods and services that are expected of rangelands. This impact is more noticeable in urbanized states such as California.

Within the context of California's range economy, grazing enterprises can be quite risky. Livestock, hay, and other input prices fluctuate annually. In addition, forage production may vary greatly due to differences in rainfall and temperature. These factors create substantial annual variation in returns. The ability of a rancher to deal with the risk depends upon available financial resources, borrowed capital, interest rates, and management approaches. Additionally, the processing sector remains outside of California and market opportunities, especially for smaller producers, may be limited.

As one measure of profitability, prices received for cattle have declined about 10 percent over the last decade while costs of inputs (primarily feed and livestock acquisition costs) used by domestic cattle producers have risen about 12 percent. To a degree, California and other American producers have been able to offset lower costs in other nations by increasing efficiency and productivity, creating new products, and developing niche markets. However, costs are still well above those in other competing countries.

In some cases, viability of existing ranching operations has been affected by changes in grazing policies by public agencies. As part of a broader policy of ecosystem and watershed management, public agencies have placed less emphasis on commodity production and more emphasis on rangeland restoration through limitations on grazing and implementation of restoration projects. This approach has decreased the availability of forage allotments from federally owned lands and increased the uncertainty of forage supply to ranchers who have historically depended on it.

Operating in an increasingly urban state, California agriculture faces public concerns over food safety, health, pesticide use, clean water, clean air, groundwater contamination and replacement, open space, worker safety, and ecosystem and wildlife preservation. At the State level, ranchers face increased health requirements, management practice limitations, and acquisition of habitat by public agencies or other entities. At the local level, impacts include increased land use conflicts; more complaints over noise, traffic, odor, and dust; livestock damage from stray pets; and more restrictions on management options. The net result is usually additional costs of ranching. While many ranchers are very adept at dealing with these pressures, the probability of conversion to residential or commercial uses increases when ranching becomes no longer cost effective.

California's population continues to grow, spread geographically, and change socially. Although some rangeland areas of the state have not experienced heavy growth, residential development over the last decade has expanded into many other rangeland

areas. Development of rangelands into parcels between five to 20 acres typically fits within most local zoning regulations but still represents a shift away from rangeland management. As a result of residential development, rangeland area has declined by tens of thousands of acres per year over the last decade. It is projected to continue to decline at similar levels through 2040.

As this development occurs, rangelands in many locations provide added values beyond being a source of forage for grazing... Rangelands buffer urban growth and provide open space and a variety of other values to metropolitan populations at relatively low cost. In an effort to maintain these values, there has been increased focus on keeping rangelands in larger tracts near urban areas. In some cases, efforts are providing opportunities for ranchers to continue operations and preserve the many ecological and social values offered by operating ranches.

In some cases, keeping larger tracts intact involves outright purchase. These large tracts often continue grazing operations at a reduced level and serve other rangeland values. A number of large ranching tracts have been acquired in recent years by governmental agencies, conservancies, and private parties that do not make a living from ranching. The taxpayer costs of acquisition and ongoing resource management are significant when the land is transferred to the public. In other cases, only the development rights are being purchased from the rancher while they maintain the use and control of the land for existing ranch uses. Ranchers themselves formed the California Rangeland Trust in 1997 to help maintain sustainable rangelands. Finally, preferential zoning and tax assessment laws such as Williamson Act contracts can provide a lower but often effective level of support to existing operations.

In addition to the preceding approaches to keeping larger rangeland tracts intact and in production, a variety of other approaches is being tried to help maintain the range industry. These include management of conflicts from urban pressure; improved economic opportunities; more funding for restoration projects; help in meeting health regulations; and facilitation of meeting public safety and environmental requirements.

Even with a variety of available policy tools, urban pressure takes a toll on the attitudes of ranchers. A recent survey of ranchers in urban Contra Costa and Alameda Counties, and in rural Tehama County, suggests that urban ranchers fear local land use planning most and expect that if their ranch is sold it would be converted to urban land uses. In contrast, rural ranchers felt less threatened by local land use planning and wanted their property to be a productive ranch even if sold. Most of the ranchers enjoyed ranching and its associated family life, but felt that urban California was becoming more hostile to the livestock industry.

The range landscape in the coming decades could well entail a dynamic mix of larger ownerships devoted to livestock production intermixed with smaller ownerships managed for a wide variety of both livestock and non-livestock goals. Outside sources of income will be increasingly important. Development, especially in the form of the break-up of larger parcels into smaller parcels, will proceed. At the same time, more rangeland area will be controlled by governmental agencies, conservancies, and private parties that are not dependent on livestock production for revenue. In some cases, ranchers will continue to own the land and manage livestock on ranches where development rights have been ceded to a third party via conservation easements.

Even with the traditional ingenuity of California ranchers, ranching for the next decade will remain a challenge in some regions of the State. Still, many ranchers, especially in areas less subject to development pressure, will continue livestock operations. As such, they will be a critical factor in supporting working landscapes.

APPENDIX B: DESCRIPTION OF BOARD ACTIONS OVER THE PAST TWO YEARS

(Includes ongoing issues)

1. California Fire Plan (includes interaction with Unit Fire Plans and Community Wildfire Protection Plans)
2. Blue Book (Staffing) Review
3. Cooperative Fire Review (4141 et.seq.)
4. Contract County review
5. Safety Element Review
6. Title 14 CCR 1270 Regulations (Fire Safe), PRC 4290/4291
7. Vegetation treatment plan EIR
8. Evaluation/Monitoring of Forest Practice Rules
9. Threatened or Impaired Watershed Rules/ Report on effectiveness
10. Tahoe Rules/ Streamlining
11. Road Management Plan/ Regulatory Program
12. Sustained Yield Plan/ Programmatic Timber EIR
13. Elk River Sensitive Watershed
14. Monitoring Study Group/ Interagency Monitoring
15. Forest Legacy Program Review/Regulations
16. Jackson Demonstration State Forest EIR (As well as review of all other State Forest's management plans)
17. Nursery Program/ Price Review
18. Board of Equalization Manual Review
19. Civil Penalties
20. Conversion Permit Process Review
21. County and Local Government Outreach
22. Legislative Review
23. Education/Research Program Review
24. Climate Policy
25. Board/State Policy Statement
26. Water Quality joint policy statement
27. Performance Based Systems Pilot Program
28. Joint DFG Policy
29. Federal Policy issues
30. Foresters Registration/ Certification Issues

APPENDIX C: DESCRIPTION OF BOARD POWERS AND RESPONSIBILITIES

GENERAL POWERS AND RESPONSIBILITIES

Included within the function of the Board of Forestry is the power and responsibility to:

- A. Determine, establish, and maintain an adequate forest policy for the State;
- B. Represent the State's interest in Federal land matters pertaining to forestry;
- C. Protect the State's interest in forest resources on private lands;
- D. Represent the State's interest in the acquisition and management of State forests;
- E. Formulate guidance policies of the Department;
- F. Annually determine the need for forest management research and recommend needed projects to the Governor and Legislature;
- G. Provide for a statewide program of research in the technical aspects of forest management which may be delegated to it by law;
- H. The Board may investigate and report on any technical factors involved in forest management;
- I. The Board may prepare and implement a forest management information storage and retrieval program relating to forest conditions to assist in the formulation of policy;
- J. Implement a public information program on matters involving forest management and maintain an information file on forest management research.

PROFESSIONAL FORESTERS

By Regulation the Board may adopt rules for carrying out its duties to examine and license professional foresters. These duties and functions include:

- A. Regular consideration at regular meetings of matters pertaining to professional foresters;
- B. Keeps records pertaining to professional forester registration;
- C. Provide for the issuance of certificates of specialization;
- D. Establish an examining committee;
- E. Receive appeals from examining committee actions;
- F. Require adequate demonstration of experience and knowledge necessary for certification as a professional forester;
- G. Conduct investigations, if needed, of professional foresters and, if necessary, take disciplinary action.

PREVENTION AND CONTROL OF FOREST FIRES

Responsibilities of the Board in relation to the prevention and control of forest fires include:

-
- A. Make and enforce such regulations as are necessary for the organization, maintenance, government, and direction of the fire protective system;
 - B. Review and determine approval of a fire plan prepared by the Department;
 - C. Provide guidance policy and standards for the Department in carrying out this function;
 - D. Designate lands for which the State assumes financial responsibility (SRA);
 - E. Prepare a plan for statewide fire protection of SRA;
 - F. Evaluate the Safety element of County general plans;
 - G. Establishes the criteria and policies by which the director may enter into cooperative agreements and counties may assume responsibility for SRA;
 - H. Determines whether intensities of fire protection shall be reduced or withdrawn;
 - I. Formulation of standards of what fire conditions constitute a hazard;
 - J. Designate hazardous fire areas.
 - K. Adopt regulations establishing standards to be used in determining the State's share of costs for site preparation and prescribed burning under the program;
 - L. Annually adopt a schedule of the prevailing costs to perform work eligible for cost sharing payments.

Z'BERG-NEJEDLY FOREST PRACTICE ACT

The intent of the Forest Practice Act is to create a comprehensive and effective system of regulations of use of timberlands to ensure productivity, sustained yield, and due consideration of watershed, recreation, wildlife, range, aesthetic, and fishery values. In relation to this intent, the Board's duties include:

- A. The division of the State into not less than three forest districts;
- B. Appoint a District Technical Advisory Committee for each district;
- C. In accordance with Section 4551.5 and 4552 of the Public Resources Code, develop and adopt forest practice rules for each forest district;
- D. In consultation with District Technical Advisory Committee, continuously review and revise forest practice rules;
- E. Hold public hearings for the adoption or revision of forest practice rules;
- F. Conduct investigations of problems associated with soil erosion for the purpose of developing soil resource conservation standards. Reports will be published and a determination made, if possible, of permissible levels of soil loss. The Board must promulgate soil erosion control regulations for each forest district;
- G. The Board must adopt rules for control of timber operations which will result or threaten to result in unreasonable effects on the beneficial uses of the waters of the State;
- H. Issue licenses for the conduct of timber operations;
- I. Deny issuance of licenses for causes specified in Section 4572 of the Public Resources Code;

- J. In a public hearing, review for conformance timber harvest plans that have been appealed as the result of denial by the Director for lack of conformance with the regulations of the Board or the Forest Practice Act;
- K. Determine approval for a sampling procedure for measuring of stocking;
- L. Define emergencies for the purpose of emergency notice to harvest;
- M. May request the Attorney General to enforce compliance with the Forest Practice Act;
- N. Hold hearings, if requested, to determine the applicability of particular notices to take corrective action;
- O. Defines and reviews civil penalties;
- P. Prescribe procedure for form, content, and fees of conversion applications and, in other ways, regulate conversions.

STATE FORESTS

Board powers and duties regarding State forests include:

- A. Determine approval of Department of Forestry forest management plans in State forests;
- B. Determine policies by which the Director administers State Forests;
- C. Approves regulations for management
- D. Enters into agreements with Department of Corrections and the Youth Authority for employment of inmates;
- E. Recommend and promulgate resolutions for acquisition of State forest properties if it is deemed appropriate;
- F. Determine approval of State forest land sales due to unsuitability for forest purposes;
- G. Establish rules for the preservation, protection, and use of State forests.

PROTECTION OF FORESTS AND LANDS

Board powers and responsibilities include:

- A. Develop policy in relation to cooperative agreements for insect and disease control;
- B. Determine approval of nursery prices;
- C. Recommend and, if necessary, set conditions for accepting gifts of land for the State Forest System;
- D. Determine policy for insect and plant disease control, declare and dissolve zones of infestation.

FOREST RESOURCE ASSESSMENT

Under the Forest Resources Assessment and Policy Act of 1977 (Section 4789 et seq. of the Public Resource Code), the Board is required to create policy to assist the Director in preparing an assessment of forest resources in California.

Included within the Board policy are policies concerning:

- A. Forest resource protection; including protection from fire, insects, and conversion to nonforest use;
- B. Resource enhancement; including policies to increase resources in the areas of timber, watershed, wildlife habitat, recreation, range, and energy;
- C. Research and information; including research in forest management and environmental protection;
- D. Public understanding; including dissemination of information on forest problems and the establishment of public education programs.

PROTECTION AND DEVELOPMENT CORPORATION

Board powers and responsibilities include:

- A. Determine, approve, and establish regulations concerning the conduct of corporations involved in the cutting of timber or other work on forest lands;
- B. Not more than two months apart, the Board must regularly examine the operations of such corporations to determine if the forest management plan is being followed;
- C. Make Department reports in regards to these corporations available to the Legislature.

FOREST IMPROVEMENT PROGRAM

Board powers and responsibilities include:

- A. Review and approve regulations concerning the California Forest Improvement Program as specified in Section 4799.02 of the public Resources Code;
- B. Review and approve schedules specifying the percentage of costs to be borne by the Department for forest improvement projects;
- C. Every fiscal year, review and approve a schedule of the prevailing costs of performing practices eligible under the program.

URBAN FORESTRY PROGRAM

Board powers and responsibilities include:

- A. Promulgate guidelines and procedures to implement the California Urban Forestry act of 1978;
- B. Determine by regulation what type of practices may be financed by urban forestry grant projects;
- C. Determine by regulation which local agencies or groups may be eligible to participate in the program.

CALIFORNIA FOREST LEGACY PROGRAM

Board powers and responsibilities include:

- A. Adopts rules for the criteria for easements.

PLANNING AND LAND USE

Board powers and responsibilities include:

- A. Reviews safety element of city and county general plans.

CLIMATE REGISTRY

Board powers and responsibilities include:

- A. With the Department, coordinates with the registry to provide referrals.

TIMBERLAND PRODUCTIVITY

Board powers and responsibilities include:

- A. Provides final approval for re-zoning TPZ lands

APPENDIX D: STATUTES RELATED TO THE BOARD OF FORESTRY AND FIRE PROTECTION**GENERAL POWERS AND RESPONSIBILITIES****§ 710. Limitations on Powers**

The director shall have no power to amend or repeal any order, regulation, ruling, or directive of the board.

§ 730. Existence; members; appointment; references; supplies and signs.**§ 731. Qualifications of members.****§ 731.1. Members from forest products and livestock industries; conflict of interest.****§ 732. Tenure of members.****§ 733. Staggered terms.****§ 735. Compensation of members; expenses.****§ 736. Headquarters; meetings; quorum.**

Five members necessary for quorum, five affirmative votes necessary for Forest practice regulations, meetings in public.

§ 737. Conflict of interest.**§ 738. Chairman; vice chairman.****§ 739. Rules and regulations.****§ 740. Representation and protection of state's interest in forestry.**

The **board shall** represent the state's interest in the acquisition and management of state forests as provided by law and in federal matters pertaining to forestry, and the protection of the state's interests in forest resources on private lands, and shall determine, establish, and maintain an adequate forest policy. General policies for guidance of the department shall be determined by the board.

§ 741. Range Management Advisory Committee.**§ 743. Forest resource utilization plans.**

Agencies to submit plans and results of investigations into forest resource utilization for review and comment to Board. Board may contract with Agencies to investigate forest management.

§ 745. Public information programs.

The **board shall** implement a public information program on matters involving forest management and shall maintain an information file on forest management research and other pertinent matters.

PROFESSIONAL FORESTERS

§ 759. Rules and Regulations.

The Board may adopt regulations for this article.

§ 760. Meetings to consider registration matters; time.

§ 760.5. Staff personnel; executive officer; civil service.

§ 761. Records.

§ 762. Certificates of specialization.

The Board may issue certificates of specialization.

§ 763. Examining committee; membership; duties.

The Board shall establish an examining committee

§ 767. Application for license; fee.

Must apply to the Board for license

§ 768. Demonstration of experience and knowledge.

§ 769. Qualifications.

§ 770. Examinations.

Board to give examinations

§ 772. Certified specialist; registration; specialties.

§ 774. Denial of license; reapplication conditions.

§ 775. Investigations; suspension or revocation of license.

Board may investigate and suspend or revoke licenses.

§ 776. Limitations of actions; law governing.

§ 777. Mode of discipline.

§ 778. Causes for disciplinary action.

§ 778.5. Criteria development; disciplinary action.

§ 782. Fee schedule.

§ 783. Default in payment of renewal fee; effect.

PREVENTION AND CONTROL OF FOREST FIRES

§ 4002. Definition of Board

§ 4102. Definition of State responsibility areas

Areas defined by the Board

§ 4111. Forest fire prevention and suppression regulations.

The **board shall** make and enforce such regulations as are necessary and proper for the organization, maintenance, government, and direction of the fire protective system for the prevention and suppression of forest fires which is provided for in this article.

§ 4114. Fire Plan

(a) The department, in accordance with a plan **approved by the board**, shall do all of the following: (Provide apparatus, organize crews, employ people, etc.)

§ 4125. State responsibility areas; classification by board; county assessors to receive maps identifying lands classified as state responsibility.

The board shall classify all lands within the state... for the purpose of determining areas in which the financial responsibility of preventing and suppressing fires is primarily the responsibility of the state....

§ 4126. Lands included in SRA

§ 4127. Lands excluded from state responsibility areas.

§ 4128. Designation of boundaries of state responsibility areas.

§ 4128.5. State responsibility areas; legislative intent; draft element or draft amendment; unincorporated territory; recommendations; adoption.

...prior to the adoption or amendment of the safety element of its general plan, the planning agency in each county which contains state responsibility areas shall submit the draft element or draft amendment to the board...

§ 4129. County SRA Responsibility

...the county elects to assume responsibility for the prevention and suppression of all fires on all land in the county, including lands within state responsibility areas when the Director of Forestry and Fire Protection concurs in accordance with **criteria adopted by the State Board of Forestry and Fire Protection...**

§ 4130. Intensity of fire protection, classification of land by board.

...A plan for adequate statewide fire protection of state responsibility areas shall be prepared by the board...

§ 4131. Fire protection funds, allocation.

... If funds available are less than the estimated adequate cost of such plan the board shall determine whether the intensities of fire protection shall be reduced or withdrawn...

§ 4136. Transfer of Real Property

§ 4143. Authority to enter into agreements

...Personnel or equipment shall not be assigned to any location or assigned pursuant to Section 4144 if such an assignment would not meet policy and standards **established by the board**.

§ 4144. Conditions for agreements

The director shall not enter into or renew a cooperative agreement.... If the director determines, pursuant to the policy and standards **adopted by the board** under Section 4143, that the agreement would replicate services provided under an agreement made pursuant to Section 4142

§ 4173. Conditions for unreasonable hazards

The board shall establish standards... for what constitutes a hazardous condition in those instances not covered by state law...

§ 4251. Hazardous fire area.

"Hazardous fire area" means any area which is designated as a hazardous fire area **by the board** or director pursuant to Section 4252 or 4353.

§ 4252. State board of forestry, designation of area, petition, boundaries, time.

Upon the written petition... **the board may** designate such area as a hazardous fire area..

§ 4255. Smoking and fires in area; prohibition; camping.

The board may designate by regulation campgrounds or campsites within hazardous fire areas...

§ 4290. Regulations implementing minimum fire safety standards related to defensible space applicable to state responsibility area lands.

The board shall adopt regulations implementing minimum fire safety standards related to defensible space which are applicable to state responsibility area lands...

§ 4443. Engine design and use

The board shall, by regulation, specify standards for construction, equipment, and maintenance of such engines for the prevention of fire...

§ 4466. Authority to prepare model plans

§ 4467. Content and preparation of the plan

§ 4475. Contracts for prescribed burning

The director, with the approval of the Director of General Services, may enter into a contract for prescribed burning or other hazardous fuel reduction that is consistent with this chapter and the **regulations of the board...**

§4475.5. Cost share standards

(b) **The board shall adopt regulations** establishing standards to be used by the director in determining the state's share of these costs and in determining whether, pursuant to Section 4475, the public benefits of a prescribed burning operation or other hazardous fuel reduction will equal or exceed the foreseeable damage therefrom.

Z'BERG-NEJEDLY FOREST PRACTICE ACT

§ 4514. Limitation of powers and rights.

§ 4514.3. Exemption from waste discharge requirements; conditions.

§ 4514.5. Writ of mandate.

§ 4515. Report to Legislature on actions taken.

Board to submit report annually to legislature on action taken, and recommendations.

§ 4516.5. County recommendation of rules and regulations; timber operations; board rules and regulations; limitation on enforcement and validity of local ordinances, rules and regulations; applicability of section.

§ 4516.6. Delay between approval and commencement of timber operations; waiver; appeal of approval.

§ 4516.8. Recommendations by counties for adoption of additional rules and regulations.

§ 4521.3. Board.

§ 4525.5. Rules.

§ 4526. Timberland.

§ 4528. Additional definitions.

§ 4531. Establishment of districts.

§ 4537. Committee meetings.

§ 4538. Designation of district secretary; duties.

§ 4540. Duties of committees.

§ 4551. Adoption of district forest practice rules and regulations.

The **board shall adopt** district forest practice rules and regulations for each district...

§ 4551.3. Sustained yield plan; effective period; monitoring process; public hearings; notice.

§ 4551.5. Application and development.

§ 4551.7. Site preparation.

§ 4551.9. Mapping requirements

§ 4552. Basis of rules and regulations; standards for preparing harvesting plans.

The rules and regulations **adopted by the board** shall be based upon a study of the factors that significantly affect the present and future condition of timberlands and shall be used as standards by persons preparing timber harvesting plans. In those instances in which the board intends the director to exercise professional judgment in applying any rule, regulation, or provision of this chapter, the **board shall include** in its rules standards to guide the actions of the director, and the director shall conform to such standards, consistent with Section 710.

§ 4553. Review and revision of rules and regulations.

The rules and regulations shall be continuously reviewed and may be revised..

§ 4554. Public hearing for adoption or revision of rules, etc.; notice.

Public hearing required for adoption of rules.

§ 4554.5. Rules and regulations; effective date.

§ 4555. Withholding decisions; emergency regulations.

If intent of chapter is not provided for, director may request the Board to adopt emergency regulations.

§ 4561. Stocking standards; management; exemption.

§ 4561.1. Application of standards; board standards.

§ 4561.5. Permanent stocking standards; adoption and amendment.

§ 4561.6. Stocking standards applicable to operations damaged by disaster; adoption; extension of stocking time; considerations.

§ 4562. Fire protection zone rules.

§ 4562.5. Control of soil erosion; investigation; report; regulations.

§ 4562.7. Protection of streams; rules.

... the **board shall adopt** rules for control of timber operations which will result or threaten to result in unreasonable effects on the beneficial uses of the waters...

§ 4562.9. Maintenance of installed drainage facilities and soil stabilization treatments; regulations.

§ 4571. Necessity of license.

No person shall engage in timber operations until that person has **obtained a license from the board**.

§ 4572. Form and content of application; procedures; filing fee.

§ 4573. Reasons for denial.

§ 4574. Term of licenses; denial of renewal.

§ 4576. License, suspension or revocation

§ 4577. Delegation of authority.

§ 4582. Contents of timber harvesting plan.

§ 4582.3. Notice of intent to harvest timber; adoption of regulations.

§ 4582.7. Review of plan; public comments; time; hearing; determination by board and director.

If the director determines that the timber harvesting plan is not in conformance with the rules and regulations of the board or with this chapter, ...the person's right to a hearing **before the board...**

§ 4582.75. Rules as criteria for reviewing timber harvesting plans.

The rules adopted **by the board** shall be the only criteria employed by the director when reviewing timber harvesting plans pursuant to Section 4582.7.

§ 4582.9. Appeal of approved plan; conditions of filing; suspension of timber operations; hearing.

Appeal by agencies of approved plan to Board.

§ 4583.5. Disciplinary action for material misstatement in filing of plan or report.

§ 4584. Exempt activities.

§ 4586. Work completion report

§ 4587. Stocking report; filing date; sampling procedures; waiver.

§ 4590. Effective period of the plan

§ 4591.1. Permissible deviations.

§ 4592. Emergency authority

Emergency situations defined by the Board.

§ 4593.3. Filing of plan; preparation; contents.(NTMPs)

§ 4593.4. Notice of receipt of plan.

§ 4593.7. Review of plans; non-conforming plans; denial of plans, appeals.

§ 4593.8. Amendment of approved plan.

§ 4593.9. Nonsubstantial deviations from plan.

§ 4594.4. Material misstatement by professional forester; disciplinary action.

CIVIL PENALTIES

- § 4601. Penalties (Civil Penalties, includes procedures for review by the Board)
- § 4601.1. Penalties, procedures
- § 4601.2. Administrative civil penalty.
- § 4601.3. Judicial review.
- § 4601.4. Violation of rule or regulation not resulting in environmental damage; infraction.
- § 4601.5. Fines for infractions; correctable violations.
- § 4603. Action to enforce compliance.
- § 4604. Inspections
- § 4605. Injunctions
- § 4606. Scope of injunctions
- § 4608. Notice of corrective action; form; contents; service; lien.
- § 4609. Action upon noncompliance with notice; public hearing by board; order.
- § 4611. Entry upon land to take corrective action; civil liability.
- § 4612. Report on penalties and fines imposed and collected.

CONVERSIONS

- § 4621. Application for conversion; procedure, form and content to be prescribed; fees.
- § 4621.2. Proposed alternate use; information; findings required for approval.
- § 4623. Affidavit of intent to convert land; additional proof of intent.
- § 4624. Denial of conversion permit; reasons.
- § 4624.5. Hearing on denial of permit.
- § 4625. Approval of application for permit.
- § 4626. Revocation of permit.
- § 4627. Delegation of authority.
- § 4628. Exemption from regulations; right-of-way construction or maintenance; subdivision development.

STATE FORESTS**§ 4645. Management, protection and reforestation of state forests.**

The department, in accordance with plans *approved by the board*, may engage in the management, protection, and reforestation of state forests.

§ 4646. Administration of chapter.

The director, acting in accordance with policies *adopted by the board*, shall administer this chapter. He may exercise all powers necessary to accomplish its purposes and intent.

§ 4648. Approval of forest land acquisition, basis, resolution, notice, and hearing; negotiation for and consummation of purchase.

Approval by the director shall be based on satisfactory evidence presented to him *by the board*...

§ 4649. Agreements with Department of Corrections or Youth Authority.

Whenever it is deemed advisable and advantageous, the *board may* enter into an agreement with the Department of Corrections, or the Youth Authority for employment of inmates of these institutions in work on state forests.

§ 4651. Regulations for management of state forests, preparation, approval, content; sale of raw materials.

The management of state forests... shall conform to regulations prepared by the director and **approved by the board.**

§ 4653. Sale of state lands

State-owned lands classified by the department and **approved by the board** as not suited...

§ 4656. Use of state forests, recreation, grazing, mining, irrigation, power.

The use of state forest lands for grazing and mining purposes shall be permitted pursuant to regulations **established by the board.**

§ 4656.1. Rules and regulations.

The **board may** establish rules and regulations..

§ 4656.2. Violation of rules and regulations; offense.

§ 4656.3. Violations on State forests

§ 4662. Advisory committee

PROTECTION OF FOREST AND LANDS

§ 4671. Development, use, and protection of state forest and wild lands; agreements.

§ 4672. Surveys.

§ 4681. State nurseries, purpose

§ 4684. Prices for nursery stock and seed; establishment and approval.

...sold at prices that are established by the department and **approved by the board.**

§ 4701. Land suitable for forestry; contributions for maintenance.

The director, upon the recommendation **of the board**, may accept on behalf of the state gifts of land...

§ 4702. Acceptance of land or contributions; conditions or restrictions.

The acceptance of the land or contributions shall be subject to such conditions or restrictions **as the board deems** advisable..

§ 4712. Definitions.

§ 4715. Agreements for insect and plant disease control.

The department, in accordance **with policy established by the board**, may enter into agreements..

§ 4716. Zone of infestation or infection, creation, boundaries; eradication or control.

, the director, **with the approval of the board**, may declare the existence of a zone of infestation or infection...

§ 4718. Dissolution of zone; approval of board.

§ 4723. Acquisition of land containing growing Sequoia Gigantea.

the department, on favorable recommendation **of the board**, may acquire any forested lands on which are found...

- § 4731. Formation of corporations.
- § 4732. Shares of stock, par value; articles of incorporation, contents.
- § 4736. Board's approval; corporate operations; regulations.
- § 4737. Board's examination of corporate property; reports; costs.

§ 4741. Assistance to local governments.

In accordance with policies *established by the board*, the department shall assist local governments..

§ 4750.7. Plan for Sudden Oak Death management

§ 4785. Reports regarding experiments.

The department shall from time to time prepare reports setting forth data as to the experiments so conducted and its findings and conclusions with reference thereto and submit these reports *to the board* for its guidance and assistance in determining the policy to be followed by the board with reference to range and forage lands. The *board shall* make these reports available to the Legislature.

§ 4787. Regulations.

The department, *with the approval of the board*, may make such regulations as are necessary to effectuate the purposes of this article.

FOREST AND RANGELAND RESOURCES ASSESSMENT AND POLICY ACT

§ 4789.2. Definitions

§ 4789.3. Forest and rangeland assessment and analysis.

Under policy guidance *from the board* and in consultation with the Secretary of the Resources Agency, the director shall prepare and *submit to the board* and the Secretary of the Resources Agency, a preliminary forest and rangeland resource assessment and analysis... *the board may appoint* advisory committees it deems necessary...

§ 4789.4. Forest resource policy statement.

Based on a review of the assessment prepared pursuant to Section 4789.3, and consistent with Sections 740 and 4513, *the board shall* prepare a forest resource policy statement.

§ 4789.5. Hearings.

§ 4789.6. Forest management; research and recommendations; information storage and retrieval program.

The board, assisted by the director, *shall* biennially determine state needs for forest management research and recommend the conduct of needed projects to the Governor and the Legislature.

§ 4789.7. Cooperation with federal agencies.

FOREST RESOURCES IMPROVEMENT

§ 4794. Forest resource improvement work; agreements and loans; purposes; allocation of funds; qualifications.

Consistent with this section, the director shall prepare, and **submit to the board for its review and approval**, guidelines further specifying the scope of forest resource improvement work for which agreements may be entered into or loans made pursuant to this chapter.

§ 4795. Agreements with eligible landowners for forest resource improvement projects in return for share of costs.

the director shall submit a schedule further specifying cost share percentages **to the board for its review**. The schedule shall apply to all agreements made pursuant to this section **unless the board acts** to change the schedule within 75 days of its submission by the director.

§ 4796. Loans relating to forest resource improvement projects or work; mortgage or deed of trust to secure; recordation; release from payment.

§ 4799. Eligibility for participation in agreement or loan; additional requirements.

Consistent with this section, the director shall prepare, and **submit to the board for its review and approval**, guidelines specifying the factors to be considered and information which should be included in management plans submitted pursuant to this section.

§ 4799.01. Allocation of available funds among projects; factors; preferences; guidelines for criteria.

The board shall review, approve, or amend the guidelines that the director shall follow when carrying out this chapter.

§ 4799.02. Regulations; guidelines or publications; promulgation by director; approval; contents.

Such regulations, guidelines, or publications shall be **submitted to the board** for review or approval when required by this chapter and, even if not required, when deemed appropriate by the director for his or her guidance.

URBAN FORESTRY

§ 4799.12. Grants.

guidelines **established by the board...** Other categories of projects recommended by the director and **approved by the board**.

TIMBERLAND WILDLIFE STUDY

§ 4800. Legislative intent.

CALIFORNIA FOREST LEGACY PROGRAM

§ 12220. Definitions

§ 12249. Board authority

The board shall adopt rules and regulations for the implementation of this division, including the standards, criteria, and requirements necessary for acquiring conservation easements.

§ 12249.5. Board regulations

PLANNING AND LAND USE

§ 65302.5. General Plan review

The draft element of or draft amendment to the safety element of a county or a city's general plan shall be **submitted to the State Board of Forestry and Fire Protection...**

The State Board of Forestry and Fire Protection shall, and a local agency may, review the draft or an existing safety element and report its written recommendations to the planning agency within 60 days of its receipt of the draft or existing safety element.

CALIFORNIA CLIMATE ACTION REGISTRY**§ 42823.**

The registry shall coordinate with the Department of Forestry and Fire Protection **and the State Board of Forestry and Fire Protection** to provide referrals to providers

§ 42823.1.**TIMBERLAND****§ 51102. Legislative declarations; state policy.**

forest practice rules **adopted by the State Board of Forestry and Fire Protection** shall not be or become restricted or prohibited due to any land use in or around the locality of those operations..

§ 51113. Petition to zone land as timberland production; hearing criteria.**§ 51133. Application for conversion; tentative and final approval.**

The board or council shall forward its tentative approval to the **State Board of Forestry and Fire Protection**, together with the application for immediate rezoning