

Management of Dead Wood: Perspectives of a State Forestry Agency¹

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A resolution adopted by the California Board of Forestry on July 20, 1887 (Raymond 1968) reads:

Whereas, the Government and laws are totally inapplicable to forest lands, giving neither protection to the public domain nor to legitimate lumber industry, these laws are notoriously evaded and entries under them have been fraught with fraud and perjury. To carry on the lumber industry at all, fraud is really a necessity. Besides these defects, the land system in relation to forests makes no provision for a continuous supply of timber, nor does it give any attention to the necessity of preserving a due proportion of forest for the maintenance of springs and streams and climatic conditions favorable to agriculture....

This document was not the result of an epiphany in the past few years. But are laws better suited to their stated purpose today?

The 1887 resolution has elements of a continuing theme of the Board: providing for sustainable use of natural resources, protection of valuable public resources such as water quality, concern about appropriate implementation of regulations, and using a system of regulation that assures the continued viability of the timber industry in California.

Those are simple words, but exceedingly difficult tasks. Everyone wants something from California's timberlands. Fish and wildlife depend on it for productive and protective habitat, loggers depend on it for a living wage and job satisfaction, urban areas need a dependable supply of clean water, some environmentalists seek a religious experience, many desire recreational opportunities, and all of us depend on these lands for a steady supply of wood for an ever increasing population.

Since the Board of Forestry was formed in 1885, there has been a constant evolution of regulatory structure to address the widely varying demands placed on our timberlands. Initially, most of the emphasis was placed on wildfire suppression and reforestation. That focus shifted substantially in the late 1960s and early 1970s. Up to that time, the Board of Forestry was primarily a creature of the timber industry

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and reflected those priorities of assuring future crops of trees. As a result of a court decision, the Legislature changed the Board composition such that the majority represented the public and its interest in the management of timberlands. The Z'berg-Nejedley Forest Practice Act of 1973 (Public Resources Code §4511, *et seq.*) followed and clearly established that many resource values, such as water quality, aesthetics, and wildlife protection were important as well. The Act primarily provided that the productivity of California's forest lands be maintained and enhanced "while giving consideration" those associated natural resource values, and that language remains today (Public Resources Code §§4512, 4513). The focus, however, continues to evolve with a shift that elevates non-timber values.

As California continues to grow and more people are moving into the less populated areas of the state, demands on our forestlands grow as well—more for the associated values than for the timber those lands can supply.

The 1973 Forest Practice Act began a dynamic process of rule development, application, review, and adaptation that continues today. Today's California Forest Practice Program is comprehensive, prescriptive, and expensive. It is also accused of being unnecessarily burdensome and not founded in good science.

With the increased involvement of the National Marine Fisheries Service (NMFS) and the Environmental Protection Agency (EPA) in their enforcement of Federal laws, the California timber harvesting regulatory process, touted by many as the most stringent in the nation, has become more regulated. In the case of coho salmon (*Onchorynchus kisutch*), the NMFS has simply stated that the rules do not adequately protect the habitat of anadromous salmonids. In the case of compliance with the Clean Water Act, the EPA has concluded that the rules do not adequately address the problem of sedimentation. Environmental groups compared California's practices to those envisioned on Federal lands in the Pacific Northwest (i.e., Forest Ecosystem Management Assessment Team [FEMAT]; Anonymous 1993) and found them inadequate.

A founding principle of the Board was, and continues to be, to care for the landscape and its associated natural resources. The priorities of California policymakers in developing regulatory mechanisms in the management of both public and private land has changed significantly as the roles of ecological attributes are better understood. In California, up until the mid-1970s, the key for protection of those resources was in the area of fire prevention and suppression.

This was particularly evident in regulations adopted for control of harvests on non-Federal lands in 1948. One regulation required that any snag within a harvest area that was 16 inches DBH and 20 feet tall or more, had to be cut down. The purpose of that regulation was to reduce the risk of fires spreading to snags and throwing sparks for long distances.

That regulation remained in place until the mid-1970s. With the advent of more knowledge and concern about the effects of timber harvesting on avian species, particularly those listed under the State or Federal Endangered Species Act, rules adopted by the Board not only established minimum retention standards for specific species of birds, but provided that snags should be retained for wildlife habitat—despite the heightened market potential of that resource. Salvage of snags and other dead wood was essentially unknown in the 1940s and 1950s, and real market value was not present until the late 1970s. Today's regulations require snag retention. They may be removed only if required by the Director of the Department of Forestry and

Fire Protection and they are within 100 feet of main ridges suitable for fire suppression and identified on a Timber Harvesting Plan map, or if they are within 100 feet of roads and railroads. Other exceptions include safety hazards, disease or insect control, or when felling would not result in adverse impacts to wildlife habitat.

Emerging challenges are statute and regulations providing for exemptions for removal of dead and dying timber (Public Resources Code §4584; Title 14 California Code of Regulations §1038(b)). These exemptions are exempt from the necessity of preparing a Timber Harvesting Plan and interdisciplinary review. There is concern that such activities may be resulting in significant adverse environmental impacts, despite the underlying presumption, by both the Legislature and the Board, of insignificant environmental effects.

Over the past several years more attention has been centered on retention and recruitment of large woody debris (LWD) in and near watercourses. This is a radical change from earlier regulatory approaches to fisheries habitat.

I can recall going to a presentation by the Department of Fish and Game in 1973 with a number of forest industry people in Humboldt County. Included in the pictures presented was one of a stream with a large amount of wood in the channel, apparently preventing the migration of anadromous salmonids. The presenter then showed a picture after state crews had rehabilitated the channel. My supervisor, a forester, described it as an ecological desert. There was no wood in the channel and a tractor had been used to develop a relatively straight and diked watercourse. There is no question that harvesting in the earlier part of the century through the 1960s delivered massive quantities of wood debris to watercourses, probably in excess of that required in a healthy riparian system. The reaction, unfortunately, has resulted in problems we live with today in terms of biological and hydrologic problems and the mindset that dead stuff in the streams reduces fish habitat and enhances flood events.

In contrast to that presentation is one presented by the Department of Forestry and Fire Protection in an appeal hearing of a Timber Harvesting Plan at a recent Board of Forestry and Fire Protection meeting. A picture was presented that showed a large amount of LWD in a watercourse and trees that leaned into the watercourse. It looked as “bad” as the pictures used by the Department of Fish and Game almost 30 years ago, but those conditions were now characterized as demonstrating a healthy environment for fish and providing effective sediment metering for that watershed.

Although changes in agency perceptions of appropriate management of LWD in watercourses played an important role in interagency review of Timber Harvesting Plans, no regulations actually addressed that resource. The Board of Forestry made some initial rulemaking in the early 1990s to address the need for recruitment of LWD by requiring that at least two living conifers /acre greater than 16 inches DBH and 50 feet tall be retained within 50 feet of Class I and II streams.

The Scientific Review Panel, a result of an agreement between former Governor Wilson and NMFS, recently provided the California Resources Agency a report of its comprehensive review of the present Forest Practice Rules as they relate to the protection and enhancement of anadromous salmonid habitat (Rynearson and others 1999). That report recommended permanent retention of 10 trees of the upper 20 percent of the diameter distribution per 330 feet of stream channel within 50 feet of the transition line. That recommendation is included in a regulatory proposal considered by the Board during the winter of 1999-2000 for adoption.

The Board is also entertaining proposals that would enhance dead wood throughout the hillslope. Many people feel the Forest Service model described in the Forest Ecosystem Management Assessment Team report should serve as a basis for retention and recruitment standards. It is important to remember that most of those lands that the Board regulates are in private ownership. Thus, in order for the Board to craft regulatory standards, it must consider the issue of violating the constitutional protections against the seizure of private property without compensation.

From a regulatory standpoint, direct prescriptions for retention and recruitment are the subject of a great deal of commentary—too much or too little, depending on the interest of the person. Most importantly, regulations that are general by their nature are not well suited to address site-specific needs. The Board recognizes that comprehensive watershed assessment is the ideal direction to take. Near term solutions in the form of statewide regulations must give way to meaningful specific watershed analyses.

The laws developed to protect resources are inadequate if they are not implemented. That appeared to be the frustration of the Board back in 1887. Requiring something to be done simply because it is the best available technology or best management practice is insufficient if no one actually does it. It is even worse if, later on, it is found to be the antithesis of what is really needed.

Nearly three decades ago, the Society of American Foresters (SAF) defined forestry as “managing and using for human benefit the forestlands and natural resources that occur on and in association with forestlands, including trees, other plants animals, soil, water, and related air and climate” (Ford-Robertson 1971). Less than 2 decades later, SAF significantly changed the focus to “the science and art of attaining desired forest conditions and benefits” (Anonymous 1989). An element of the definition is to “sustain and enhance forest resources for diverse benefits in perpetuity.”

In the earliest stages of its rule-making efforts under the Forest Practice Act, the Board emphasized a species-specific approach to habitat management and protection. This is particularly evident in the Board’s regulations for owls, eagles, and ospreys, to name a few. Regulatory policy is shifting from that species-specific approach to a landscape-based approach to wildlife and watershed management. To be effective, such policy requires stakeholder understanding and support. This is best achieved through education and incentive-based approaches, although some level of prescriptive regulation is unavoidable.

As is evidenced by the broad array of dead wood values that were framed in topical presentations at this symposium, it is clear that dead wood is more than a simple residence for birds or habitat component for fish. The difficulty is applying this kind of information on lands. In a landscape consisting of competing resources, competing land uses, and even competing regulatory frameworks, there will be change in our regulatory process, but in all likelihood it will be compromise of some sort.

There are going to be changes in the Board’s view of appropriate forest management, but it is a continuation of thoughts that began with the Board in 1885. There is no question that some of those changes will reflect an increasing appreciation of the role of dead wood in a healthy ecosystem.

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