

# Social and Environmental Issues in Developing Vegetation and Fire Management Plans<sup>1</sup>

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**Abstract:** To reduce the risk of wildfire in the California urban interface often requires actions that will be viewed by members of the public as having adverse effects on such resources as wildlife, vegetation, views, air quality, and recreational opportunities. These citizens can substantially delay and even thwart development of fire management plans. In developing such a plan for an area in southern Marin County, California, public agency staff and its consultants encountered significant public opposition. The successful completion and adoption of the plan required an extensive public participation process. The rationale and format for the public participation process are described. As important as the format selected is the mindset of the staff and consultants involved in the process. The attitude of "care" on the part of staff and consultants is investigated and found to be a critical attribute in dealing with the public on controversial plans.

The preparation of a plan for managing vegetation to reduce fire hazard in the urban interface requires not only the involvement of the necessary scientific and professional experts but a willingness by the lead agency staff and any consultants engaged by the lead agency to thoroughly and objectively comply with environmental review requirements (e.g., National Environmental Protection Agency [NEPA] or, in California, possibly California Environmental Quality Act regulations). This environmental review must include an open dialogue with environmental and community groups who may have significant questions and concerns regarding proposed vegetation manipulation. To ignore these questions or concerns can significantly delay approval and implementation, jeopardize eventual implementation of the plan, and/or foster a future atmosphere of distrust between the agency and the local community. Active and wholehearted inclusion of the public, including critics, can result in more environmentally sensitive plans than might otherwise be the case. Ultimately, dialogue with the public improves the chance of plan adoption and implementation, and it can foster an environment wherein the public is more confident of agency sensitivity to environmental and social concerns when making future land use decisions.

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## Preparing a Plan for Southern Marin County, California

The Marin Municipal Water District (MMWD) owns 19,000+ acres in southern Marin County, California. This acreage is the primary watershed that MMWD uses to produce and store water provided to 57,000+ residential and business customers (i.e., hookups) in southern Marin County. This property plus an adjacent 1,200 acres owned by the Marin County Open Space District (hereafter referred to as the Study Area) is heavily used for recreational purposes. The numerous Study Area ridges capped by Mount Tamalpais, the tallest mountain in the area, provide the undeveloped visual backdrop for the many urban communities in the area. The 20,000+ acres that comprise the Study Area are considered by the public as one of the region's most important "resources."

The problem with this splendid resource is that the Study Area wildland borders residential neighborhoods of six cities as well as several unincorporated communities. The urban interface is a classic example of California development, with extremely expensive homes built on steep ridges where the trees and chaparral of the wildland interpenetrate the residential areas. No border separates the wildland and the developed areas. And wildland vegetation, or fuels, surround the residences for a considerable distance from the Study Area boundary. Access to the interface areas is limited; water storage and delivery systems are inadequate. The fire hazard is rated very high to extreme throughout the interface. Marin County is one of the wealthiest counties in the United States, and many of the most expensive homes in the County are located in this interface.

The Marin County Fire Department (MCFD) has responsibility for suppression of wildland fires in the Study Area. In the early 1980's, MCFD became concerned about the buildup of fuels on the Study Area and the consequent threat to adjacent residential neighborhoods. From 1982 to 1985, with MMWD approval, MCFD conducted a series of prescribed burns in the remote northern portion of the Study Area. In the autumn of 1985, MCFD conducted a prescribed burn on the south face of Mount Tamalpais that adjoins the community of Mill Valley. The objective of this burn was to burn off most of the chaparral on the south face of the mountain and the adjacent Marin County Open Space District (MCOSD) owned Northridge property. Soon after this prescribed burn was initiated, the weather quickly and drastically changed with the result that only small patches of chaparral rather than the targeted several hundred acres were burned.

These small burned patches on the mountain were perceived by a number of individuals as "scars" on the face of a beloved

mountain, scars that had no effect on reducing fire hazard. Concurrent publication of analyses of the botanical effects of the earlier Study Area burns conducted by an independent reviewer described how those burns had produced several adverse effects on chaparral vegetation (Parker 1986, Parker and Kelly 1984). Given the identified adverse effects on vegetation and the visual scarring created by prescribed burns, a number of individuals mobilized opposition to a new (1986) MCFD proposal to conduct prescribed burns on the south face of the Mount Tamalpais. The Districts received letters of opposition from more than 50 individuals including representatives of most of the major environmental organizations active in the area. The Sierra Club Legal Defense Fund, among others, stated that an Environmental Impact Report must be prepared before any consideration of future burning.

MMWD then contacted our firm, Leonard Charles and Associates (LCA), about what work would be required to supplement the State's Program Environmental Impact Report (EIR) on chaparral burning in order to meet the California Environmental Quality Act (CEQA) requirements.<sup>3</sup> After meeting with our staff, MMWD determined that the State's Program EIR was insufficient to meet the stated requests for additional analyses and information. MMWD and MCOSD engaged LCA and Wildland Resource Management to conduct a series of Scoping Meetings with the public to determine what studies were required. Three meetings were held with representatives of environmental organizations and homeowners associations, local fire protection agencies and other pertinent public agencies, and the general public.

The consensus of these meetings was that before developing a plan for managing Study Area vegetation, the resources on the Study Area needed to be identified as well as the fire hazard probability, and the future state of the environment under existing management (existing management was primarily "letting nature take its course" and active fire suppression of all ignitions). LCA and Wildland Resource Management were engaged to prepare the Baseline Studies (Leonard Charles and Associates and Wildland Resource Management 1991). This report included a complete survey and description of vegetation on the Study Area, an analysis of fuels, computer gaming of wildfire behavior, mapping of fire hazards, analysis of future vegetation succession given current management, and installation of a Geographic Information System (GIS). The conclusions of these Baseline Studies were that there was an extreme fire hazard on most of the Study Area and in the surrounding residential areas. In addition, a number of threats to existing plant communities and species given existing management were identified.

The Districts determined that a Vegetation Management Plan (hereafter called the Plan) was required to address these concerns. After a competitive bidding process, LCA was engaged to prepare this Plan and the EIR for that Plan.

<sup>3</sup> Since this paper was originally presented, MMWD has certified the Final EIR for the Plan and has adopted that Plan. The Plan was adopted in October 1994. MMWD is currently implementing the Plan.

The Baseline Studies took nearly 2 years to complete. A Draft Vegetation Management Plan was completed in 1.5 years and accepted by the Districts in autumn 1993. The Draft EIR was scheduled to be published in early March 1994. By the time EIR review is completed and the Districts certify the EIR and act on the Plan, it will have been about 4 years since the planning process began.

## Plan Contents

The Draft Plan is a site-specific description of vegetation manipulation to construct a series of fuel reduction zones on about 1,100 acres. A description and mapping of the prescriptions for more than 300 sites (i.e., polygons) are included with a description of the implementation of each technique, and monitoring requirements. The techniques recommended include manual and mechanical cutting of chaparral and woodland understory, thinning of overstocked coniferous stands, and prescribed burning of woodland understory, grasslands, and chaparral.

The Plan also includes programs for controlling and eliminating invasive, non-native plant populations, restoring threatened meadows/grasslands and oak woodlands, protecting and restoring rare plant populations, and upgrading road and water delivery systems. A complete monitoring format is included as well as staffing recommendations. Coordinated Resource Management Plans and Memoranda of Understanding programs are identified for critical areas of the Study Area perimeter that are owned by other agencies or individuals. The costs for treating each polygon are estimated, and a complete fiscal analysis and funding plan are included. Finally, the Plan includes detailed recommendations for work required in the urban interface outside the Study Area. The Draft Plan, including Technical Appendices and the Baseline Studies, includes over 2,000 pages of text. Prescriptions are mapped on large format maps. Baseline data and prescriptions are stored in the GIS.

## Plan Preparation

All the time, effort, and costs of preparing these studies and plans may not have been necessary if the vegetation management were proposed in an isolated, rural area of the state or in areas that had recently and/or repeatedly witnessed the residential destruction implicit in urban interface wildfires. However, Marin County is an urbanized area, and a major wildfire has not occurred in the southern half of Marin County since 1945. Thus, a number of individuals and organizations had serious doubts about any plans to make the area "safer" by burning the vegetation on a treasured mountain and watershed.

Some may believe that MMWD and MCOSD should have opted to quickly proceed with preparation of a plan to alter vegetation and invited public participation only to the degree required by pertinent environmental and planning laws. From this perspective, planning should be the job only

of those who ensure public safety and manage Study Area resources, such as fire protection and ecological experts. This perspective ignores the influence of the environmental organizations. It ignores that the environmental organizations and other interested parties have already complained about past management activities. It ignores the request for a full EIR made by the Sierra Club Legal Defense Fund and others. It ignores the independent analyses of Study Area burns that indicate adverse effects on vegetation. It ignores numerous articles in the scientific literature that warn against too frequent burning of chaparral and burning "out of season" (J.E. Keeley 1989, S.C. Keeley 1989, Parker 1987). It ignores the fact that MMWD and MCOSD are agencies with elected boards who must maintain a thorough dialogue with the public they serve. And it ignores that an educated public input can provide data and perspectives not available to staff and consultants and potentially improve staff/consultant-prepared plans.

Letters to the Districts opposing any additional burning on the mountain were not submitted only by local citizens. Such renowned scientists and authors as G. Ledyard Stebbins (1986), Peter Raven (Director of the Missouri Botanical Garden) (1986), H. Thomas Harvey (principal of Harvey and Stanley Associates, Inc.) (1987), and many other professors and scientists submitted letters opposing future prescribed burning or, at least, requesting that an EIR be prepared prior to consideration of such burning. The California Department of Fish and Game (1986) recommended no burning on the south and east faces of Mount Tamalpais and the Northridge property.

The Districts were cognizant of the problems that might result if the community was not fully involved in the planning process. They wisely insisted that the Plan be prepared by a group that included all necessary areas of expertise including public participation experts. The 21-member team preparing the Plan included botanists, fire ecologists, foresters, wildlife biologists, archaeologists, geologists, hydrologists, cartographers, land use planners, and public participation consultants. The EIR was being prepared at the same time as the Plan which allowed pertinent experts to review preliminary Plan recommendations to ensure that prescriptions would not harm sensitive or valuable resources nor result in unacceptable impacts; this ensured that the eventual EIR would not expose unforeseen critical impacts or flaws in the Plan.

## Public Participation Component

While conducting the earlier scoping meetings and preparing the Baseline Studies, the opposition to any use of prescribed burning and, in many cases, to any manipulation of existing vegetation was evident. From the plan's inception, because of past disagreements, the agencies and any consultants they might hire were considered distrusted. The stated belief was that staff and consultants were simply developing a plan "to have something to do," "to manage for the sake of management," and to justify their jobs. Some believed that the Districts planned to proceed with prescribed

burning no matter what any studies showed, that their minds were made up, and that the Districts were unwilling to listen to opposing viewpoints. Many of these same individuals believed that the Study Area did not need management, nature would be better off left alone, and any fire hazard should be addressed by residents making their homes fire safe, rather than treating wildland vegetation.

Given this opposition and the stated distrust of management and consultants, the Districts insisted that the consultant team include experts in public participation. A full public participation program was conducted. This included:

- Five community meetings/presentations—The consultants made presentations of goals, objectives, and preliminary recommendations. Verbal and written input was obtained from the public. The meetings were organized, hosted, and supervised by the public participation consultants.
- An in-depth telephone survey of 400 MMWD ratepayers—The public's opinions were obtained about proposed goals, objectives, techniques, and financing.
- Presentations were made to the MMWD Board and MCOSD Parks and Open Space Commission, and input was received.
- Newsletters.
- Press releases.
- Complete reports prepared as technical appendices for all public participation efforts.

Informal meetings between MMWD staff and the consultants with various environmental and community groups were also important efforts. Robert Badaracco, the MMWD Land Manager, hosted a number of field trips with interested organizations and individuals. He leased small buses and vans and toured the top of Mount Tamalpais to show individuals some of the hazards that were being addressed in the Plan. Consultants generally accompanied him, and together they answered questions and responded to concerns.

MMWD under Mr. Badaracco's initiative and management hosted a 2-day symposium, "Vegetation Management in Natural Areas," on April 3-4, 1992. Symposium speakers addressed a range of issues regarding fire hazard reduction in the urban interface. One of the aims of the symposium was to expose the local community to the points of view of experts throughout California.

The consulting team and MMWD staff voluntarily made contacts with most of the major environmental organizations. They attended informal potlucks, field trips, committee meetings, and ad hoc meetings where they made presentations, answered questions, and received input and criticisms. They made repeated efforts to inform those who expressed the most concern about the Plan about their timetable, approach, and intentions.

LCA maintains that this type of public participation was essential to deal with controversial issues involving vegetation manipulation in such a sensitive area. The actual participation format and the mindset of the consultants or staff were

equally important. Many members of the community had become inured to typical “participation” meetings and approaches resulting in the common opinion that such meetings were simply an exercise, a sham, that allowed the lead agency to claim that it had actively sought public input. Individuals responsible for Plan preparation must be aware that he or she does not know everything and that there is value in divergent opinions. This is easy to say and it seems self-evident. However, when one has been working on a project for a long period of time, one begins to feel that one “knows” what needs to be done, what the effects of the recommendations are, what the benefits and costs are, etc. Changing course is difficult to consider once one has invested considerable time and energy developing a set of recommendations. To listen to points of view that are often diametrically opposite is difficult. To be directly or indirectly accused of bias and callousness towards plants, animals, views, etc. is difficult. And, to envision that one might actually be wrong is also difficult.

These critiques of one’s work and one’s self worth are not simply impassioned outcries. Many of the critics of the planning efforts for the Mount Tamalpais area are very familiar with the literature on the effects of prescribed burning in chaparral. They have reviewed prescribed burns done in other areas. They know where sensitive wildlife species occur in or near treatment areas. They are educated in the literature of ecological succession, restoration, etc. They are familiar with such alternative techniques as the use of foam and residential defensible space strategies. They are able to find the articles in the scientific literature that question or offer an opposite point of view to that held by most members of the scientific community. For example, a customized version of BEHAVE gaming was used to predict wildfire behavior on the Study Area; the exercise was used to gauge the efficacy of the recommended fuel reduction zones. Opponents to prescribed burning criticized the use of BEHAVE gaming as it was not developed for wildfire behavior in chaparral and were able to cite articles that likewise cited the limitations of BEHAVE.

The selective use of scientific articles to prove one’s point or corroborate one’s position is not a new phenomenon. Yet it remains a very effective means of blocking communication. Opponents using data from selected articles or selected sections of articles make a case that a recommendation or finding in the Plan is not accurate. They make these selections available to other individuals, many of whom are already prone to disbelieve the consultants. The consultants and staff are then accused of bias, of using only data that will support their position, and “if they are biased here, then how can we believe anything in this report.” Thus, if BEHAVE gaming in chaparral is inappropriate, as some claim, then the entire exercise is simply a means of frightening people by using inadequate data. One of the main aims of public participation is to be able to discuss, even argue, about these conflicting claims. And the consultant or staff must engage in these conversations willing to learn, willing

to admit one is wrong. Equally, one must be able to clearly argue one’s position in the case if the opposing view is clearly incorrect.

Although it is incumbent to act in a professional manner when working with the public, an equally important attribute is to care—to care about the environment that has been manipulated and to care about other people’s feelings and opinions. The care that consultants and staff brought to the meetings and dialogues with the public was critical in the planning process. Although all individuals still did and do not agree with the Draft Plan recommendations nor the data that were used to develop the recommendations, most people recognized that every effort had been made to be sensitive to environmental attributes but to also address the objectives of reducing the area fire hazard. They could see that staff and consultants cared about the same environment that they cared for and that while we might still be misguided, in their opinion, we were doing our best. This did not stop people from continuing to oppose certain aspects or to call for additional research when preparing the EIR. But for the most part the recriminations and untrusting atmosphere were eliminated from the final hearings of the Draft Plan.

This care and openness is best expressed in the small, informal meetings and conversations. By meeting in people’s homes or when on walks on the Study Area, issues may be discussed in a way that rarely occurs in formal meetings or presentations. Opportunities are available for people to see that staff or consultants are real people who are informed and care about the environment and the issues. This personal contact cannot occur in large, formal meetings. Too often, individuals, especially representatives of organizations, have a perceived agenda at these larger meetings, and the ability to actually converse is lost. The time and organizational constraints of these larger meetings also restrict the possibility of open dialogue. Staff and consultants should strive to make themselves available for such informal meetings, conversations, and field trips. The trust developed in these dialogues can then influence the more formal dialogue at larger public meetings and public hearings.

The Draft Plan is based on continual monitoring of actions so that prescriptions and programs can be amended if unforeseen adverse effects are realized. This built-in ability to alter the Plan combined with a trust of staff and consultants’ honesty helped assuage fears that the Districts were “running” over the public with a Plan that, once adopted, would eliminate the potential for future review and adjustment.

At the final public hearing where the MMWD Board heard testimony on the Draft Plan prior to approving it so that the EIR could be completed and distributed, representatives of most environmental organizations actually praised the Draft Plan for its sensitivity. Their remaining primary concern was how they were going to have some future voice in plan implementation (they sought some form of Citizens Advisory Committee), which is a political and not a planning issue. Although environmental organizations and other individuals remain concerned about the Plan, the

general praise for the consultants, staff, and the Draft Plan is an indication that, so far, our approach to working with the public is an effective planning tool.

Currently, the Draft EIR is being completed for the Draft Plan. The public and reviewing agencies will review the Draft EIR and submit comments asking for clarification or additional information. After responding to all comments, the Final EIR will be submitted to the Districts. Once the MMWD Board (as Lead Agency) determines that the EIR is complete, it will certify that document. At that point, the Board can take action to adopt the Plan, which will probably occur in May or June 1994.

## The Concept of Care

Preparation of a Vegetation or Fire Management Plan requires the full use of the expertise of various professionals. This paper has not focused on this expertise, nor the various approaches and techniques available for reducing fire hazard in the urban interface. Such approaches are the subjects for many of the other papers delivered at this symposium. Instead, this paper has focused on the often critical area of involving the public in preparing such a plan, because in addition to the basic professional knowledge, objectivity, and honesty that each participant in the planning effort must maintain, the attribute of care is helpful in resolving controversial planning matters. The American Heritage Dictionary defines the verb "to care" as: "to be concerned or interested; provide needed assistance or watchful supervision; have a liking or attachment; and have a wish, or be inclined."

These definitions describe the attitude that a staff member or consultant can bring to controversial planning issues. Consultants must be concerned and interested in the planning issues and the target environment. They should also provide needed assistance and watchful supervision to ensure that the Plan is workable and that the effects are predictable. One should "like" the project, the affected environment, and the people involved.

One cannot fake care. One must possess it; at the very least, one must have the wish or inclination to see that the job is done well.

This focus on care is not intended as some "New Age" suggestion of a technique for improving job performance. Obviously, if one does not care about a particular planning effort, then one will proceed on whatever grounds one has found useful or successful in the past. Rather, it is an observation that in this particular planning effort, as well as our firm's work on several other very contentious projects, the attitude of care can make the difference in successful adoption of a plan as well as the creation of an eased atmosphere for future decision-making.

Neither is this attention to care intended as an invitation to be nice to everyone. Some individuals purposely misuse data and public forums to promote their own narrow view. These individuals may have no desire to listen to opposing viewpoints, to compromise, or to reach a workable decision.

These people can be quite vicious in their attacks not only on the data in question but personally. The staff member or consultant has no need to simply absorb such unwarranted behavior. However, such individuals must be handled in a professional manner that addresses the attack without allowing the discussion or the staff member or consultant to become simply reactive. When one becomes reactive, the entire public might be considered as hostile and the possibility of constructive dialogue might be seen as hopeless. It is too easy to react and judge a group by one or two obviously hostile members.

Care provides a long-term view of the situation. One can be angry, defensive, argumentative at times. However, if care is present, then one can focus on the fact that most of the public involved care themselves and are seeking the best for their environment, and that a solution that is effective and generally acceptable is possible.

Most importantly, care means to keep an open mind. A characteristic of many experts is that they become blinded by the very expertise that is their strength. Expertise should not be a shield to deflect opposing data or theories. To care is to recognize that all of us, despite opposing viewpoints, tend to become defensive about our area of expertise, especially if considerable time and energy has been expended to develop a plan or recommendation. To care is to continually be aware of this defensiveness and to try to remain open to a differing perspective even when that perspective includes a personal attack or criticism. It means to be willing to work a little harder.

Although one cannot necessarily order up care in oneself or one's co-workers or subordinates, this attribute should be recognized when selecting staff members and/or consultants to work on a controversial project. Expertise in one's field, the ability to effectively write and speak, and other attributes are certainly critical. The propensity to care is an equally valuable characteristic.

## The Benefits of Public Participation

Including full public participation in the planning process is not meant simply as a method to deflect criticism of that process. Many real benefits result from involving the public, especially an educated public like the one involved with this vegetation management plan.

This plan addresses a controversial situation. The planning process took about 4 years, and this seems a long time. During the 4 years no work could occur, and one hoped that a wildfire did not ignite. But 4 years is not long for "project" approval in California. Many large development projects take at least this long from the initial planning stage through the environmental and project approval stages. If the Districts had decided not to conduct the Baseline Studies and simply developed a plan and an EIR on that plan, the EIR might have been substantially challenged, including a potential legal challenge. Those familiar with the CEQA process in California know how difficult it is to prepare a legally adequate

EIR that can withstand a vigorous legal challenge even for discrete development projects. The difficulty of assessing impacts on vegetation, wildlife, views, air quality, erosion, etc. for a plan that addresses a wide range of actions in various habitats over hundreds or thousands of acres is immense. If a community is unhappy with the planning process and the plan, they may find many “incomplete” analyses, omissions, and errors. They are likely to mount a legal challenge to such an EIR. This challenge adds months, even years, to the planning process, especially if the challenge is upheld by the courts, and the EIR must be amended and recirculated. Cases like these show that the full public participation approach outlined above is especially warranted.

Some of the other major advantages of public participation in this Plan included:

- The Plan preparers were exposed to many scientific articles and perspectives that they might not otherwise have known existed. Members of the public provided the consultants with full bibliographies of articles on the adverse effects of burning and re-burning chaparral, especially under wet season conditions. The California Native Plant Society and others provided data on the botanical significance of the chaparral community existing on the Study Area. The consulting team reviewed these data and determined that the botanical effects (as well as visual, hydrologic, and fiscal effects) of mass burning and re-burning of large areas of chaparral or other vegetation would have significant environmental impacts. As such, the Plan developed a series of discrete fuel reduction zones on critical ridge lines and other areas where fire access roads currently exist. Input from the public was an essential part of the data base used to develop the Plan. The local community often has many good ideas and particular knowledge about their environment.
- Environmental organizations and other individuals were willing to become participants in Plan implementation. For example, the California Native Plant Society (CNPS) has offered to assist the Districts in locating sensitive plant populations on treatment sites and to assist in expanding the inventory and mapping for sensitive species. The Plan includes a section on the extensive volunteer efforts in removing non-native plant populations and other necessary tasks. Volunteer labor is more likely from an involved community.
- Thorough public involvement ensured that the planners had fully investigated their recommendations and options to those recommendations. This participation ensured a thorough and objective analysis.
- As previously discussed, full participation built an atmosphere of trust between the public and the

lead agency. This was beneficial in getting a plan adopted without legal challenges. It may result in an atmosphere wherein future planning and decision making is based on dialogue rather than conflict.

## Conclusions

Preparing vegetation and fire management plans may involve changing vegetation in ways that are unpopular or unacceptable to certain members of the local community. In those cases where controversy occurs, the planning effort must include an open dialogue with the affected community. The formats for such dialogues are well known to most public agencies. Particularly controversial projects may require the inclusion of public participation experts. In either case, it is critical that staff and consultants who are in contact with the public remain objective and open in discussions with the public and that they seek every opportunity of meeting with members of the community. An open dialogue assists the planning process, often improves the chance for adoption of a workable plan, and can foster increasing trust between agencies and the public.

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