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**Institutional Obstacles to Success in  
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**Abstract**

This paper examines institutional barriers to a statewide system of community-based wildfire planning strategies called for by the California Department of Forestry and Fire Protection (CalFire). The mandate relied on local leadership due to lack of enforceable standards and performance-based management incentives. CalFire's plans were strongly supported by the agency and well-funded by the legislature. Today, the plans are challenged by lack of currency and erosion of stakeholder involvement, major challenges to all decentralized natural resource agencies. The challenges include conflicts between state policymakers and local leaders, the lack of performance-based rewards or penalties and a clear framework for local implementation. We also explore ways to improve implementation.

**Keywords:** wildfire risk abatement, wildfire protection planning, stakeholder engagement, institutional barriers

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# Institutional Obstacles to Success in Implementing a Statewide Community-Based Fire Planning Mandate

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## Introduction

Large wildfire events have resulted in widespread damage and loss of life throughout the western United States over the last decade. The resulting dramatic increases in fire losses and suppression spending have resulted in increased focus on community-driven fire risk abatement efforts. Nowhere have the losses been as great as in California, where in the last 10 years an estimated 132 lives were lost, 3,119 structures destroyed, and 2,205,037 acres of (sometimes sensitive) land was burned over by wildfires (California State Office of the Fire Marshal 2010). Stakeholder-driven local planning efforts that engage all who live and work in California's fire-prone areas has been repeatedly called out as one way to protect people and the environment from fire in a financially sustainable manner.

Organizations ranging from volunteer fire departments to federal agencies increasingly view collaboratively developed community wildfire plans as a critical element of any attempt to reduce fire costs and losses (Kruger et al. 2003, Marin County Fire Department 2005). The need for effective community fire plans, and the challenges to their development and implementation, have been heightened by increasing ownership fragmentation as well as concerns regarding the effects of cli-

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matic change. In order to be effective, however, Pre-Fire plans must be up-to-date, accurately reflecting local conditions, and represent the input and priorities of as many stakeholders as possible.

In 1996, the California Board of Forestry and Fire Protection, a governor-appointed independent board responsible for setting California forest and wildfire policy, adopted a new California fire plan. The board recognized a growing need for community-level fire plans that incorporated all stakeholders as active participants. The 1996 California fire plan outlined a model for community-based wildfire planning, and charged the California Department of Forestry and Fire Protection (*CAL FIRE*) with developing Pre-Fire plans for each of the agency's 27 operational units and contract counties. The 1996 California fire plan was intended to fundamentally change the way that *CAL FIRE* engaged with stakeholders, incorporating them as partners in the ongoing planning and hazard abatement process. The Pre-Fire plans were intended to serve as a nexus through which California's fire management policies could be translated to local actions, particularly in the highly flammable and rapidly expanding wildland-urban interface.

Each Pre-Fire plan was intended to include a locally generated list of assets, both tangible and intangible, deemed to be particularly vulnerable to fire. The plans were also expected to incorporate an assessment of initial attack<sup>1</sup> success, and identify cost-effective ways of managing risk. Ideally, the Pre-Fire plans would identify resources and hazards, prioritize risk abatement strategies, and reflect the input and priorities of local stakeholders. Their perceived value was in reducing future costs and losses through a more nuanced understanding of the local fire situation and facilitation of the strategic implementation of wildfire threat reduction projects.

Decentralized natural resource agencies frequently contend with the issue of how to effectively implement and enforce broad policy mandates. The issues faced in the implementation of the Pre-Fire plans mandated in the 1996 California Fire Plan are typical of the challenges frequently encountered by natural resources agencies with decentralized organizational structures. *CAL FIRE* has long reaped the benefits of devolving power to the local level, imbuing the leadership of the state's 27 units and contract counties with the authority to make command decisions and direct resource allocation that were responsive to widely varied local situations. As an agency with increasingly broad forest management and fire protection responsibilities, empowering unit chiefs allows the agency to swiftly respond to emergent issues, such as rapidly developing wildland fires that threaten lives, homes, and resources. Unit chiefs typically amass considerable local knowledge during their tenure and are able to use this understanding to direct appropriate allocation of resources within their spheres of influence. However, this devolution of power means that policy may go unimplemented or inconsistently implemented without clear

standards for enforcement, including performance-based management incentives (Colfer and Capistrano 2005).

American natural resource agencies have long faced challenges of implementing policy objectives through decentralized organizational structure, which is widely agreed to be one of the primary dangers of decentralization (Colfer and Capistrano 2005). Decentralized federal and state agencies can face significant challenges when stakeholders pressure local land managers not to implement policies (Colfer and Capistrano 2005). A classic example is the Bureau of Land Management (BLM), which has historically struggled with the influence of local interests to the extent that it revised policies and regulations to be acceptable to stakeholders in order to get local land managers to implement them (Clarke and McCool 1996, Merrill 2002). Like other natural resource agencies, *CAL FIRE* has both benefited and struggled due to devolved responsibility. Lacking enforceable benchmarks, as well as rewards or penalties, the success of the Pre-Fire plan program has been inconsistent throughout the state, relying heavily on local leadership to perceive the planning effort as a priority.

The 2010 California Fire Plan recognized that the Pre-Fire plan standards had not been successful and put in place a new framework for the creation of the next generation of Pre-Fire plans. This framework is expected to bear fruit in the first wave of new Pre-Fire plans that are expected to be submitted in June 2011. In 1999, the state legislature funded the creation of unit- and contract county-level Pre-Fire Engineer (PFE) positions. By 2000, most of the 27 positions had been filled locally. All 27 Units had Pre-Fire plans in development by 2001. Each PFE worked independently within their unit to create a collaborative plan development process that incorporated stakeholder input. In 2003, the federal Healthy Forest Restoration Act (HFRA) was signed into law, offering communities in high fire risk areas, called Communities at Risk (CAR), the opportunity to influence the location of federal fuel treatments in their area and to apply for fire hazard abatement grants to engage in self-directed fuels modification projects. In order to be eligible for these grants, CARs had to develop a Community Wildfire Protection Plan (CWPP) through a collaborative effort between agencies and local stakeholders. *CAL FIRE* briefly directed all its PFEs to ensure that their Pre-Fire plans were in compliance with CWPP requirements in 2003. The agency presently encourages, but does not require PFEs to create Pre-Fire plans that fulfill CWPP standards. Several Pre-Fire plans currently satisfy CWPP requirements. The 2010 California Fire Plan has yielded a new template for the Pre-Fire plans. The agency is currently in the process of implementing the new format, which supports crafting Pre-Fire plans that meet CWPP requirements. Presumably many of the remaining plans will be brought into compliance with the standard during their next revision, due June 2011.

The 27 existing *CAL FIRE* Pre-Fire plans differ significantly from each other in length, scope, and relevance. In part, these differences reflect the complexity of the landscapes and communities for which they were developed, as well as the challenges of implementing state mandates in the face of institutional barriers. On the other hand, the variation in the plans may also be attributed to a lack of standards for Pre-Fire Engineers' deliverables and an absence of any performance-based incentives or penalties to ensure compliance with the mandate. In some cases this has probably resulted in Pre-Fire plans with an appropriately local flavor. The lack of a plan framework, clearly defined criteria, or a mechanism for mandate enforcement, however, has also resulted in some Pre-Fire plans being inconsistently updated, reflecting limited or sporadic stakeholder involvement, and focused on reporting past outcomes rather than future needs. As a result, the plans' utility with respect to focusing resources or prompting community dialogue has been limited. On the other hand, the Pre-Fire plans also represent an exceptional planning effort and a tremendous opportunity to activate a broad range of community members as active partners in fire hazard mitigation. The plans have been in episodic development for more than a decade, and represent one of the earliest widespread attempts in California to incorporate community members and agencies as partners in regional fire planning. They also offer a unique opportunity to determine whether institutionally consistent collaborative fire planning has any tangible effect on wildfire costs and losses, and to identify the most effective ways to involve stakeholders in a long-term planning process.

### **Methods**

In order to understand the present state of the Pre-Fire planning program, we undertook a statewide census of all PFEs and equivalent contributors in all 27 units and contract counties. We conducted the survey by phone, with a single interviewer reading a pre-approved script to survey each of the Pre-Fire Engineers. In many cases, the interviewer discovered during the survey that the current PFE was not the individual who had authored the current update to the local Pre-Fire plan. As a result, an effort was made to target not only the current PFE, but also to survey the individual who authored the most recent revision of each fire plan. Consequently, a total of 42 responses were gathered for the survey.

### **Results**

Our survey results revealed that local agency leadership has played a strong role in guiding the evolution of the Pre-Fire plans and the responsibilities of the PFEs. Historically, *CAL FIRE* has conferred significant decision-making authority

to leadership within the units and contract counties. As a result, each unit chief has a great deal of discretion regarding the allocation of resources and how to implement statewide policy within the unit. Over time, the units have assigned significant additional responsibilities to their PFEs, ranging from information technology to law enforcement.

In most units and contract counties, the role of the PFE has gradually transformed into a more general responsibility for managing, analyzing, and compiling location-based data. PFEs use geographic information systems (GIS) such as ArcGIS to create fire, fuel, and workload assessment maps. In the last few years, there have been several statewide initiatives that have had a heavy emphasis on information technology, such as the Fire Hazard Severity Zone (FHSZ) program. Almost without exception, PFEs have been assigned responsibility for taking part in or completing these initiatives, significantly or totally compromising their ability to engage with stakeholders and update the Pre-Fire plan. During 2007, *CAL FIRE* state leadership notified PFEs that because of the added responsibilities of conducting the FHSZ mapping process, they would not be expected to update individual Pre-Fire plans at all that year.

In addition to the expansion of the analytic expectations placed on PFEs, the survey results also revealed that more than 60% of *CAL FIRE* units suggest or require their PFEs become peace officers. This requires extensive law enforcement training and creates scheduling constraints that conflict with the flexibility needed to engage effectively in community outreach.

The survey also revealed that PFEs stay in their positions on average for only two to four years. This seems to be partly the result of both the increasing responsibilities of PFEs and the lack of opportunity for promotion within a PFE role. The frequency of position cycling is also partly a reflection of *CAL FIRE*'s organizational culture, which rewards mobility within the agency. Frequent PFE staffing changes inevitably result in both a cyclical loss of institutional knowledge as well as an erosion of trust with the local community. It is rare that there is an organized handoff from one PFE to their successor, either because the previous PFE's new position did not permit enough scheduling flexibility or because the position remained vacant for weeks or months before being refilled. As a result, many individuals coming into the PFE role find themselves with little guidance on how to perform their job. Most PFEs told us that they found themselves, to greater or lesser degrees, "reinventing the wheel" as it pertains to Pre-Fire activities. Sixty-two percent of PFEs reported that they had not written the most recent Pre-Fire plan, and the majority said that the individual who had written the most recent plan was not available to provide them with assistance or support in their job. Just 15% of PFEs reported that they had been involved in the revision of a Pre-Fire plan in the past, so almost all PFEs revising local Pre-Fire plans are doing so for the first time. The

resulting plans are predictably idiosyncratic, often lacking coherence between revisions.

Ultimately, relevance and utility of the Pre-Fire plans are dependent on whether unit leadership considers implementing *CAL FIRE*'s planning mandate a priority. Though some units undertake regular updates of the Pre-Fire plan, most of the survey respondents reported that they revise the plans only when unit leadership judges they have sufficient downtime from higher priority tasks to do so. In total, 48% of the 27 Pre-Fire plans had not been updated in the 12 months prior to our survey, and a substantial fraction date back to 2004-2005 (a four to five year lapse). Of the plans that had been revised more recently, many lacked substantial alterations or updates. Numerous plans included significantly out-of-date information, including project data referencing "future" plan action dates now long past.

### **Discussion**

In short, though the Pre-Fire plans were required by the California Board of Forestry and Fire Protection, supported by *CAL FIRE* leadership, and funded by the state legislature, the plans ultimately have not accomplished as much as they might have. The program's failure to achieve traction clearly reflects the institutional barriers to success identified in our survey and more broadly the challenges faced by natural resource agencies with decentralized organizational structure.

*CAL FIRE*'s decentralized organizational structure means that widespread local success in policy implementation may only be possible through fostering a culture of local ownership in statewide policy formation. Research on decentralized natural resource agencies suggests that organizations with strong *esprit de corps* are demonstrably more effective at implementing policy mandates (Merrill 2002). Early inclusion of *CAL FIRE* local decision-makers in program development could be vital to achieving goals and delivering results. Discovering means to incorporate the input of unit-level agency leadership into the state policy decisions could result in leaders at all levels of *CAL FIRE* taking greater ownership of the resultant policy and could reduce barriers to implementation.

A yet more effective solution may be to develop clear standards for the enforcement of policy, including performance-based management incentives, which has long been acknowledged as a necessity for decentralized natural resource organizations (Ellefson et al. 2001). For example, linking approval of requests for increased funding by local government to compliance with state planning mandates might serve to incentivize active participation in the implementation of the mandate.

The way lies open for *CAL FIRE* to transform the Pre-Fire plans into a yet more effective planning or community engagement tool. The 2010 California Fire Plan outlined a pathway forward for the Pre-Fire plan. Recognizing the old layout didn't



work, Pre-Fire plan leadership have developed a new framework for the Pre-Fire plans, overcoming limited resources and budget cuts to achieve statewide execution of the new framework. The new Fire Plan Template, presented to the Board of Forestry and Fire Protection in January 2011, is intended to be easier to use and update and includes step-by-step instructions for Pre-Fire Engineers. Given the high rate of turnover in the position, these detailed instructions are a crucial component to the creation of effective plans. Unlike prior guidance, the new template is designed with the intention of regular evaluation and updates, including input from the units and contract counties.

As wildfire-related costs and losses continue to grow in the state of California, the need for cost-effective and efficient methods to reduce fire risk becomes increasingly urgent. In the last decade, millions of dollars in taxpayer resources have been spent in an attempt to reduce fire risk through developing and continuously updating community Pre-Fire plans, and though the program has had its successes, its ability to deliver results has been hampered by institutional barriers. The decentralized organizational structure of *CAL FIRE* means that consistent policy implementation requires clear standards as well as performance-based management incentives. The 2010 Strategic Fire Plan as well as the new Pre-Fire plan template with its evaluation criteria may well presage a shift in this direction, resulting in consistent, impactful Pre-Fire plans. Coordinated action between legislators, policymakers, foresters, and fire officials at all levels may be essential tool needed to reduce the threat of catastrophic wildfire to people, communities and values at risk throughout California.

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## Notes

<sup>1</sup> A planned response to a wildfire given the wildfire's potential fire behavior. The objective of initial attack is to stop the fire and put it out in a manner consistent with firefighter and public safety and values to be protected (National Wildfire Coordinating Group)