

Information Collection Team Report

Wildland Fire Use *Lessons from the Past and Present that Impact Local Fire and Fuels Management Programs*



**Wildland Fire Lessons Learned Center
c/o National Advanced Fire & Resource Institute
3265 East Universal Way
Tucson, Arizona 85706
March 28, 2006**

Table of Contents

<i>Introduction</i>	3
<i>Methodology, Assumptions, and Limitations</i>	3
Information Collection Team and Methods	3
Assumptions and Limitations of This Report.....	3
The WFU Event.....	4
Confidentiality	4
<i>Application of the Initial Impressions Report for Wildland Fire Use</i>	4
<i>A Timeless Phenomenon Managed for Today’s Objectives</i>	5
<i>How WFU Events have been Managed</i>	5
<i>WFU Planning</i>	6
Planning and the Public	6
Planning and the Air Quality Board.....	7
Planning and Fire Fighting and Monitoring Resources	8
Planning and Agency Leadership	9
Planning to Manage Fire.....	10
Smoke Management and Smoke Budget	11
Planning with Neighboring Agencies and Cooperators	12
<i>Opportunity</i>	12
Characteristics of the Land.....	13
Opportunity Outside the Park Service	14
<i>Response</i>	15
Engaging and Maintaining Local Knowledge	15
Organizational Infrastructure	16
Outside Resources	17
<i>Conclusion</i>	18

Introduction

The Wildland Fire Lessons Learned Center (LLC) serves as a resource for the entire wildland fire community. It identifies, collects, and disseminates knowledge that might otherwise remain isolated to individuals or small groups. One way in which the LLC gathers and disseminates knowledge is by sending Information Collection Teams (ICTs) to the field. This report describes and documents issues of concern, lessons learned, and effective practices pertaining to wildland fire use (WFU) that existed at the time this report was written. The LLC can best serve the wildland fire community by getting these findings before WFU subject matter experts (SMEs) and the people responsible for WFU policy, so that they may consider the information provided, and address those issues requiring their attention. Some issues may already be on the agenda of these experts, while others may not. However, the first priority of the Center is to get information into the hands of people that make policy, conduct training, and lead people.

Methodology, Assumptions, and Limitations

Information Collection Team and Methods

ICTs dispatched by the Wildland Fire Lessons Learned Center employ a mix of two methods of data collection; one being inquiry and the other being observation. Inquiry essentially involves formal interviews of event personnel. The process of observation blends observation by ICT members with followup questions posed to event personnel to seek feedback on the team members' impressions. ICT members are dispassionate observers, not reviewers or evaluators, critics, or cheerleaders. Their job is to identify lessons learned, potentially effective practices, innovative ways of overcoming challenges, and knowledge gaps. The observations, conclusions and recommendations reported here were primarily derived from a three-day ICT effort at the Sequoia Kings National Park and Sequoia National Forest in 2005 after the Combs Complex WFU fire. The information collection team members were: Dave Christenson, Team Leader, Wildland Fire Lessons Learned Center, Marty O'Toole, National Park Service, Anne Black, Aldo Leopold Wilderness Research Institute, Christina Abbott, University of Idaho, and Curt Braun, Benchmark Research & Safety, Inc.

Assumptions and Limitations of This Report

The impressions reported here do not address a single operation. Instead, the WFU event that the ICT attended served as an example, a "typical" event, and an opportunity to contact a number of fire use personnel at a single location. Consequently, the themes, issues, trends, and lessons learned that are reported here represent a combination of elements both unique to this particular WFU event, as well as those which may be generalized across the WFU work environment. The report describes impressions of WFU; and is not intended as a comprehensive, definitive assessment of the state of the discipline. This document reports, in part, on both lessons learned and effective practices. Sometimes the report describes a topic as

both, because the lesson learned was that someone implemented a practice that worked.

The WFU Event

The Combs fire reviewed by the ICT was unique in that it involved a National Park with a long lived culture in wildland fire use and also a National Forest with less experience with wildland fire use. Interviewees included members of the Fire Use Management Team (FUMT), Fire Use Module (FUM), and others with extensive WFU experience. The LLC staff thanks the district staff, the fire use management team, fire use modules and all other personnel interviewed for sharing their lessons and experiences. The knowledge they shared will undoubtedly help others involved in WFU. The ICT reported on topics that these people were willing to share and those that team members were able to observe first-hand. ICT members reported on what they learned through inquiry and observation, with the intent of surfacing issues and spurring continued work in the future, both by the agencies and by the LLC. The Information Collection Plan guided the ICT assignment, but beyond a focus on areas identified in the plan, it was not the responsibility, role or right of ICT members to predetermine what the issues were. If the issue arose in the course of the Team's assignment, and could be corroborated, either by inquiry or observation, they reported on it.

Confidentiality

The conversations that ICT members have with interviewees are strictly confidential. ICT members inform anyone contacted of their commitment to confidentiality, and respect the privacy of the individuals they contact. The LLC does not identify people by name, unit or other identifier in final notes or in the combined and condensed final report. The Center is interested in the "what," not the "who," and ICT members will not repeat individual comments, attributable to the person interviewed, to others outside of our team, not even to supervisors or managers. Consequently, from time-to-time, ICT members observe events or learn of information that cannot be reported on given the ICT's purpose, approach to confidentiality, and the sideboards of its involvement in the event. The LLC does not release interview notes to others outside of our teams, including other teams, supervisors, or managers.

Application of the Initial Impressions Report for Wildland Fire Use

In July 2005, an Initial Impressions Report on Wildland Fire Use was published. A different information collection team (ICT) was formed with the mission of describing and documenting issues of concern, lessons learned, and effective practices pertaining to wildland fire use (WFU). The WFU event observed in the earlier report was the first wildland fire use event to be managed on the district affected under their Forest's revised fire management plan. Interviewees for this earlier report included both novice and experienced WFU personnel. While the July 2005 report outlines emerging issues, trends and lessons, this March 2006 follow-up

report documents and demonstrates that many of those lessons were already in practice at the Sequoia and Kings Canyon (SEKI) National Parks.

A Timeless Phenomenon Managed for Today's Objectives

To the seasoned fire manager, WFU represents the latest perspective on the ageless process of wildland fire. Those who have been around long enough will recall Prescribed Natural Fire (PNF) as the predecessor of WFU. The development of PNF and WFU extends back to the 1960s when land managers recognized the detrimental effects of wildland fire suppression. Although viewed differently from a historical perspective, PNF and WFU have the similar goal of using naturally occurring wildland fire as a tool to manage land resources.

WFU is a tool available to all land management agencies, but has historically been used within designated wilderness areas and many National Park Service units. The characteristics of many of the country's National Parks and wilderness areas make them particularly amenable to WFU. While wildland fire acts without regard to administrative boundaries, its use as a management tool outside of parks and wilderness areas has been limited.

The reality that WFU is more appropriate in some areas and less appropriate or even prohibited in others is accepted. Recent surveys of land managers suggest that the determination of appropriateness is not simply a function of boundaries, fuel types, and topography. Given that WFU events can place significant demands on the fire management infrastructure, it is reasonable to presume that characteristics of the organization may play a larger role in WFU than the physical characteristics of the land being burned.

WFU and the earlier PNF have been practiced in some of the country's National Parks since the mid 1960s. In many of the country's National Forests, WFU has been used for less than five years. The Lessons Learned Center interviewed employees at two land management agencies, one with extensive experience and one that was a relative newcomer to WFU. The mission of this team was to illuminate the facets of a fire and fuels management program supporting the use of WFU.

How WFU Events have been Managed

The Sequoia and Kings Canyon National Parks (SEKI) have a 37-year history with WFU and its predecessor, prescribed natural fire (PNF). SEKI's extensive history is reflected in the confidence they have in their fire and fuels management programs. They make WFU appear simple. This simplicity, however, can be misleading. Preparing for, choosing and managing a WFU event requires that the Parks' fire, public relations, and

“Smoke, resources and politics make WFU a public relations challenge. Don't be lead astray. This is hard work.”

research staff address the physical and social aspects of the fire simultaneously. While it is true that all wildland fires have these aspects, the social considerations and pressures can grow exponentially because individuals outside the wildland fire community often fail to appreciate how fire can be used to achieve management goals. To many on the outside, a WFU fire may appear to be one fire managers “can put out, but simply choose not to.” Additionally, differences in the level of understanding among individuals within an agency can result in WFU events being perceived as just another wildland fire that should be lined and burned out. Weighing all the factors, preparing for contingencies, managing social and political relationships, and coping with potential legal exposures makes WFU in the words of one seasoned fire staff member, “... hard work.”

As members of the Lessons Learned Center Information Collection Team (ICT) listened to individuals charged with fire and fuels management describe their successes, failures, challenges, and solutions, three dominant themes developed: Planning, Opportunity, and Response. The overt actions and the underlying subtleties that make WFU possible are highlighted below.

Lesson Learned: The successful use of WFU as a management tool requires that fire managers identify, inform, and engage stakeholders, inside and outside the agency, to ensure a common understanding of the practice, its motivations, and its constraints.

WFU Planning

The planning and preparation activities SEKI uses to support a fire and fuels management program are key to the success of the unit’s program of which WFU is a part. In the winter months when there is no fire, SEKI staff are planning for fire. During months with fire, SEKI staff members are managing fires to ensure they have the best opportunity to achieve near- and long-term goals. During interviews with the SEKI staff, we identified six planning activities that have direct ties to program effectiveness. The consistency with which these planning elements are described during our interview revealed how well they had become part of their fire management culture.

Planning and the Public

The SEKI fire staff has developed a two-pronged perspective on wildland fire. Their experience has taught them that during any wildland fire event they must manage both the physical and public aspects of the fire. In SEKI language, they manage the “real fire” and the “perceived fire.” The “real fire” entails those activities associated with managing the physical aspects of the fire, while the

“Much of the public planning work is accomplished by the Fire Education and Information Officer (FEIO) and supported by a well informed and articulate fire staff.”

“perceived fire” approaches the fire from the perspective of outsiders. These terms are used regularly in their fire planning discussions and they dedicate staff during an event to ensure that both “fires” are managed. Much of the public planning work is accomplished by the Fire Education and Information Officer (FEIO) and supported by a well informed and articulate fire staff.

The FEIO works year round to educate SEKI staff, visitors, and the surrounding communities. For Park staff, there are education materials and presentations for employees who have contact with the public. For the visiting public, the parks offer interpretive programs, distribute publications, and design exhibits. Communication with the residents in the surrounding communities is accomplished with mass mailings, press releases, and a website that describes upcoming fire season events.

Lesson Learned: Wildland fire, independent of its cause or use, is perceived differently by different individuals and groups. Because wildland fire can affect more than just the agency whose ground is burning, fire managers must work to understand how a fire is perceived by non-agency individuals. By understanding how agency outsiders view a fire and that these individuals can affect agency personnel, fire managers can work proactively to improve relationships and develop mechanisms to ensure that the needs of outsiders can be met while at the same time achieving land management goals.

Planning and the Air Quality Board

Prescribed fire and WFU is considered agricultural burning in California, therefore SEKI falls under the jurisdiction of the San Joaquin Valley Unified Air Pollution Air District. In past years, the Park had been cited for air quality violations. More recently, the fire staff has developed a positive working relationship with members of the Air District. These improvements can be attributed in part to steps taken to better educate Air District staff on the nature of wildland fire. For example, Park staff recognized that some members of the Air District interpreted the reported fire size in acres as the area of ground that was burning. A 5,000 acre fire, for example, was interpreted as having 5,000 acres burning at the same time. This misinterpretation was easily rectified by showing Air District members the actual fire from a helicopter.

The interactions between SEKI staff and the Air District has become a regular part of fire planning efforts. Once burn projects have been planned, these plans are provided to the Air District who in turn provides Fire Emissions Dispersion Forecasts the fire staff can use to assess the potential of smoke problems. There are a variety of methods used to assess the potential: web cams, ozone monitors, satellite telemetry, and Environmental Beta Attenuation Mass Monitors (EBAM).

During a prescribed or WFU fire, the Parks also provide the Air District with real-time air quality information from EBAMs.

According to the www.metone.com website the EBAM is a portable real-time beta gauge traceable to US-EPA requirements for automated PM 2.5 and PM 10 measurement. The EBAM provides accurate, precise, real-time measurement of fine particulate matter automatically. The EBAM is also rugged, portable, battery operated, and quickly deployable. (Picture courtesy of http://metone.com/aerosol_answers.htm)



In 2005, the Park began to provide streaming video from web cameras located on lookouts and other vantage points. The results from these new information gathering efforts have been positive and have contributed to an improved relationship with the Air District. Ensuring consistent access to the information these technologies gather also requires systematic planning. During a recent event, images from webcams were temporarily located behind an agency firewall and were not available to the Air District. This unintentional restriction was negatively perceived by the Air District. As a result of good communication, area agencies established a core group of leaders, and one agency leader was able to call another to have the firewall issue quickly resolved.

Lesson Learned: It is essential to educate and inform local organizations, agencies, and individuals that can be impacted by a WFU fire. Technology such as webcam and air monitoring equipment can provide real-time data to understand the impact a fire has on the area surrounding the fire. This real-time data can reduce the information void and reduce potential suspicions concerning a fire.

Planning and Fire Fighting and Monitoring Resources

In the classic Ray Bradbury book *Fahrenheit 451*, firefighters are charged with starting fires rather than putting them out. The book deals with a variety of changes in future society, but the shift in the role of firefighters is particularly applicable to WFU. The selection, training, and supervision of firefighters are affected by WFU. Concerning selection, the SEKI fire staff look for candidates that do not have what they call the “suppression bias.” Although they do not exclude job candidates based on their desire to fight fire, they do convey to them that they may watch more fire than they will suppress.

“We put a lot of faith and trust in our GS-5 firefighter.”

The fire staff recognized that at the national level, the interagency training new firefighters receive does not adequately address how these individuals should behave during a WFU event. Therefore, at SEKI the parks make efforts to hire, train, and mentor firefighters who are equally effective in suppression or fire use incidents. The absence of WFU training at the national level for entry level firefighters is a continuing concern. There is some concern that traditional suppression personnel from outside the Parks may not be able to adequately handle a WFU fire.

A WFU event requires more than just firefighters. Fire Monitors play a key role in the success of the event. To ensure that individuals are appropriately trained, the Parks require two years of experience and the S290 course before an individual can be considered for Fire Monitor training. Once selected for training, experienced monitors provide much of the on-the-job training. The institutionalized knowledge that is part of the intellectual capital of the experienced Fire Monitor is passed on through a close mentoring relationship. Each new Fire Monitor recruit is paired up with an experienced Fire Monitor. The experienced monitors model their activities after Fire Use Modules (FUM). Additionally, these individuals join FUMs to update their skills and knowledge.

As a matter of practice, the Parks ask that new Fire Monitors not interact with the public until they have a firm understanding of fuels, research, and fire behavior. This usually requires two years of training. The fire staff also works to create two-person monitoring teams with compatible individuals. Fire Monitors often spend weeks at a time together in remote areas. Having compatible team members makes these assignments more productive and enjoyable.

Lesson Learned: Training in addition to that provided during the standard “guard school” training is needed to ensure firefighters have the knowledge, skills, and abilities to work in the WFU arena.

Lesson Learned: In addition to standard course (e.g., S-290), extensive on-the-job training (OJT) is needed if Fire Monitors are to be effective. OJT should equip a Fire Monitor to competently track the progression of the fire and competently interact with the public.

Planning and Agency Leadership

The need to engage agency leadership in WFU preparations is significant. There is clear evidence that the value of WFU as a land management tool is directly related to the interaction of top level managers. In the absence of informed and engaged high-level managers, the available evidence suggests that WFU creates increased levels of uncertainty and anxiety that can ultimately restrict WFU to all but the inconsequential fires. Poorly established or delayed lines of communications, unclear roles, varying

perspectives and expectations, and restrictive personal relationships can create an environment characterized by less than optimal, hasty, and unilateral decisions.

SEKI's approach to high-level managerial involvement takes the form of a Fire Management Committee that Park leaders use when making major decisions or addressing fire events. This multidisciplinary team meets twice a year and when needed to provide multiple perspectives on fire within the Parks. For newcomers to WFU, it would be misleading to suggest that a committee like this one could achieve all managerial involvement needed to advance WFU as a management practice. Because of SEKI's long history, this committee can be viewed as one that perpetuates organizational movement rather than initiates it. The effort needed to initiate a program that includes WFU will be greater than that needed to sustain it as a viable practice.

"We couldn't manage and run a WFU event without support all the way up the chain of command."

S-580, the Advanced Fire Use Application course, was consistently referred to as one method of engaging upper managers in the WFU process. SEKI fire staff recommends that line officers attend S-580. This class will ensure that line officers are familiar with policy, terminology, and process. Regrettably, it appears that completion of this course will be slow because of the limited number of class offerings.

Lesson Learned: Effective use of WFU as a land management tool requires support from upper management. Support among upper managers can be facilitated by having these individuals attend courses like S-580 Advanced Fire Use Application.

Lesson Learned: Establishing formal channels of communications, review bodies, or oversight committees can facilitate WFU decision making and enhance information flow to upper management.

Planning to Manage Fire

SEKI takes a multidisciplinary approach to its Fire Management Plan. One staff member commented, "Our fire use program can be depicted as a three-legged stool where the legs are represented by operations, research and resources, and education and interpretation." This approach to WFU is well engrained within the Park's fire and fuels management culture.

The planning process for future fires begins in the winter with a systematic review of the prior year's performance. The proposed changes resulting from an After Action Review (AAR) conducted on the prior year are assigned to specific individuals to ensure these are implemented. By including other disciplines in the review process,

the fire organization as a whole has gained valuable insight. From the operations perspective, this group learned that their safety signage was inadequate for the public. In response, new highway signs were designed using standard highway sign design guidelines. The burn teams were also able to modify ignition methods to minimize heat and scorch by working with the fire ecologist. These reviews have become an integral part of the planning process.

In preparation for the upcoming season, the winter planning group gathers information from the fire ecologist, the GIS specialist, the FEIO, and members of the fire staff. Together this group updates the five-year burn plan, prioritizes burns based upon the Landscape Treatment Analysis,

“Our fire program can be depicted as a three-legged stool where the legs are represented by operations, research and resources, and education and interpretation.”

reviews agreements with cooperators, and outlines future education and communication plans. The group also considers methods of managing smoke from planned fires. To the extent possible, maps of prior burns, future

burns, burn priorities, and safety considerations are created. Although these map products are generally used to guide future prescribed fires, the group also uses them to support decisions when a WFU opportunity arises.

Lesson Learned: As a possible land management tool, annual and future burn plans, and Fire Management Plans should have provisions to allow WFU to be used to accomplish planned objectives.

Smoke Management and Smoke Budget

Smoke and its impact on air quality is a prime concern. The fire planning group has created what amounts to an annual smoke budget from which each fire, independent of origin, makes a “withdrawal.” This smoke budget’s legal tender is public tolerance of smoke filled communities. Prescribed fires in the mid 1990s that put smoke into local communities for upwards of two months revealed that the public’s acceptance of smoke has its limits. The expected smoke budget from each planned fire is calculated and then prioritized. The balance in the smoke budget is considered carefully and is used as decision-making criterion when WFU events occur. The role of this budgeting process will be discussed later.

Lesson Learned: It is important to learn who in the area surrounding a fire might be adversely affected by smoke. Agencies should assess how tolerant their neighbors might be to smoke and manage WFUs to stay within acceptable limits.

Planning with Neighboring Agencies and Cooperators

SEKI along with their neighbors are part of two interagency groups that coordinate information and fire management. The Southern Sierra Geographic Information Cooperative (SSGIC) has worked in recent years to create a “landscape-scale planning framework.” The Cooperative gathers and maintains fire related data for its participants including SEKI, Sequoia National Forest, Bakersfield BLM, California Department of Forestry – Tulare Ranger Unit, and the Kern County Fire Department. SEKI fire management officers also participate in the Southern Sierra Fire Management Officers group.

Interactions with neighbors through formal groups have produced both tangible and intangible products. The landscape mapping capability produced by the SSGIC is an excellent tangible product. The relationships among the area FMOs is an intangible byproduct of the interactions of these individuals. Although it is difficult to quantify these relationships, it is clear that they play a significant role in the management of WFU events. Because of the personal relationships, resources among these FMOs are readily shared. Additionally, concerning WFU, SEKI serves as a mentor to agencies new to the practice. Many of SEKI’s neighbors have taken advantage of their years of experience by using their information materials and inviting Fire Monitors to share their common practices.

The relationship of the Southern Sierra land management agencies has been constructive; however, differences in agency missions and staff experience constrains the potential impact one agency can have on another. When neighboring agencies have developed and implemented more comparable organizations that can support WFU, the value of these relationships will likely increase.

Lesson Learned: Administrative borders are not respected by fire. Establishment of multi-agency organizations that represent neighboring agencies can facilitate transfer of knowledge, maps, and plans. Such organizations can also facilitate a multi-agency WFU fire.

Opportunity

A lightning started fire is a necessary but not sufficient condition for a WFU event. Even though SEKI’s status as a National Park gives them great latitude with respect to WFU, the fire staff still assesses each potential WFU event on its merits. The option to permit a WFU fire is weighed carefully and based on the information at hand, including: what was planned, other fire activity, the balance of their smoke budget, the fire’s location relative to neighbors, and the availability of resources. Examining the variety of decision elements SEKI considers when faced with a possible WFU event can lend insight into how other agencies might structure their decision-making process.

The SEKI fire staff is opportunistic with respect to naturally started fire. By reviewing their detailed burn plans, priorities and timelines, each fire is evaluated for its fit within what was planned. While the Park is unlikely to simply suppress a wildland fire because it is there, the Park has suppressed fires that adversely impact their planned burning. Pre-season planning provides much of the information needed in multilayered GIS burn maps that allow the fire staff to quickly assess a wildland fire relative to the Park's priorities. By estimating potential growth and fire duration length, the fire staff can consider the impact the fire will have on the Park's resources and on its ability to support a long-term event.

A natural start in a low priority area might, for example, be suppressed to allow the use of resources on prescribed fires in higher priority areas. Similarly, a wildland fire might be suppressed because it will deplete the smoke budget thereby eliminating the possibility of future prescribed fires. Finally, a fire might also be suppressed because of its proximity to neighbors.

A fire's location relative to administrative borders is weighed collaboratively with neighboring agencies. These collaborations continue to develop and appear to depend greatly on the personal interactions of fire staff on both sides. A recent WFU event that crossed an administrative boundary was considered a success largely because of the close personal relationship between the two Fire Management Officers. Prior to the fire, these two FMOs had the opportunity to learn about their respective fire programs and develop preliminary plans in the event of a cross-boundary fire. Because the two offices were in close proximity, the two FMOs were able to meet informally as one traveled by the other's office. As a result of these informal meetings, the two learned of their respective plans and expectations with respect to a WFU event. This knowledge, albeit informal, played a significant role when the fire crossed their respective administrative boundaries.

"A recent WFU event that crossed an administrative boundary was considered a success largely because of the close personal relationship between the two Fire Management Officers"

Lesson Learned: Use of WFU as a management tool depends greatly on the preparedness of the agency with respect to burn plans, historical indices of burn intervals, and established relationships with neighbors. Preseason planning gives fire managers the ability to consider the possibility of a WFU without the need to create plans and relationships during the initial stages of a fire.

Characteristics of the Land

In contrast with their neighbors, the Parks have fewer policy restrictions with respect to WFU as a management tool. Administrative differences aside, the Parks have other characteristics that affect WFU. When asked what makes WFU successful within the Parks, one fire staff member responded, "We have lots of rocks." Although the fire

staff works diligently to prepare for fire, the often discontinuous fuels, high elevations, and large rocky areas afford them benefits not enjoyed by others. At least some of the success of the SEKI fire program can be attributed to these land and fuel characteristics. Agencies with different fuel distributions, topography, and missions must weigh how these factors will affect their decisions when the opportunity for a WFU fire arises.

Lesson Learned: Fuel characteristics, topography, and agency mission must be reflected in plans that use WFU as a management tool. These characteristics might serve as early criteria for identifying areas where WFU might be appropriate. These fuel and terrain characteristics can provide agencies with an opportunity to learn how best to manage WFU fires without having to deal with challenges brought about by continuous, heavy fuels.

Opportunity Outside the Park Service

Agencies with larger suppression responsibilities than SEKI may find that their opportunities to use WFU are further restricted. It is likely that the storm that ignites a potential WFU fire also starts other fires. After a lightning bust, an organization with significant suppression responsibilities may find WFU less tenable. Suppression efforts are likely to use the resources that would be needed to support even the smallest WFU event. Without the resources to monitor and assess a WFU event, suppression remains the only other alternative. Even in a situation where there is only one WFU fire on a unit, suppression fires in neighboring areas or nationally can draw essential resources away, again leaving the local units with only one option, suppression. Other resource and support factors can also affect the likelihood that WFU is used as a management tool.

Interviews with non-Park Service fire staff validate the extensive planning efforts used by SEKI in many ways. Beyond the planning of SEKI, it is clear that agencies with greater suppression responsibilities, resource sharing agreements with neighbors, and fewer support staff, must work even harder to advance WFU. In addition to the planning carried out by SEKI agencies with these types of responsibilities must,:

- Create methods for dealing with multiple fires simultaneously.
- Develop standards and protocols for keeping or receiving resources required by a WFU event.
- Develop and implement a locally-based infrastructure that supports the needs of a long-term WFU event.
- Work aggressively to communicate and educate the public as to the apparent shift in fire management practice.

In the absence of a history with WFU, it is likely that land management agencies will have to invest more initially to produce a program like SEKI. Once, established, however, there is good evidence that WFU can become another viable tool in the agency's fire and fuels management repertoire.

Lesson Learned: To be an effective land management tool WFU must be part of a comprehensive fire management program. With regard to WFU, the program must address how multiple fires can be managed simultaneously, how resources are received and supported during a long-term fire, and how the public and stakeholders are educated and informed about this land management method and the specifics of a WFU fire.

Response

When land management agencies allow WFU, their success can be affected by a variety of factors. The lessons learned about successful WFU management range widely and touch many different aspects of the event.

Engaging and Maintaining Local Knowledge

The use of outside resources like FUMTs and FUMs is common, particularly when local agencies cannot adequately support a WFU event while accomplishing their other responsibilities. Delegation of a WFU to these groups can provide much needed manpower; however, fire staff seasoned in WFU argue that these groups must possess considerable local knowledge. Knowledge of the factors that affect the “perceived fire” is a must. The SEKI fire staff often works to find individuals locally that can support WFU. One interviewee commented that these individuals “come with an understanding of the social and political factors that affect our operations.” The need for local knowledge also extends to fire information.

When FUMTs are used on SEKI events, the Park provides in-briefing materials and delegations of authority that clearly state the Park's requirements to remain engaged in the event, particularly in the dissemination of information. SEKI staff work to ensure that the FUMT information officer benefits from their local experience. During a recent WFU event, the Park fashioned a relationship with the FUMT where the actions of the information officer on the team were coordinated with the FEIO on the Park. The use of an external team must be supported by the local unit. As one SEKI interviewee stated, “Just because a team comes in doesn't mean the local unit abdicates responsibility.” Similarly, upper management within the Park also takes an active role in the management of the fire even if an FUMT is assigned.

“Just because a team comes in doesn't mean the local unit abdicates responsibility.”

Lesson Learned: The value of local knowledge cannot be underestimated. When outside resources are assigned to a WFU fire, the host agency should make resources available to the team that can represent the local fire, social, and political factors that might be affected. Host agencies should plan to support incoming teams with the local knowledge that will ensure that the team is aware of local constraints, stakeholders, and history that will ultimately affect the host agency during and after the fire.

Organizational Infrastructure

Unlike many initial attack fires, a WFU event can extend over a much longer period of time. A recent SEKI WFU event began in late July and burned until early December, lasting approximately four and a half months. Although this event was particularly long lived, agencies considering WFU as a management tool must prepare for longer events. At the lower stages of an event, the long-term support of WFU monitoring resources can easily tax the abilities of local units. SEKI often puts Fire Monitors in remote areas and supports them for weeks at a time.

Over the years, SEKI has developed the ability to support these long-term WFU events. They have developed a cache of back country supplies, trained their staff for week-long stays in remote areas, and have assigned specific resources (e.g. helicopters) to support the remote personnel. Despite this preparedness, the Park staff notes that it can be easy to simply put people out there and forget about them. To ensure that this does not happen, each monitor gets a formal 204 division assignment, map, and an emergency communications plan. Using the ICS, each monitor is to report to the Fire Use Manager as if they were reporting to the incident commander on a Type 3 or Type 4 event. In fact, the Park fire staff prefers that the terminology used in WFU be replaced by more commonly known ICS terms. (The Fire Use Manager, for example, should be referred to the Incident Commander.) In addition to providing equipment and supplies for back country work, the Park also provides their monitors with a Fire Monitor's Kit. This kit contains what they will need to monitor and record the fire's activity.

The duration of a WFU event appears to impact more than just the local organization. The prospects of a five month fire can run contrary to a suppression focused fire resource system, particularly during high national planning levels or active regional fire seasons. In their years of WFU events, the Parks have noted reluctance on the part of the larger fire organization to commit resources to a potentially long fire. The Parks' perceptions are not invalid. Agencies who have a greater commitment to suppression also struggle with the pressure of assigning resources for long periods of time, particularly when they must also provide for suppression. Agencies who have formal or informal resource sharing agreements with their neighbors can be unable to support a WFU event when they have let their resources, particularly aviation, leave the unit to suppress fires. This situation and others like it must be worked out in pre-

season planning. The ease with which a decision to allow or suppress a potential WFU fire is one that is best supported and justified by comprehensive pre-season planning.

One seasoned firefighter said, “If it doesn’t burn under our conditions, it will burn under extreme conditions.” This point is understood by many; however, the “conditions” under which WFU is used as a management tool must be well thought out, comprehensive, and defensible. While it is always possible that a WFU event will be converted to a suppression event, the likelihood of this occurrence appears to be just as dependent on the environment as it is on the preparedness of the agency managing it. One ICT team member noted, “The fire doesn’t care what you name it. In many instances the difference between a WFU and suppression event is how the agency planned for it.”

“If it doesn’t burn under our conditions, it will burn under extreme conditions.”

Lesson Learned: Agencies that use or anticipate using WFU as a land management tool must assess their preparedness to support a long-term fire that could last months. Pre-season contingency planning is needed to provide the information needed when a potential WFU fire starts. Agencies should identify in advance their abilities and limitations from a support perspective and pre-identify responses when abilities are exceeded or limitations are met.

Outside Resources

A WFU event may require the use of outside resources. An FUM or FUMT may be part of an event’s progression. One aspect of working with outside resources deserves additional consideration. The need to engage outside resources, particularly FUMTs, in the “perceived fire” is very significant. During one of SEKI’s recent WFU events, the FUMT played a key role in engaging and gaining the cooperation of the local Air District. The work of the team to “engage” the perceived fire greatly promoted the cause of WFU as a management tool. At one point, a member of the Air District became a non-binding signatory on the Stage III WFIP. Such participation by this outside regulatory authority allowed the fire to accomplish what it has accomplished since the dawn of time. Without a proactive involvement of the FUMT, it is likely that this WFU event would have been converted to a suppression event.

Fire personnel are well versed in the art and practice of wildland fire. Independent of the level of skill, however, it is increasingly clear that fire is a social phenomenon. The social component of wildland fire (the perceived fire) must be as well managed as the physical fire. The over emphasis of the physical fire over the perceived fire is likely to adversely impact the use of fire as a land management tool. Agencies with fire potential involving the public should take tangible steps to prepare for and manage the social components of wildland fire, independent of how it is named.

Lesson Learned: Wildland fire, independent of its cause or use, is a physical and social phenomenon. Agencies should consider both aspects during all aspects of planning and burning operations. Equipping fire staff with the skills needed to meet the needs of the public and stakeholder can smooth the entire process. Tools that promote communication and engagement of agency outsiders can aid fire staff when working with agency outsiders.

Conclusion

A recent survey of land managers who have used WFU as a management tool suggests that the use of this technique is largely dependent on the desire and commitment of a land manager to bring fire back to the landscape. Nothing gathered by the ICT contradicts this finding. If asked, it is likely that all of the SEKI staff would report a strong commitment to fire on the land. This commitment is supported by their culture, which has a long history of successful WFU. The findings of the ICT suggest that there must be a dual commitment by fire managers and line officers for a successful wildland fire use incident.

The findings in this report support many of the statements in the “Initial Impressions Report” from July 2005. That report outlined several trends and issues that promote or inhibit the implementation of WFU as a management tool. This effort found evidence related to many of the issues noted earlier. These include:

- Emerging initiative and sub-discipline
- Agency employees not well prepared to accept and support WFU
- WFU implementation is occurring in a very politically charged operating environment
- The FUMT as a mentor to agency administrators
- Preparing traditional fire suppression resources for WFU assignments

The initial impressions results more closely examined WFU from the incident perspective while this report focused primarily on the infrastructure needed to support a WFU fire. Together they paint similar pictures. As a “new” land management tool, efforts must be taken to address all aspects of an agency’s leadership, planning, and support system. If the process needed to support WFU is not sufficiently acculturated into an agency, surprises at the most undesirable time are likely. By reviewing both reports, fire managers can gain a more comprehensive picture of what is required to use WFU effectively as a land management tool.