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USDA Forest Service
Pacific Southwest Region

Fire & Aviation Management

REGION 5
FUELS MANAGEMENT STRATEGY

TABLE OF CONTENTS

REGION 5 FUELS MANAGEMENT STRATEGY
EXECUTIVE OVERVIEW

PURPOSE

The Forest Service Pacific Southwest Region (R5) Fuels Program is a high accomplishment producing program, meeting or exceeding targets for hazardous fuel reduction annually across the region. Despite this, R5 has not been able to fully meet the broader objective for which the program exists: effecting ecological restoration and community wildfire protection, on a scale expansive enough to have a net positive effect in changing the overall hazardous fuel loading situation while integrating the ecologically appropriate role of fire across the entire Region. Even with several years of surges in funding and related accomplishment, the region has not been able to adequately expand efforts to meet the pace and scale needed to bring about the intended effect. Changing this dynamic consistent with the Region 5 Leadership Intent for Ecological Restoration is a primary goal of the Fuels Management Strategy.

This Fuels Management Strategy is intended to identify goals and objectives, along with providing a set of strategies and processes, for continuous improvement of the R5 Fuels Program so as to bring about the intended change. It is intended to provide broad strategies which will position the program for success within the context of existing laws, national and regional policy and strategic direction, and the bounding within the agency, rather than simply just providing a check list of action items. To accomplish this, the Strategy needs to be agile and dynamic enough to address emerging opportunities and needs, and therefore will be reviewed and updated on a periodic basis. The identification of strategies draws upon the best ideas of agency employees at all levels and was developed in collaboration with other agencies and a wide range of external partners with varied interests.

BACKGROUND

National Forests play a critical role in the lives of Californians; R5's National Forest System represents 20 million acres or approximately one-fifth of California's landscape. In addition to providing abundant wildlife habitat, these forests sustain communities and families by supporting a wide array of ecosystem services. For example, the many facets of the National Forests play a large role in California's economy, including providing safe, clean water (which helps to support the agricultural economy, various industries, and electricity generation). The annual value of water and timber resources and recreational use on National Forests in California add up to approximately $27.5 billion for which R5 receives approximately $200 million per year in congressionally appropriated dollars to manage.

The single biggest threat to the ecological and socioeconomic benefits of the National Forests in California is undesired high severity wildfire. Over the last decade, an average of over 400,000 acres burned annually in California. The Forest Service spends about $200 million per year to suppress 98% of these fires and up to $1 billion to suppress the other 2% of fires that escape initial attack and become large fires.

Region 5 estimates that six to nine million acres of National Forest System Lands in California need treatment to increase resilience to the impacts of disturbances such as wildfire, climate change, invasive species and human population growth. Currently the Region is treating approximately 200,000 acres per year. Even at this aggressive rate of treatment, it will take 30 to 45 years to treat the number of acres needed to make the difference in restoration of National Forests. In an ecosystem characteristic of pre-settlement conditions, fire returned on a regular basis. When fire is excluded, as is the case for 70% of the Region, the resulting fuel buildup can increase the risk of large high severity wildfires burning the forest before those acres can be treated either with mechanical thinning or prescribed fire.

In order to achieve its Ecological Restoration goals, the Region will need to increase the amount of acres restored from 200,000 acres a year to approximately 500,000 acres per year. At current unit costs, this would require an increase of at least $300 million a year of investment to accomplish the goal, but the additional investment potentially saves $800 million annually in direct cost avoidance in suppressing fires. The value of resources protected, including water, property and wildlife habitat, would be in the billions.

Meeting comprehensive ecological restoration goals requires broad integration of regional programs. The Region's guiding document *Leadership Intent for Ecological Restoration -- Implementation Plan* (2013) is intended to provide that comprehensive integration. It was developed to provide detailed descriptions, at both the Regional and individual National Forest level, of integrated approaches spanning vegetation management, timber, fuels, watershed, wildlife, recreation, range, and other resource areas. Region 5's Fuels Program will play a large role in meeting Ecological Restoration goals.

This Fuels Strategy is designed to support, complement, and align with the *Leadership Intent for Ecological Restoration -- Implementation Plan* and to provide more specific information unique to the fuels program. In order to contribute as much as possible to meeting ecological restoration goals, the Fuels Program capitalizes on and build upon existing strengths, while simultaneously addressing areas for improvement. The following Vision, Goals and Objectives, developed in collaboration with partners and interested stakeholders, maintains alignment with national and regional policy, direction and priorities and seeks to strategically plan for the Fuels Program's short- and long-term contributions to the Region's Ecological Restoration goals.

INTRODUCTION

VISION STATEMENT

Our professional, highly trained workforce practices a collaborative, integrated, and adaptive approach to fuels management, using modern and ecologically sensitive techniques to create and sustain landscapes that are resilient to ecosystem stressors such as fire and climate change, that provide key ecosystem services, and that are responsive to the values and needs of human beings.

ABOUT THIS STRATEGY

The Vision Statement and the following Goals and Objectives, along with potential Strategic Actions (Appendix A), were developed collaboratively during two brainstorming sessions with approximately 40 meeting attendants combined. Approximately half of the contributors are Forest Service employees (from various staffs and units), while the other half were from external stakeholders that include partner federal and state agencies, environmental organizations, local Fire Safe Councils, etc. Region-wide goals for the Fuels Program were drafted, and objectives and potential strategic actions were identified. After continued collaboration and revisions, the finalized overarching goals and corresponding objectives are:

Goal 1: Produce implementable fuels management plans that deliver timely results on the ground. (aligned with National Cohesive Strategy (NCS) Goal " Restoring and Maintaining Resilient Landscapes")

Objective 1.1: Develop Congruency Between Planning Process and Timeline of Action
Objective 1.2: Plans Should Account for Landscape-Level Considerations Through Scientifically- and Socially-Based Collaboration, and be Developed in a Manner that Provides for Flexibility and Adaptation to Change.
Objective 1.3: Complete the NEPA Process in a Manner that Diminishes Susceptibility to Challenges and Litigation
Objective 1.4: Develop and Maintain Professional and Technical Capacity of Fuels Planners

Goal 2: Use collaboration to achieve fuels management and ecological restoration objectives on a landscape scale. (Aligned with NCS Goal "Creating Fire Adapted Communities" NCS Western Region Phase II Document "collaboration and communication are the keys to success" (page 2)).

Objective 2.1: Increase our Understanding and Capacity to Collaboratively Engage.
Objective 2.2: Provide Motivation to use Collaboration.
Objective 2.3: Incorporate Local/Traditional/Interagency Knowledge and Techniques.

Goal 3: Promote the use of natural-ignition wildfires and prescribed fires by taking advantage of all opportunities to strategically meet forest plan objectives in the landscape when conditionally and contextually appropriate. (Aligned with NCS Goal "Restoring and Maintaining Resilient Landscapes" and Western Region Phase II Document "use a variety of vegetation management tools … such as prescribed fire …" (page 3)).

Objective 3.1: Develop and Communicate Expectations
Objective 3.2: Take Advantage of All Opportunities from Natural Ignitions when Appropriate.

Objective 3.3: Increase Prescribed Fire Acres
Objective 3.4: Capitalize on Modeling/Computer Database Capabilities

Goal 4: Develop and support a workforce trained in wildland fire and natural resource management, collaboration and communication, that is adaptable to change, and committed to achieving social and ecological outcomes through project work. (Aligned with NCS Goal "Responding to Wildfires")

Objective 4.1: Develop a Professional Fuels Staff Within the Forest Service
Objective 4.2: Capture and Learn from Experience
Objective 4.3: Support a Sustainable Local and Interagency Workforce to Build Long-Term Capacity

Goal 5: Communicate efficiently and effectively within and outside the organization (Aligned with NCS Goal "Create Fire Adapted Communities")

Objective 5.1: Develop and Provide Consistent, Holistic Messaging to External Groups and the Public
Objective 5.2: Coordinate Fuels Program Efforts Internally and Externally
Objective 5.3: Foster Two-Way Dialogs, Providing for Mutual Learning Opportunities

Goal 6: Utilize current science and research to inform policy, planning, and implementation of the fuels program. (Aligned with NCS Goal "Responding to Wildfires")

Objective 6.1: Stay Current
Objective 6.2: Inform Planning and Implementation
Objective 6.3: Inform Policy and Directives
Objective 6.4: Institutionalize Monitoring

Goal 7: Ensure the efficiency and effectiveness of the fuels program through the use of best public administration practices, ensuring the appropriate and prudent use of public (Aligned with NCS Goal "Restore and Maintain Fire Resistant Landscapes")

Objective 7.1: Level Budget Allocations and Direction
Objective 7.2: Maximize Use of Existing Interagency Agreements, cooperative Agreements and Authorities
Objective 7.3: Utilize Appropriate Non-Fire Fuel treatments Effectively.
Objective 7.4: Pool Available Resources

In the following document, the overarching issues described under each **Goal**, along with the underlying assumptions that serve as a basis for objective development. **Objectives** provide specific statements of action that, when completed, will move the Program toward the goal. **Strategic Actions** (Appendix A) are potential actionable items which may help meet these objectives. These are provided as a "menu", meant to capture ideas that either the Region or individual National Forests may choose to move forward with if, when, and where appropriate.

GOAL 1: PRODUCE IMPLEMENTABLE FUELS MANAGEMENT PLANS THAT DELIVER TIMELY RESULTS ON THE GROUND.

Fuels management in Region 5 requires significant planning efforts at the Regional, Forest and District level, but roadblocks in the planning process can lead to less-than-optimal plans, delayed implementation, and frustration for both Forest Service staff and external stakeholders. In addition to delayed action, planning can have a high financial cost if projects are challenged or litigated. The lack of robust collaboration efforts has led to a history of litigation and has shaped the approach to planning. Given these pressures, the Region has often focused on developing fuels project plans with an eye to successfully navigating the process rather than achieving landscape-level, long term objectives of managing conditions on the ground. Despite these challenges, the planning process is still successfully navigated and actions are implemented in many cases; the fact still remains, however, that the Region is falling behind on fuels treatments. Addressing the roadblocks to producing timely, implementable plans is critical to the Region's fuels management program.

OBJECTIVE 1.1: DEVELOP CONGRUENCY BETWEEN PLANNING PROCESS AND TIMELINE OF ACTION (SHORTEN AND STREAMLINE THE PLANNING PROCESS)

Complying with the National Environmental Policy Act (NEPA) process, necessary to insure proper consideration and management of our natural resources, has become long and complicated. This can hinder the agency's ability to get strategic work done at the pace and scale required to fulfill our public trust responsibility as land managers. Further complicating the process is the often incongruent timelines and steps needed to meet other federal and state agencies' regulations and processes. In addition to the time it takes to complete the planning process, Forests and Districts often lack adequate or consistent funding for planning, further lengthening the time it takes to complete project planning. Currently, fuels are reduced on more acres burned by wildfire than by planned treatments. However, when burned by wildfire, the post-fire condition is often not achieving or trending towards desired conditions. Thus, the Region needs to find ways to shorten and streamline the planning process to speed up implementation so that fuels can be modified prior to them burning in wildfires. This is especially critical for achieving strategic treatments across the landscape.

OBJECTIVE 1.2: PLANS SHOULD ACCOUNT FOR LANDSCAPE-LEVEL CONSIDERATIONS THROUGH SCIENTIFICALLY- AND SOCIALLY-BASED COLLABORATION, AND BE DEVELOPED IN A MANNER THAT PROVIDES FOR FLEXIBILITY AND ADAPTATION TO CHANGE.

In order to achieve meaningful and effective landscape-level work, the Fuels Program must acknowledge that it can't address ecological restoration alone. While fuels management will play a large role in the overall footprint and activities of ecological restoration, collaboratively developing interrelated actions for ecosystem management with various other resource programs will be necessary. In addition to internal collaboration, projects and plans should be both scientifically based and informed by stakeholder interests. Upcoming Forest Plan revisions offer an opportunity to make upfront considerations for the role fire plays in the landscape, and exercise our responsibility as land managers to develop desired conditions that adequately acknowledge fire as a driver for change. The Region 5 Fuels Program will be instrumental in moving towards those desired conditions across the landscape consistent with the Region's Leadership Intent for Ecological Restoration.

Objective 1.3: Complete the NEPA Process in a Manner that Diminishes Susceptibility to Challenges and Litigation

When functioning properly, the NEPA disclosure process provides an opportunity to identify significant issues, explore alternatives to a proposed action, and identify the best way(s) to meet the purpose of, and need for, a project or action. Unfortunately, in many cases confusion or controversy surrounding a project results in it being challenged and/or litigated based upon claims of inadequate NEPA analysis and documentation, and/or failure to initiate deeper levels of collaboration. As an agency, the Forest Service may fail to develop alternatives collaboratively with external stakeholders, and hence miss opportunities for identifying more agreeable options that still meet the proposal's purpose and need. In some cases, external stakeholders, feeling cut out of the process of project development, may use challenges and litigation as a means to have their ideas and opinions heard. An alternative view from stakeholders is that the Forest Service has historically pre-determined project decisions and "backfilled" the NEPA process to support that decision. The implication of delay while addressing legal challenges is that no action is taken to treat or restore the land, leaving the forests at risk of unintended and undesired consequences if affected by wildfires or other disturbances. Given the complexities and inherent tradeoffs associated with managing the landscape for multiple uses and multiple resources, it must be acknowledged upfront that the Forest Service may choose to take actions that have ecological consequences in exchange for social benefits, or vice versa. In order to move toward desired conditions at the pace and scale required, the R5 Fuels Program needs to improve the acceptance and defensibility of its NEPA documents through use of the best available science and effective collaboration.

Objective 1.4: Develop and Maintain Professional and Technical Capacity of Fuels Planners

Successful fuels planners have a diverse skill set that includes an understanding of project management, fire, team behavior, tactical and strategic fuel treatment implementation, as well as technical NEPA proficiency. Developing a planner with these capabilities depends on identifying the right individuals to fill the position, and then building on their capacity with proper training. Planning needs to be flexible, while continuing to develop proficient fuels planners ; a new planner should be able to pick up an existing plan and work with it or engage an ongoing planning process, while they are building their level of familiarity with the project or landscape.

Goal 2: Use collaboration to achieve fuels management and ecological restoration objectives on a landscape scale. (aligned with NCS (pg. 6) "a collaborative approach")

To accomplish landscape-level ecological restoration, particularly with an all-lands approach that works beyond geographic and administrative boundaries, the Region 5 Fuels Program must collaborate both internally and externally to develop durable partnerships and implement the most successful integrated projects. Meeting Regional and national goals will require increased collaborative planning, building broader support for proposed activities which may include naturally ignited wildfire meeting stated Forest Plan objectives, fuels reduction, and fire for biodiversity enhancement.

For collaboration to be lasting, it must be a continual process independent of any individual project, even though it is often initiated focused on a specific project. Building long-term relationships with internal and external partners will foster trust and understanding. Taking a collaborative approach requires recognition that land and resource management is a mutual responsibility. For the Region 5 Fuels program, collaborative efforts will help ensure the Region is getting the right work done and making a difference on the landscape, not just accomplishing acres.

Collaborative efforts will vary in geographic space, time and complexity; there isn't one "right" way to collaborate. There are, however, collaboration techniques and tools that are grounded in scientific literature, established practice, and local knowledge. For collaboration to be effective, the effort must be inclusive and transparent; participants must have shared expectations, be committed to joint learning, adaptive to new knowledge, and committed to a long-term venture that may at times be challenging and frustrating.

Objective 2.1: Increase our Understanding and Capacity to Collaboratively Engage

In order to recognize opportunities for collaborative efforts and be successful in the implementation of a collaborative process, there needs to be an understanding of what "collaboration" is, and how to make it work. The Region should consider strategies and tactics that foster understanding and build capacity.

Objective 2.2: Provide Motivation to use Collaboration

Collaborative planning may need to be incentivized initially, especially when it is a new way of doing business at a forest or district. Hesitation to engage in a collaborative effort may be the result of distrust, pressure from deadlines, or failure to recognize the potential benefits of collaboration. The goal is for collaborative planning to become the "business as usual" practice.

Objective 2.3: Incorporate Local/Traditional/Interagency Knowledge and Techniques

In order to take advantage of the vast array of expertise that exists collectively internally and among external partners, efforts should be made to share knowledge and techniques. Doing so not only fosters open dialogue and relationship-building, but also facilitates the potential to expand project work, share resources, and improve local resource management across boundaries.

GOAL 3: PROMOTE THE USE OF NATURAL-IGNITION WILDFIRES AND PRESCRIBED FIRES BY TAKING ADVANTAGE OF ALL OPPORTUNITIES TO STRATEGICALLY MEET FOREST PLAN OBJECTIVES IN THE LANDSCAPE WHEN CONDITIONALLY AND CONTEXTUALLY APPROPRIATE. (ALIGNED WITH NCS CORE VALUES (PG. 6)).

Through landscape-level fire management, the Region 5 Fuels Program will play a tremendous role in reaching the Region's goal of increasing the pace and scale of ecological restoration. Both natural ignition wildfires and prescribed fires have the potential to significantly affect positive change that is both ecologically and economically beneficial. As the R5 Leadership Intent for Ecological Restoration states, "Nearly a century of fire exclusion in California, coupled with other management decisions on both private and public land, has resulted in forests that are at an increasing risk of loss due to large scale disturbances. There is an additional crisis taking place in our Southern California Forests as an unprecedented number of human-caused fires have increased fire frequency to the extent that fire-adapted chaparral can no longer survive and is being replaced with non-native annual grasses at an alarming rate."[1] There is a need for the Region 5 Fuels Program to help lead the Region by returning fire to its role in the landscape, allowing for a more natural range of fire frequency and fire effects, and providing a diverse range of habitats that are resilient to fire, climate change, and other ecosystem stressors. This goal should be met by increasing the use of fire in the landscape when conditionally and contextually appropriate as determined by Forest Plans, ecosystem-specific considerations, and firefighter/public safety.

While internal and external partners agree the Region has the responsibility to consider fire's natural role as an ecological process on the landscape when making management decisions, several barriers exist to achieving this goal. These barriers include an organizational culture that supports fire suppression objective over Forest Plan objectives, risk adversity by Line Officers and the public, limited pre-planning efforts, insufficient decision tools during fire incidents, social barriers, legal liability for damages from fires, regulatory limitations particularly related to smoke and air quality, and a lack of clarity and direction from the Regional and the Washington Offices. In order to reach the R5 Fuels Program's potential as it pertains to ecological restoration, in conjunction with hazardous fuels reduction objectives, these barriers need to be addressed.

Some terminology, while no longer in common use based on current National Fire Policy Implementation guidance, still exists in some Forest Plans in R5. Antiquated terms such as "managed fire", "wildland fire use", and "fire for resource benefit" are being replaced as Forest Plans are revised with clearly stated descriptions and objectives for the myriad of resources associated with specific geographic and social locales, and the associated role of fire and management response to fire. While each and every wildfire will still have protection objectives, wildfires may also have other Forest Plan stated objectives involved in management response to wildfire.

OBJECTIVE 3.1: DEVELOP AND COMMUNICATE EXPECTATIONS

The management decision to utilize naturally ignited wildfire to meet Forest Plan objectives on the landscape comes with a level of risk to the Line Officer. There is a need to share risk-taking upfront, rather than scrutinizing responsibility in after-the-fact reviews. The Regional and Washington Offices need to actively and visibly support reasonable and thoughtful fire management decisions both prior to and during events. The public also needs to share in the responsibility of utilizing fire to meet Forest Plan

[1] U.S. Forest Service, Pacific Southwest Region. *Region 5 Ecological Restoration: Leadership Intent.* R5-MR-048, March 2011.

objectives; if fuels are not reduced with fire, then public support is needed for other means of treatment. Without public support for management decisions, the public needs to be willing to accept potential abnormally severe wildfire outcomes, including threats to communities, infrastructure, and natural resources.

Objective 3.2: Take Advantage of All Opportunities from Natural Ignitions when Appropriate (Aligned with NCS core value (pg. 6))

Natural ignition wildfires offer the greatest potential for landscape-level fuels reduction, yet the Region does not take advantage of most of these cost-effective, ecologically appropriate opportunities. This is despite the fact that many of these opportunities align with Forest Plans, address ecosystem-specific considerations, and do not pose greater risk to firefighter or public safety. Much of this could be explained by the lack of clearly communicated expectations mentioned above, however other factors play in to these missed opportunities. The Incident Command System and tools such as the Wildland Fire Decision Support System (WFDSS) are currently focused on fire suppression intelligence. Additionally, our partner fire fighter agencies have different missions and objectives, based on type and location of land, when responding to fire incidents.

We often lack comprehensive pre-planning documents that include maps depicting desired fire objectives and responses, and the immediacy required for decision-making during an incident may inhibit our ability to develop strategic fire management objectives aligned with Forest Plan objectives "on the fly". California also has over 15 million acres of designated Wilderness, with approximately 5.5 million of these acres falling within the National Forest System. In many cases, the Wilderness character of these areas, along with some portions of Recommended Wilderness Areas, would benefit from natural ignition. However, real or perceived restrictions on wildfire activities within these Wilderness areas, as well as in designated Inventoried Roadless Areas, may be causing false limitations on the Region's opportunities to meet Forest Plan and Wilderness objectives with naturally ignited wildfire within boundaries if not well-understood, communicated, or analyzed for flexibility. Some plans may need modification to support fire as a tool to meet Forest Plan stated objectives.

Objective 3.3: Increase Prescribed Fire Acres

Region 5 is averaging only 40,000 acres of prescribed burning a year; given a 20 million acre footprint, and in the context of ecological restoration objectives, this annual average should be increased. In addition to the ecological benefits of prescribed fire, it is also an important tool for hazardous fuels reduction. The prescribed fire projects we are executing tend to be small-scale, which could be better leveraged to take advantage of the cost-saving opportunities of large-scale treatments, especially where an all lands approach can be used. Some barriers to increased use of prescribed fire include regulation of smoke, Limited Operating Periods for wildlife considerations, insufficient funding or qualified staffing, and variable public acceptance, in addition to many other potential factors.

Objective 3.4: Capitalize on Modeling/Computer Database Capabilities

A number of high-quality models exist and are continually being refined. The in-development Interagency Fuels Treatment Decision Support System (IFT-DSS) platform, for example, is being designed to provide multi-model accessibility to field practitioners. By integrating these models it can help increase the number of burn days, for instance, by making it easier to consider potential fire behavior and smoke production/transport. Accessibility, however, will be moot without proper training at the field level, or without clear understanding of capabilities and without understanding how to use models to evaluate and communicate the different consequences of different choices.

[Additionally, there is a need to focus on refinement of existing models rather than continually developing similar models.

Goal 4: Develop and support a fuels workforce trained in wildland fire and natural resource management, collaboration and communication, that is adaptable to change and committed to achieving social and ecological outcomes through project work. (Aligned with NCS core value "best available science and knowledge" (pg. 6)).

The fuels staff relied upon to plan and complete the program of work is the backbone of the R5 Fuels Program. Despite this, no clear "career ladder" for a fuels professional or technician has been developed that adequately capitalizes on existing skill sets, builds on personal and professional interest, and develops the diversity of skills and experience needed to have the most holistic capabilities available. This holds true for both Forest Service staff as well as the local workforce often relied on. Aside from basic firefighter training and technical skills needed for fuels treatment application, the Region should instill an ecologically-based training approach in developing its workforce.

Objective 4.1: Develop a Professional Fuels Staff Within the Forest Service (aligned NCS efforts discussed on pg. 46).

The Region 5 Fuels program staff is, for the most part, comprised of wildland fire fighters who have shifted from suppression-oriented work to pre-suppression planning and implementation. While this may be an appropriate and necessary transition, the workforce capacity may be lacking a diversity of skills that will help guide their understanding of fire and forest/chaparral ecology as well as the NEPA process.

Objective 4.2: Capture and Learn from Experience (aligned NCS efforts discussed on pg. 46).

One of the most important tools the Region has is experiential knowledge. At all levels of the organization, lessons can be learned, new strategies can be developed, and past work can be built upon to improve future outcomes. In order to fully exploit this knowledge, the Fuels Program should institutionalize an effective process for doing so. Processes and databases need to be tailored to the user, so information is accessible at the spatial and temporal scale most appropriate to their needs, and in a timeframe which is most useful for decision-making.

Objective 4.3: Support a Sustainable Local and Interagency Workforce to Build Long-Term Capacity (aligned with NCS core values (pg. 6))

Given the organizational culture of the Forest Service, in which employees frequently move between Districts, Forests, and Regions, maintaining a local knowledge base can be difficult. Taking full advantage of a less transient non-Forest Service local workforce may provide consistency and a mechanism for capturing local knowledge. A local workforce may also provide new knowledge about the landscape, historical treatment locations and methods, etc. Utilizing external fuels program support may also help bolster the local economy by providing jobs. In addition to a local workforce, an all-lands approach to fuels management should also incorporate interagency fuels staffs. Crossing jurisdictional boundaries

and planning for the most effective landscape-level fuels work by working cooperatively with local and interagency partners will greatly improve collective capacity to get work done.

GOAL 5: COMMUNICATE EFFICIENTLY AND EFFECTIVELY WITHIN AND OUTSIDE THE ORGANIZATION. (ALIGNED WITH NCS "CORE VALUES")

One of the most important challenges the Forest Service faces as a large, multi-faceted agency is communication, both internally and externally. The complexity of issues, decentralized organizational structure, and limited resources are just some of the barriers to effectively and efficiently communicating with colleagues, partners, and interested parties. Creating and maintaining meaningful dialogues are essential to help build support for the work the Region does and to provide it with a more comprehensive understanding of relevant issues. Regardless of how much time, energy, and commitment are dedicated to fuels management in the Region, poor communication can be detrimental to the ability to reach desired conditions in a timely, cost-effective, and ecologically sound manner.

OBJECTIVE 5.1: DEVELOP AND PROVIDE CONSISTENT, HOLISTIC MESSAGING TO EXTERNAL GROUPS AND THE PUBLIC

Region 5 puts significant energy into communicating with external groups and the public about the inter-related topics of fire, fuels management, public safety, and ecological restoration. Unfortunately, messaging and language among the efforts are not necessarily consistent or explicitly linked to each other. This may be explained in large part by the decentralized nature of the Forest Service, but that should not preclude the Region's ability to develop a communication strategy that elevates the Fuels Program messages and helps garner support for its work. Doing so will require strategic actions, collaboration with partners, and the ability to get beyond administrative and jurisdictional boundaries. The appropriate staff members need to be identified to deliver these messages to the public based on situation and topic; these staff members, however, must be capable of fostering a dialogue with the public that allows for mutual learning, rather than just acting as figure heads.

OBJECTIVE 5.2: COORDINATE FUELS PROGRAM EFFORTS INTERNALLY AND EXTERNALLY

To achieve landscape-level fuels program objectives, the Fuels Program needs to be coordinating short-term project work and long-term planning both internally and externally. Without this coordination, the Fuels Program runs the risk of creating avoidable problems that can result from poor communications, including smoke management issues resulting from multiple unrelated prescribed fire activities. Without this deliberate coordination, there may be missed opportunities to maximize effectiveness while minimizing cost, which can erode our credibility with the public. Coordination must occur across jurisdictional and administrative boundaries, and needs to be both bottom-up, top-down, and lateral.

OBJECTIVE 5.3: FOSTER TWO-WAY DIALOGS, PROVIDING FOR MUTUAL LEARNING OPPORTUNITIES

Historically the Region has used public education strategies that amount to information dissemination in various formats. The best communication strategies for the R5 Fuels Program will be those that are process-oriented and allow for mutual learning. Not only will communication efforts with the public and partners be more successful if the Fuels Program engages in a two-way dialog with them, but its own understanding of the issues, opportunities, and new information/research will be expanded. The Program should also be capitalizing on "teachable moments", inviting the public to see its work. Additionally, the Fuels Program should seek out opportunities to engage in and learn from fuels work being accomplished by its partners. Mutual learning is optimized when information is shared between forests and between the forests and the Region.

GOAL 6: UTILIZE CURRENT SCIENCE AND RESEARCH TO INFORM POLICY, PLANNING, AND IMPLEMENTATION OF THE FUELS PROGRAM. (ALIGNED WITH NCS "CORE VALUES" (PG. 6) AND NCS PG. 46).

In order to insure the Fuels Program is making informed and appropriate management decisions that align with its best understanding of ecosystem dynamics, science and research must be an integral part of its development and adaptation processes. Science will be used to inform policy, NEPA analyses, and project proposals. The Fuels Program must utilize research, monitoring, and modeling to analyze short, intermediate, and long term implications of management strategies and activities on greenhouse gas, other emissions, ecosystem components and outcomes, including biomass utilization and renewable energy. Additionally, the Fuels Program should encourage the incorporation of social science, including topics such as valuing and incorporating traditional/local knowledge, analyzing and processing risk, etc.

OBJECTIVE 6.1: STAY CURRENT

The Region's fuels organization is good at doing fire research and modeling, but it should be continually improving information dissemination and teaching opportunities to arm field practitioners with the most up-to-date science for planning and implementation. It is essential to develop a workforce at the District and Forest level that is current in its field of study, including fire science, ecosystem science, and climate change adaptation and mitigation strategies. The Fuels Program will integrate more effectively with science dissemination entities like PSW Research Station, the Region 5 Ecology program, the California Fire Science Consortium, and the Southern Sierra Fire Management Working Group.

OBJECTIVE 6.2: INFORM PLANNING AND IMPLEMENTATION

The Fuels Program should utilize the most scientifically-based, ecologically appropriate treatments on the various landscapes and ecosystems in the Region. In the planning stage, collaborative development of actions and alternatives need to be firmly grounded in scientific research. Additionally, every opportunity should be taken to learn from treatments and make adjustments for optimal effectiveness through monitoring and adaptive management. Not only should the Fuels Program work directly with the scientific community to continually improve practices, but it should also proactively inform science and research by utilizing the implementation results for continued learning regionally.

OBJECTIVE 6.3: INFORM POLICY AND DIRECTIVES

While the role of public agencies is not to influence policy, the work the Forest Service does and the results seen should be included in dialogues about the direction of R5's Fuels Program. Research and science that reflect treatment effectiveness, climate change adaptation scenarios, fireshed management, etc. should be used to inform policy, though often times the reverse is true. In order for the results of the Program's work to complement independent research, it must have credibility and accountability. There also needs to be clarity and direction regarding how to process and utilize monitoring data.

OBJECTIVE 6.4: INSTITUTIONALIZE MONITORING

The application of adaptive management is dependent on implementation and effectiveness monitoring to allow for adjustments and restructuring of the practices being used. Failure to conduct effectiveness monitoring on restoration projects may lead to unintended long-term effects and uncorrected errant trajectories in the restoration process. Effectiveness monitoring, including both pre- and post- treatment data collection, needs to be incorporated into project planning/ design / funding. The monitoring program must have clear objectives, be of a sound statistical design, and retain quality control for data collection and management. If done correctly, monitoring will encourage the convergence of knowledge

and facilitate sharing of data. Externally, monitoring will promote credibility with collaborators and stakeholders.

GOAL 7: ENSURE THE EFFICIENCY AND EFFECTIVENESS OF THE FUELS PROGRAM THROUGH THE USE OF BEST PUBLIC ADMINISTRATION PRACTICES, ENSURING THE APPROPRIATE AND PRUDENT USE OF PUBLIC FUNDS (ALIGNED WITH NCS "CORE VALUES" (PG 6))

In comparison to the rest of the nation, R5 receives a high allocation of federal funds for fuels management work. However, fuels management costs in R5 tend to be higher based in part on the difficulty of treatments in proximity to urban areas, rugged terrain, and higher levels of project scrutiny and external regulation. Despite the complexities, the Region has an obligation to spend federal funds in a way that meets intended purposes, reduces hazardous fuels, and balances ecological restoration objectives with social concerns. It's important to keep in mind that often times projects require multiple treatment types/entries on the same spot of land to effect change, which means higher cost for a smaller footprint on the landscape. Despite the high cost and complexity of doing fuels management work in R5, it is critical that to spend money on strategically placed treatments, rather than finding the "cheapest and easiest" acres to meet targets.

OBJECTIVE 7.1: LEVEL BUDGET ALLOCATIONS AND DIRECTION

The Region, and more importantly Forests and Districts, are subject to inconsistent funding levels on a year-to-year basis. As a result, out-year planning is difficult and the Fuels Program needs to remain agile and flexible. Part of this may require upwards education, taking some ownership in the process by telling the fuels program story better. This includes demonstrating that fuels management investments could ultimately save taxpayer money by reducing the risk of high-cost fires as well as reducing suppression costs, given the appropriate scale and placement of treatments. The Fuels Program also needs to explain the benefits these treatments can have on ecosystem services. Aside from marketing the value of the Program, the Region needs to insure the allocation process is effective, and that it's investing in the most critical fuels treatments for meeting our objectives. Finally, accountability needs to be maintained to verify accomplishment of the reported work, and doing so in the most cost efficient and ecologically appropriate way.

OBJECTIVE 7.2: MAXIMIZE USE OF EXISTING INTERAGENCY AGREEMENTS, COOPERATIVE AGREEMENTS AND AUTHORITIES

There is an opportunity to drastically increase the quantity and quality of strategic fuels treatments by taking advantage of grants, agreements, and other authorities. Identifying these opportunities may be one of the biggest barriers to maximizing them; often times they are sought out at the District Office level, but limited resources may prevent staff from spending the time needed to find and develop them. While the district staff may have the best understanding of the local community and potential partnerships, their time constraints limit their ability to consider them all. There also may be a lack of awareness about all the authorities the R5 Fuels Program has to work with. Addressing these roadblocks will help move the Region towards increasing the rate and pace of treatments in a faster and more cost-efficient way.

OBJECTIVE 7.3: UTILIZE APPROPRIATE NON-FIRE FUEL TREATMENTS EFFECTIVELY

In many high-priority fuels management treatment areas, prescribed fire may not be appropriate (for first entry or any subsequent entries, depending on several variables). Given the limitations on prescribed fire,

the Region 5 Fuels Program should aim to identify the most effective and beneficial treatments with the most affordable initial and maintenance costs. Recognizing these treatments or pre-treatments offer opportunities to provide economic benefits to local communities while reducing the cost to the agency, the Program must work to develop agreements and consider creative partnerships.

OBJECTIVE 7.4: POOL AVAILABLE RESOURCES

The decentralized nature of the agency leads Forests and Districts to operate within their own administrative boundaries, utilizing dedicated resources for accomplishing work within their assigned geographic boundaries. This makes sense given the target-driven nature of how the agency accounts for spent dollars by unit. Funds are allocated unevenly, often as a result of congressional, national, or Regional priorities, or in response to Forest-reported capabilities. While these variables may be difficult to influence, there still needs to be more efficiency in use of funds by integrating funds and sharing resources when possible.

APPENDIX A: STRATEGIC ACTIONS

GOAL 1: PRODUCE IMPLEMENTABLE FUELS MANAGEMENT PLANS THAT DELIVER TIMELY RESULTS ON THE GROUND.

OBJECTIVE 1.1: DEVELOP CONGRUENCY BETWEEN PLANNING PROCESS AND TIMELINE OF ACTION

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Create a rotating-membership Interdisciplinary team to address regional and sub-regional differences with regulatory requirements among various agencies (U.S. Fish and Wildlife Service, National Marine Fisheries Service, Air Pollution Control Districts, Water Quality Control Boards), as well as difference in Federal versus other processes (for example, Endangered Species Act consultation under various titles). Note: It may be helpful for this group to initially start a landscape analysis of forests that provides a cumulative analysis of landscape conditions and desired outcome for target areas [areas for treatments within the Wildland Urban Interface (WUI) or near communities]. This would help to frame the desired direction for future members that were not involved in the initial process. **(R)**

Work with local, state, and federal air quality regulators to expand options for large acreage burns. **(F)**

Identify and address internal inefficiencies in the planning process and identify and test alternate streamlining processes. **(R)**

Monitor weather, fuels, and wildfire potential products, in order to take advantage of a greater percentage of the favorable prescribed burn opportunities that do appear. This could include the 7-Day Significant Fire Potential product of Predictive Services, or National Weather Service 7-day Planner tools. **(F)**

Identify mechanisms to provide an even flow of money for planning. Examine models of existing mechanisms, such as the Working Capital Fund used for nursery operations, or a Brush Disposal/Knutson-Vandenburg Act trust fund type of approach. **(R)**

Ensure line officers provide realistic planning and implementation timelines that consider expectations for resources (funding, personnel, implementation conditions, implementation resources, etc.) across the entire planning and implementation horizon. Line officers need to support team leaders in closely coordinating specialist time estimates and setting realistic analysis parameters. **(R, F)**

Develop a continuous improvement process that tracks and evaluates delays in planning and implementation. **(F)**

Determine the appropriate mix of the Budget Line Items of NFTM, NFVW, WFHF, CWK2 and NFCC to plan, prepare, and implement stewardship projects and prescribed burning. (See also Objective 7.4) **(F)**

Recognize many of other area target accomplishments come from fuels reduction projects but are not collaterally funded. (See also Objective 7.1) **(F)**

OBJECTIVE 1.2: PLANS SHOULD ACCOUNT FOR LANDSCAPE-LEVEL CONSIDERATIONS THROUGH SCIENTIFICALLY- AND SOCIALLY-BASED COLLABORATION, AND BE DEVELOPED IN A MANNER THAT PROVIDES FOR FLEXIBILITY AND ADAPTATION TO CHANGE.

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Incorporate strategic fuels planning and fire management desired conditions into Forest Plans during Plan revisions and amendments. **(F)**

Utilize a structured analysis process, such as a region-wide Wildland Fire Management Risk and Cost Analysis Tools process [as used in Collaborative Forest Landscape Restoration Act (CFLRA) project identification], to identify strategic locations for treatment. for Healthy Forest Restoration Act (HFRA) and CFLRA project development, for example. **(F)**

Utilize Wildland Fire Management Risk and Cost Analysis Tools strategic approach along with a Community Wildfire Protection Plan process to identify a fundable pool of projects for Hazardous Fuels and State Fire Assistance funding. **(R, F)**

Utilize the California Fire Science Consortium and its regional subgroups as a tool to get the most current fire science information into projects and to help establish fire research priorities based upon management information needs. Fully participate and engage in the California Fire Science Consortium. http://www.cafiresci.org/ **(R, F)**

- Engage the Pacific Southwest Research Station, academia, non-governmental organizations, and others in research on key broad-scale and forest-level questions related to fire and management of National Forest System lands. **(R)**

Plan and implement appropriate treatments (risk and hazard analysis) to reduce the threat to communities or values from uncharacteristic fire and to restore or maintain ecological values.

- Using an "all-lands" approach, periodically (annually, for example) analyze fire hazards, values, and risks **(F)**
- Use a Geographic Information System to plan treatments, ecological, life/safety, infrastructure, and cultural resource values will be analyzed and updated yearly through feedback from monitoring and research advances **(F)**
- Consider and develop project design criteria that mitigate negative impacts to cultural and natural resources that might result from management operations (Sequoia and Kings Canyon Fire and Fuels Management Plan 2005). **(R, F)**

Put together a team to identify and incorporate recommendations from collaboratively developed State Fire Plans and Statewide Assessments (including California, Hawaii, and the U.S. Pacific Islands) in this strategic plan, in Phase III of the National Cohesive Strategy, and with the Forest Plans through amendment or revision, as appropriate. Note: The rotating Interdisciplinary Team (IDT) (from Objective 1.1 strategies) could be initially tasked with this to identify areas of overlap and to coordinate integration across these different Plans and Assessments. **(R)**

Bring on a special projects detailer or build a team to develop an annually-updated "Book of Statistics" from existing corporate data of acres treated, displayed with variables including cost, quantity within R5 National Forest (NF) boundaries, all-lands accomplishments by USFS is R5, state-wide accomplishments, national USFS and all-lands accomplishments, etc. This should be a standard part of monitoring fuels reduction accomplishments in the Region, and should therefore include measureable

statistics that can be tracked and analyzed. Report should be developed with input from partners, and could be used for common analysis, such as integration into the CalFire Statewide Assessment. The document could also facilitate common messaging among partners, and provide easily accessible, transparent information to the public. (See also Objective 5.1) **(R)**

OBJECTIVE 1.3: COMPLETE THE NEPA PROCESS IN A MANNER THAT DIMINISHES SUSCEPTIBILITY TO CHALLENGES AND LITIGATION

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Use a multi-scale and systematic approach to identify core issues of concern from external stakeholders to separate out concerns related to project planning and implementation from broader philosophical concerns about resource management (e.g. active management versus passive or custodial management philosophies or preservation versus conservation philosophies). **(R, F)**

Develop a strategic approach (Regional Office and the Office of the General Counsel) to addressing emerging issues. Where a strategic approach exists, follow it in project planning and implementation and coordinate any deviations with the RO and the Office of the General Counsel. **(R, F)**

Compile or develop examples of high-quality no-action alternative analyses addressing the environmental and social risks that will continue or worsen with a lack of a fuels management project that includes the potential impacts to other resources. Coordinate and share these tools and templates with the Regional Office (RO) Ecosystem Planning staff to ensure awareness and support for their use by forest NEPA planners, environmental coordinators, and fuels planners. **(R)**

Identify landscape (not project) level strategies for use by the Forests in development of project level NEPA "Purpose and Need" statements that tie projects to broader strategies. This work could be tasked to the Regional Strategic Decision Support Cadre. **(R)**

Use the HFRA collaboration and objection process as a means of potentially decreasing litigation. Note: Success may be variable dependent on the skill set of the planning team; therefore, in highly charged settings, collaboration will likely require professional facilitation. **(F)**

OBJECTIVE 1.4: DEVELOP AND MAINTAIN PROFESSIONAL AND TECHNICAL CAPACITY OF FUELS PLANNERS

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Develop the following to enhance fuels planner capacity and skillsets:

- Fuels NEPA analysis training and work guide for Interdisciplinary Team Members **(F)**
- Interdisciplinary Team Member training for fuels personnel **(F)**

Develop skill sets for internal specialists that includes understanding the effects, mitigations, and the

implementation of prescribed fire applications and/or Burned Area Emergency Response assignments. For example, develop a "Fire Effects Training for Specialists" course (similar to "Forestry for Lawyers" concept). **(R)**

Encourage line officers to more strategically use the interdisciplinary team process. Many successful units follow the formal IDT process with a Project Initiation Letter, regularly scheduled IDT meetings with line officer participation, field trips and field reviews, and formal IDT implementation and post-treatment monitoring. Following this structure will allow fuels officers to gain on-the-job training in the IDT process and build more team collaboration amongst all of the team members. **(F)**

Maintain a historic record of activities, outcomes, and thoughts on how to improve success of fuels reduction efforts that track ecological success and increased social acceptance. Include in "Book of Statistics" (see Objective 1.2). **(F)**

GOAL 2: USE COLLABORATION TO ACHIEVE FUELS MANAGEMENT AND ECOLOGICAL RESTORATION OBJECTIVES ON A LANDSCAPE SCALE.

OBJECTIVE 2.1: INCREASE UNDERSTANDING AND CAPACITY TO COLLABORATIVELY ENGAGE

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Establish a Collaborative Steering Group, comprised of internal and external advisors, who can be utilized as a resource by fuels staffs wanting to implement a collaborative model for planning at any unit level. Utilize in-development "Collaboration Social Science Cadre" (point of contact for Cadre is Regional Social Scientist) for expert advice on development of Steering Group. The Collaborative Steering Group may: **(R)**

- Provide advice on the type and level of collaborative engagement, develop and provide a toolkit for initiating and sustaining collaborative efforts, conduct Collaboration Workshops, and offer council or facilitation when challenges arise.
- Develop a training session targeted to Forest Service NEPA coordinators, Public Affairs Officers, and Fuels and other Resource Staff Officers. These could also be targeted towards a specific Interdisciplinary Team considering or embarking on a new collaborative project.
- Develop a Collaboration Support Website accessible to internal and external stakeholders. (Utilize www.fs.fed.us/adaptivemanagement/ as a model.)
- Create and maintain a list of a qualified pool of collaborative mentors/coaches that includes experienced stakeholders.

Incorporate collaboration training to existing coursework and course offerings: **(R)**

- Add courses on "Collaborative Leadership" and "Collaboration Skills" to the L-XXX class series.
- Add collaboration courses to annual fire training calendar.
- Add collaboration modules to Local Fire Management Leadership, M-581, etc.
- Include Interdisciplinary Team simulations.

Work with Regional Partnership Coordinator and Regional Social Scientist to identify financial support for skilled, unbiased facilitators to assist newly-developed collaborative efforts. **(R)**

Task Regional Partnership Coordinator with: **(R)**

- Share/adopt Mountain Area Safety Taskforce and Forest Area Safety Taskforce collaborative models for other areas of R5. Assign RO-funded other-Forest trainees to observe these taskforces' processes, learn what they are, and identify best practices.
- Share/adopt a San Bernardino NF HFRA or CFLRA approach for other areas of R5 not using HFRA as frequently or successfully as San Bernardino NF.

Develop an R5-approved approach for collaboration with local Fire Safe Councils. **(R)**

Encourage prescribed fire planners to collaborate with fire weather meteorologists in the development of their weather element prescriptions. This will help to ensure climatologically realistic and internally consistent ranges for the various weather elements **(R, F)**

OBJECTIVE 2.2: PROVIDE MOTIVATION TO USE COLLABORATION

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Advise Regional Office to issue a letter establishing expectations, parameters, and priorities for collaboration in the Fuels Program. **(R)**

Ensure units are fully aware of and are taking advantage of funding incentives for collaborative projects, such as the Collaborative Forest Landscape Restoration Act funding. **(R)**

Incorporate collaboration into Line Officer performance reviews. For example, "If Forest Supervisor specifies/dedicates a point of contact/designated participant from the NF Supervisor's Office for County Fire Safe Council = exceeds". **(R)**

- RO Fuels Program will work with Regional Social Scientist and Regional Partnership Coordinator to create a Position Description/duty description for individuals who become the Point of Contact to the local Fire Safe Councils, which will include a description of skills, duties, and regional expectations.
- Forests to host an annual fireshed analysis work day for collaborators and other interested public to provide input for new project locations. Information to be shared with the public to enhance "all lands approach"

Assign Forest-level "Partnership Coordinators" tasked with championing collaboration, not just finding funding for project work. **(F)**

Develop an R5 Regional Forester Annual Fuels Collaborative Award using metrics such as the following (which will help track successes): **(R)**

- Quantity of Project decisions using HFRA authority.
- Quantity of CFLRA proposals
- Partner $/in-kind received by Forests (acres attributed by Forest)

Track, monitor, and share successes and lessons learned as collaborative processes and projects are developed and implemented. **(F)**

Use agency sharepoint software, to share with a supportive network that records projects and landscape-level planning, and includes a science library, a "lessons learned" page, a mentor list, a facilitation list, and access to the Collaboration Steering Group (see Objective 2.1). **(R, F)**

OBJECTIVE 2.3: INCORPORATE LOCAL/TRADITIONAL/INTERAGENCY KNOWLEDGE AND TECHNIQUES

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Per the Traditional Gathering Policy (Forest Service Manual for R5, Forest Service Manual 1563.03), "local managers, in consultation with Tribes, tribal communities and native traditional practitioners, will identify opportunities and tribal partnerships to incorporate traditional management practices to restore, enhance and promote ecosystem health". **(F)**

Recognize that the locations of some tribal areas are very sensitive and extra efforts are needed to ensure their protection from the effects of unintended disclosure. **(F)**

Work with local tribal relations liaisons and cultural resource/heritage staff to identify opportunities for restoration and management of traditional cultural resources. Incorporate wildfire management objectives for these areas to ensure coordinated fire management. **(F)**

Integrate Traditional Ecological Knowledge (both the practices and people skilled in doing them) into development and implementation of burn plans that have multiple resource benefits to reduce fuels and enhance cultural resources (i.e., basketry plants, oaks). **(F)**

Implement "all lands" approach by coordinating burn planning and managed fire with local tribes on tribal ancestral lands where possible. **(F)**

GOAL 3: PROMOTE THE USE OF NATURAL-IGNITION WILDFIRES AND PRESCRIBED FIRES BY TAKING ADVANTAGE OF ALL OPPORTUNITIES TO STRATEGICALLY MEET FOREST PLAN OBJECTIVES IN THE LANDSCAPE WHEN CONDITIONALLY AND CONTEXTUALLY APPROPRIATE.

OBJECTIVE 3.1: DEVELOP AND COMMUNICATE EXPECTATIONS

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Communicate support for managed fire at key "reluctant units" in small workshops, including engagement from the Regional Forester and Deputy Regional Forester(s), the Directors of Ecosystem Planning and Ecosystem Management, the Director, Deputy Director and Assistant Director for Fire and Aviation Management, the Forest Supervisor, Forest Fire Management Officer, and Forest Planner. **(R)**

Reverse-engineer Forest Plan desired conditions through the Forest Plan revision process or Plan amendments to provide WFDSS objective statements which have a high degree of utility to effect appropriate ecosystem restoration and maintenance implementation actions. These actions will be consistent with Forest Plan intent during wildfire events (see Goal 1 for more information on Forest Plan Revision Suggestions). **(F)**

Utilize a Regional strategic fire management planning process for Land and Resources Management Plan (LRMP) revision. This process, incorporating modeling and local, place-based knowledge, should be focused with the goal to aid Forest staffs in the incorporation of fire management objectives/requirement and the designation of Fire Management Units directly into the new/revised LRMPs. (See also Objective 6.2) **(R, F)**

Have a Regional, pre-approved standardized intent policy statement for describing acceptable reason for NOT using wildfire as a tool to further Forest Plan identified ecosystem restoration or maintenance objectives. **(R)**

Create organizational (unit) and individual incentive program for making the choice to manage rather than suppress natural ignitions when appropriate. Incentives for a unit may be financial; individual incentives may include recognition, financial awards, or special assignments. (The RO should coordinate with Co-op Fire for future project/training cadre opportunities). **(R)**

Institute Regional Annual peer recognition for: **(R)**

- "No Go" decisions for prescribed fire (the "Tough Call" award)
- Recognition of Line Officers for appropriate risk taking in use of planned and unplanned ignitions. (Or one award for each – planned and unplanned?)

Issue a letter from the Regional Forester (in wet years initially?) to Line Officers and Fire Managers encouraging/supporting management (rather than suppression) of unplanned natural ignitions. Letter should acknowledge the range of fire effects in various vegetation types and accept that "good fire" will have a variable range of fire severities that are grounded in scientific research. . **(R)**

Encourage partners supporting this goal to act as co-leads in public outreach regarding the risks and benefits of managed fire, and support our decisions during reviews when unintended outcomes occur. **(F)**

Re-energize air quality-related committees such as the Interagency Air and Smoke Council, California and Nevada Smoke and Air Committee to address smoke-related barriers to managing fire. (Sierra Forest Legacy is working on this already.) **(R)**

Convene an annual Land Management Agency Workshop including the Environmental Protection Agency (EPA), the California Air Resources Board, the California Air Pollutions Control Officers Association, regarding Smoke Coordination/communication protocol.

Develop economic metrics of water dissolved solid impacts (Southern California forests have a quantification example), air quality impacts (Sequoia NF monitoring example), and other uncontrolled wildfire resource impacts as the basis for economic justification, in addition to suppression cost comparison. **(R)**

Conduct interagency or third-party (such as the National Association of Public Administrators or Office of the Inspector General) reviews (5-10 years) of the fire management programs to determine the following: consistency of policy implementation, effectiveness of interagency coordination, and progress towards ecosystem resiliency. **(R)**

Develop an agreement with CalFire that will allow them to manage unplanned ignitions consistent with Forest Plan direction on National Forest System land within their Direct Protection Area. **(R)**

OBJECTIVE 3.2: TAKE ADVANTAGE OF ALL OPPORTUNITIES FROM NATURAL IGNITIONS WHEN APPROPRIATE

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Orchestrate collaborative pre-suppression plan development effort amongst the Regional Wilderness Program, Ecosystem Planning staff, the R5 National Forests, and external groups (including The Wilderness Society, Wilderness-specific organizations, etc.) to strategically pre-analyze Minimum Tool Analysis for location/timing of Dozer line construction and other mechanized equipment in Wilderness to optimize protection of Wilderness values during wildfire suppression activities. Prioritize Wilderness areas with adjacent WUI and/or other anthropogenic values at risk. [NOTE: undertake same process for pre-fire fuels treatments, including mechanical, prescribed fire, etc. See Objective 3.3] **(R)**

Strategically place fuel treatments, including prescribed fire treatments, across the landscape to facilitate managing natural ignition wildfires. Collaborate with Fire Safe Councils, Watershed Councils, and other local organizations to prioritize areas for pre-fire fuel manipulations and coordinated priorities. **(F)**

Task Predictive Services to develop a one-page paper summarizing all the weather, climate, and smoke dispersion resources available, and how to obtain them. This would include Spot forecasts, online products covering the next 2 days to 1 month, and the daily 1300 Smoke Coordination conference call. confidence in, available weather, climate, and fire-risk predictive/guidance tools covering the next one week to one month. **(R)**

Develop conditional/contextual guidance within Forest Plans for managing natural ignitions that address the ecological role of fire but include parameters for spatial, temporal, and other influential

factors. (Lake Tahoe Basin Management Unit Forest Plan as example.) These plans should be developed through an integrated planning approach and should incorporate the following: **(F)**

- Fire risk and hazard assessment, which would help determine areas that were appropriate to manage fire,
- Identification of sensitive areas and protective actions to implement during fire suppression actions,
- Identification of sensitive smoke areas, and mitigations for smoke,
- Desired condition statements that identify the acceptable range of fire effects and post-fire conditions and identify the desired low, moderate, and high severity fire effects and their ecological benefits,
- Identification of conditions that would necessitate post-fire treatment actions and conditions which would not necessitate post-fire treatment (for example: if some small areas within a fire were burned under high severity it may be okay to leave these areas alone for early successional regeneration or for wildlife species. Identification of areas that may fall into line with historical fire regimes for the area.)
- Beneficial accomplishments of fire that can be measured by quantitative objectives, for examples acres accomplished, fuel loading reduced, generation of habitat (i.e. downed logs, snags, and increases in plant diversity and abundance).
- Training for suppression forces and resource advisors in short term impacts and costs versus the trade-off associated with the continued practice of suppressing all fires.

Manage all wildland fires using strategies and tactics commensurate with protection of human health, safety, and natural and cultural resource values. **(F)**

- An analysis, Go-No-Go checklist could be established to meet human, ecological, and cultural needs.
- Utilizing existing interagency wildland fire planning procedures, analyze risks and complexities for all ignitions in order to determine ignitions, which can be successfully managed for the benefit of ecological, life/safety values, and those that should be suppressed (for example, see Sequoia and Kings Canyon Fire and Fuels Management Plan 2005).
- Minimum Impact Suppression Tactics would eliminate many barriers to using fire in wilderness.

Have open, collaborative effort with EPA/Air Quality Boards to coordinate airshed effects, focusing on managed fire and "exceptional events". (Sierra Forest Legacy has initiated collaboration already; Which the Forest Service is actively participating in as part of the Boulder Landscape Burn project proposal on the Sequoia National Forest) **(F)**

To mitigate social concerns during an incident, provide full disclosure of potential smoke and inconvenience early on, rather than waiting for a press release once the fire is having a negative impact. Establish relationship with local news media, particularly in seasons where we're likely to manage fires to provide upfront factual information about our strategies. **(F)**

Task Public Affairs and Communication with developing B-Roll material for local media to be proactive about communications in the event of managed fires. **(R, F)**

Establish a range of beneficial effects that are acceptable within a prescribed burn that describe ecological desired outcomes beyond understory fuels cleanup. Describe the amounts and distribution of High, moderate, and low- fire effects and unburned areas that are acceptable within the project. Where possible, harmonize these desired outcomes with the Ecological Unit Inventory. (See also Objective 3.3) **(R, F)**

OBJECTIVE 3.3: INCREASE PRESCRIBED FIRE ACRES

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Provide funding support for outyear planning for landscape-scale coordinated prescribed fire with EPA, the California Air Resources Board, Air Pollution Control Districts. **(R)**

Encourage EPA to calculate and discuss impacts from wildfire smoke as well as managed fire smoke. It is widely believed that the quantity, quality, and timing of smoke is substantially reduced when we manage fires for strategic objectives in comparison to uncharacteristically severe wildfires. This should demonstrate the benefit of proactive treatments to avoid wildfire smoke. **(R)**

Ensure that there is an adequate staffing level with the appropriate qualifications to implement increased levels of managed fire during the fall and spring per the Guidance for Implementation of Federal Wildland Fire Management Policy 2009. "Agency administrators will train, qualify, and certify available personnel for local fire needs, and interagency fire management priorities."] **(F)**

- Re-build capacity for gaining on-the-ground experience with prescribed burning by non-fire/fuels specialists. If not through actual burn qualified participation, then through risk-managed field observation opportunities. **(F)**

Work with Regional Wilderness Program Leader to better define when prescribed fire is and isn't appropriate in wilderness for restoration or pre-suppression purposes. Guidance will likely be specific to individual Wilderness based on designating legislation. **(R, F)**

- Utilize collaborative effort amongst the Regional Wilderness Program, Ecosystem Planning staff, the R5 National Forests, and external groups (see Objective 3.2 Potential Strategies) to conduct Minimum Tool Analysis for prescribed fire treatments, including pre-burn activities.
- Work with Regional Fuels Planning Manager and Regional Ecologist to develop a model that can identify areas for prioritization and types of treatment.

Develop local annual operating plans and 5-year strategic plans to address prescribed burning special interest areas including, but not limited to, Wilderness, Inventoried Roadless Areas, Recommended Wilderness, Wild & Scenic Rivers, and Research Natural Areas. **(F)**

Work with Regional Research Natural Area committee and other partners to identify RNAs in need of prescribed burning, to identify funding opportunities to carry out such work, and to generate plans for accomplishing Rx burning and pre- and postfire monitoring. **(R)**

Address best management practices at a regional scale (e.g. when are limited operating periods appropriate). See Objective 2.1 **(R)**

During prescribed fires, station a Public Information Officer in high visibility burns to inform the affected communities. (Consider the National Park Service outreach program as a model.) Help the public understand why the Forest Service is increasing the use of fire, and illustrate the benefits that a little smoke now vs. a lot of smoke later. (Redefine Prevention positions as "Fire Education Specialists" and redefine their role in fire/fuels.) **(F)**

In coordination with the EPA and/or local airsheds, monitor in areas where burns are being conducted in order to evaluate the effects of smoke and air quality thresholds. **(F)**

Burn plans need to be completed and submitted into the PFIRS systems and remain up to date so as to not miss a burn window. **(F)**

Address the increasing back log of commitments to Rx fire acres in existing EA/EISs. **(F)**

Develop a mechanism for Regional air quality staff to procure or loan Particulate Matter (EBAMs) for projects at the forest level during Rx burns. **(R)**

Establish a range of beneficial effects that are acceptable within the parameters of a prescribed burn and not just for understory fuels cleanup. High, moderate, and low- fire effects are all acceptable within the projects. May need to identify specifics for each vegetation type across R5. Fire behavior in the WUI, along major transportation routes, and close to other key infrastructure is limited to surface fire with low levels of passive crown fire. Tie in to Ecological Unit Inventory. (See also Objective 3.2) **(R, F)**

Provide for increased fire ecology training within the Fire Apprenticeship Academy and the specific on-the-job skills to be learned, such as ignition techniques and monitoring fire effects. **(R)**

OBJECTIVE 3.4: CAPITALIZE ON MODELING/COMPUTER DATABASE CAPABILITIES

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Develop a series of sequential trainings in fire behavior/fuels modeling and interpretation (such as Modeling 101, 102, etc.). Focus efforts on forest and district level staff. Modeling programs could include the Prescribed Fire Information Reporting System, Blue Sky, FarSite, FlamMap, the Interagency Fuels Treatment Decision Support System, V-Smoke, other. **(R)**

Promote fully implemented use of WFDSS as a strategic tool for meeting resource objectives, not just a documentation tool. (Do burn plans in WFDSS, for instance.) **(R, F)**

Work with the California Fire Science Consortium and others to identify key information and analysis needs that can be streamlined or enhanced with fire modeling systems. **(R)**

- Encourage refinement and enhancement of existing models to the extent possible over development of new models. Where new models are developed, encourage use of existing data over requirements for new data or new data formats.
- Encourage model developers to clearly communicate and differentiate models to explore theoretical questions versus models applicable to analyze and inform management decisions.

Ensure that fuels treatments and fires are accurately reported in corporate databases. **(F)**

Become acquainted with high resolution model products available on CANSAC (found at http://www.cefa.dri.edu/COFF/cansac_output.php?model=wrf). These models are used by GACC meteorologists to help predict surface winds, humidity, chance of wetting rain, mixing height and transport winds, etc., are especially useful for difficult smoke dispersion predictions common to steep and/or rugged terrain. **(F)**

GOAL 4: DEVELOP AND SUPPORT A FUELS WORKFORCE TRAINED IN WILDLAND FIRE AND NATURAL RESOURCE MANAGEMENT, COLLABORATION AND COMMUNICATION, THAT IS ADAPTABLE TO CHANGE, AND COMMITTED TO ACHIEVING SOCIAL AND ECOLOGICAL OUTCOMES THROUGH PROJECT WORK.

OBJECTIVE 4.1: DEVELOP A PROFESSIONAL FUELS STAFF WITHIN THE FOREST SERVICE

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Increase Region 5 Fuels workforce's formal education level in fire ecology (tasking the Regional Ecology program to help develop and implement a curriculum) through mechanisms that could include: **(R)**

- Subsidized college coursework
- incentive pay approaches
- Traditional Fire Uses coursework
- Technical Fire Management
- Prescribed Fire Training Center
- Applied Field Projects

Increase Region 5 Fuels workforce's fire behavior experience level through mechanisms such as: **(R)**

- Training simulations including Google Earth Technology Assistance "staff rides", etc.
- Fire Behavior Analyst Fast-Track training Pods (using Aviation and Logistics Fast Track training programs as models)

Address the fact that burn days and appropriate staffing levels do not always match up by developing a strategic staffing pattern to fully utilize all burn day opportunities: **(F)**

- Stagger training and leave schedules for skilled prescribed fire and support staff so they are not all gone simultaneously.
- Utilize staggered "First 40" work schedules for skilled prescribed fires staff to provide for weekend and evening coverage, providing more opportunities to take advantage of burn windows without incurring significant overtime costs.
- Examine the possibilities for night time burning training with extra incentives for a pilot team willing to test some of this work.

Greater emphasis on fire ecology within the Apprenticeship Academy. **(R)**

Develop more structured skills to be developed for Apprentices (currently the Apprentices have to have 300 hours of "fuels management" which could be filled with practical experience such as field experience designing and implementing fuels treatments such as hand piling and mechanical treatments or chipping roadside brush). Skills to be documented should include firing techniques for prescribed fire implementation, monitoring fire behavior and fire effects. **(R)**

Develop and formalize a program to make Redding Smokejumpers available as Prescribed Burn modules to support R5 Districts and Forests. **(R)**

Individual Forests or Provinces could build Rx fire teams to assist those forests in need of qualified personnel. (Would also provide a good mentoring and trainee possibility for the forest requesting assistance.) **(F)**

Incorporate "How to Collaborate" training into existing fire/fuels courses. **(R)**

- Include an Interdisciplinary Team simulation (should be part of Region's Ecological Restoration implementation effort)

OBJECTIVE 4.2: CAPTURE AND LEARN FROM EXPERIENCE

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Formalize a national/regional process as a Standard Operating Procedure and Forest Service Manual policy for: **(R)**

- National Wildfire Lessons Learned Center utilized as the repository for the Fuels Treatment Effectiveness Monitoring Northwest Portal, etc.
- Joint Fire Science Program California Fire Science Consortium acts as a mechanism to incorporate trend/summary information into recurrent and stand-alone training, and get it into the hands of "field" personnel, the California Fuels Committee, Apprentices, the Fire and Aviation Management Board of Directors, etc.
- Develop a flow chart that shows how to route information to better communicate this process.

Develop local area information databases with partners to capture corporate/historical knowledge: **(R)**

- Collaboratively identify lessons learned
- Identify existing and potential fuel breaks (include metadata for clarification).
- Develop Staff Rides that capture local knowledge of successful fire-use and or large scale prescribed burn projects.

Develop (or build upon CalFire project?) a centralized database of information for fuels projects across California and tapping into this information for incidents will be useful for fire fighters located out of the area of an incident. **(R)**

- Encourage biomass harvesting (for wood products), biomass for bio-energy (reduces emissions except CO_2 but acts as a substitute for fossil fuel), biomass for bio-char (produced through pyrolysis of wood waste, retains CO_2 for centuries, improves soil productivity) for sequestering CO_2(a major GHG) and assisting the state to reach its 2020 goal of 1990-level of GHG emissions.
- Create a bio-char field feasibility implementation proposal and project.

OBJECTIVE 4.3: SUPPORT A SUSTAINABLE LOCAL AND INTERAGENCY WORKFORCE TO BUILD LONG-TERM CAPACITY

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Develop a white paper that examines the agency's historical belief that it is important to make people move geographically. If local knowledge is really important it should be rewarded by allowing employees to promote in place or locally. Detail opportunities could provide the geographic experience and exchange of ideas. **(R, F)**

Develop methods to use the existing FACTS database as a repository of completed and planned fuels treatments. Establish methods to make this data available to our cooperators and collaborators on a regional scale, in downloadable Geographic Information System format. **(R)**

Create a database of information that houses the work and information about an area using California Fire Science Consortium). **(R)**

GOAL 5: COMMUNICATE EFFICIENTLY AND EFFECTIVELY WITHIN AND OUTSIDE THE ORGANIZATION.

OBJECTIVE 5.1: DEVELOP AND PROVIDE CONSISTENT, HOLISTIC MESSAGING TO EXTERNAL GROUPS AND THE PUBLIC

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Utilize model of "100 Key Opinion Leaders" as approach to sharing information with communities of place and communities of interest. Task group(s) to identify the 100. Could do this at two scales:

- 100 Key Opinion Leaders per each National Forest **(F)**
- 100 Key Opinion Leaders for the Region **(R)**

Adopt "Good Fires Prevent Bad Ones" and "Take a Forest Break" messaging strategies (or contract same project developers) similar to Region 8's GoodFIRES.org and visitmyforest.org campaigns. Utilize the "one message, many voices" partnership approach to education regarding prescribed fire and managed fire. Include education on the ecological importance of fire and be explicit about the risks, benefits, and tradeoffs. **(R)**

Integrate fuels, ecology, and fire weather messaging into existing educational and fire safety portals. **(R)**

Work with partners to develop multi-agency messaging and response during fire season. For example, messaging between CalFire and USFS or other land management agencies describing the difference between suppression and managed fire activities. **(R)**

Work with Sarah McCaffrey, Research Forester with the USFS Northern Research Stations, to develop regional strategy for unified messaging based on her research pertaining to the social dynamics of fire management. (Topics of her research include understanding what shapes acceptability of prescribed fire and thinning, why people do or do not implement defensible space practices, and social issues around post-fire restoration. See http://nrs.fs.fed.us/people/McCaffrey for publications. **(R)**

Develop an annually-updated "Book of Statistics" from existing available data of acres accomplished, displayed with variables including cost, quantity within R5 National Forest boundaries, all-lands accomplishments by USFS in R5, state-wide accomplishments, national USFS and all-lands accomplishments, etc. Report should be developed with input from partners, and could be used for common analysis. The document could also facilitate common messaging among partners, and provide easily accessible, transparent information to the public. **(R)**

Use a standard process of updating fire projects on the forests individual webpage. This should include information on upcoming fires both in the spring and fall and for forests that are able to use naturally ignited fires include the areas that are within the management plan on the website. **(F)**

OBJECTIVE 5.2: COORDINATE FUELS PROGRAM EFFORTS INTERNALLY AND EXTERNALLY

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Integrate this Strategic Plan with the Region's Ecological Restoration Implementation Plan. **(R)**

Maximize use of Firewise program by placing multi-year or decadal emphasis of the Region 5 RO Fire and Aviation Management and Public Affairs and Communication messages related to fire/fuels/prevention messages, and provide in conjunction with State Forester and California Fire Alliance messages, to inform and educated City and County government managers and planning departments about Firewise construction and planning. (Local Fire Safe Councils can be helpful with this since many of them are already working with the Firewise program.) **(R)**

Designate a dedicated (collateral duty) Partnership Coordinator at the Forest or Provincial level to facilitate development of holistic and unified messaging, strategic boundary-less fuels work, opportunities for partnership/stewardship agreements, venues for building relationships with local communities. Potential venues include: **(F)**

- Prescribed Fire Councils
- County Supervisor Meetings
- Fire Safe Councils
- Cal Fire
- Internal organization: Coordinate the annual program of work among fuels and vegetation management personnel
- Other….

Develop and coordinate a 5-year plan among fuels, vegetation management, wildlife, hydrology, archaeology and other resource management to reduce planning costs and untimely delays for implementation. **(F)**

Utilize the Prescribed Fire Information Reporting System. **(F)**

Make it a general practice to request *smoke dispersion information* with each spot forecast request related to prescribed fire. List the few exceptions when that might not be needed. **(F)**

OBJECTIVE 5.3: FOSTER TWO-WAY DIALOGS, PROVIDING FOR MUTUAL LEARNING OPPORTUNITIES

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Initiate more Fire Learning Networks (developed by The Nature Conservancy) regionally. Rather than waiting for units to self-select, work with The Nature Conservancy to identify priority Forests or Districts that are at an appropriate stage for the Fire Learning Network process. (See FireScape Monterey on the Los Padres, Klamath-Siskiyou Fire Learning Network from The Watershed Center in Hayfork, Southern Sierras, and San Bernardino, as examples). **(R)**

Expand learning so units learn from each other: within forests and between forests and regions. **(R, F)**

Provide regular opportunities for experts and staff from outside the R5 fuels and fire staff to meet with Fire and Aviation Management to provide advice and critique. **(R)**

GOAL 6: UTILIZE CURRENT SCIENCE AND RESEARCH TO INFORM POLICY, PLANNING, AND IMPLEMENTATION OF FUELS PROGRAM.

OBJECTIVE 6.1: STAY CURRENT

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Support/incorporate Joint Fire Science Program California Fire Science Consortium approach to getting research into the hands of practitioners. **(R)**

- Formalize Regional Office liaison position, to serve as point of contact, provide oversight, and coordinate interactions with the Joint Fire Science Program (JFSP) California Fire Science Consortium (and their regional chapters)
- Provide feedback to JFSP Board on utility of this Consortium

Increase strategic and tactical engagement with the Regional Ecology program for science support to plans and projects **(R)**

Work with other Regional Office staffs to define a training package/pathway that provides essential ecological awareness, routinely updated with the latest science. Include courses such as Climate Change 101 and Land Management, etc. **(R)**

Create systems and opportunities for shared learning among specialists and other stakeholders involved in the forest plan revision at the regional and national forest levels. The webinars on responding to climate change that have been hosted by the U.S. Fish and Wildlife Service could serve as an example of both the technology/system to use to deliver the program and a topic area of interest. Coordinating training opportunities among state or federal agencies should be explored. (Note: This action also appears in the issue area "ensure complete scientific review of planning documents.") (http://training.fws.gov/CSP/Resources/climate_change_webinars/safeguarding_wildlife_cc_archives.html) **(F)**

OBJECTIVE 6.2: INFORM PLANNING AND IMPLEMENTATION

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Differentiate ecological responses and roles of chaparral types in Southern California and other bioregions using the 2009 Pacific Northwest Research Station General Technical Review in support of accuracy of sub-regional, Forest, or project planning efforts. **(R, F)**

Ensure key fire process, fire effects, and fire management questions are included in Forest Plan monitoring to allow early identification of the need to amend or revise the Forest Plan. **(F)**

Actively participate with the Regional Ecosystem Planning staff to define key management questions and inform a science synthesis related to fire and fire management. **(R)**

Utilize a Regional strategic fire management planning process for Land and Resources Management Plan (LRMP) revision. This process, incorporating modeling and local, place-based knowledge, should be focused with the goal to aid Forest staffs in the incorporation of fire management objectives/requirement and the designation of Fire Management Units directly into the new/revised LRMPs. (See also Objective 3.1) **(R, F)**

When developing the prescriptions for prescribed fire, planners utilize fire weather meteorologists for weather and climatological information that could refine and improve the document's application. **(F)**

OBJECTIVE 6.3: INFORM POLICY AND DIRECTIVES

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Regularly brief Regional leadership (Fire Board of Directors, Regional Forester, Regional Leadership Team, Sustainable Landscape Management Board of Directors, etc.) on current strategies and progress being made and difficulties and barriers to implementing strategies. **(R, F)**

Focus the allocation of funds at the Regional level and the National Forest level on actions that are justified by monitoring results and that have been demonstrated to be consistent with regional standards. **(R)**

Prioritize the allocation of JFSP, the Pacific Southwest Research Station, and Regional Office project funds first to those monitoring and adaptive management efforts addressing information gaps that have implications for regional management beyond the specific national forest and which present low risk to key resource values. **(R)**

Design an adaptive management and monitoring framework for range-wide fire-related issues that integrates actions undertaken and information gathered at the forest level with forests throughout the region. **(R)**

- The Region will allocate funds to the National Forests using the adaptive management and monitoring strategy (developed at the National Forest level). **(R, F)**
- Provide scientific oversight and support for the adaptive management program. **(R)**
- Ensure that an ongoing technical and scientific capacity will be available to the policy and management bodies to evaluate, review, and assist in design of adaptive management strategies where appropriate. **(R)**

OBJECTIVE 6.4: INSTITUTIONALIZE MONITORING

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Ecological monitoring that is tied to key management questions needs to be recognized in policy and funding (and/or multifunded on a local level). **(R, F)**

Increase engagement with Regional Ecology Program in development and implementation of fuels and fire related monitoring programs **(R, F)**

Encourage use of voluntary, third-party groups (e.g. watershed groups) or cross-organizational contributions for monitoring implementation. **(F)**

Create several rotating member Interdisciplinary monitoring teams that can assist district personnel and volunteer groups in meeting their monitoring requirements, training needs and to troubleshoot monitoring operations. Consider using the CFC to orchestrate/coordinate these teams. **(F)**

Encourage the innovative use of prescribed fire in special interest areas, research natural areas, and Inventoried Roadless Area watersheds when monitoring objectives and methods are in place to foster greater learning about techniques and effects. **(F)**

Incorporate support and commitment to monitoring in performance evaluations. **(F)**

GOAL 7: ENSURE THE EFFICIENCY AND EFFECTIVENESS OF THE FUELS PROGRAM THROUGH THE USE OF BEST PUBLIC ADMINISTRATION PRACTICES, ENSURING THE APPROPRIATE AND PRUDENT USE OF PUBLIC FUNDS

OBJECTIVE 7.1: LEVEL BUDGET ALLOCATIONS AND DIRECTION

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")
Elicit findings from the Shasta-Trinity Forest and other Forests (3 additional Forests nationally?) regarding the "new business model" experience and provide these findings to the R5 Regional Office, Forests, and Districts as general awareness for potential incorporation into business practices. **(R)**

Examine the funding allocation criteria used to distribute the Forest level fuels budget to reduce the impact of large annual budget fluctuations. **(R)**

Examine methods of consolidating Forest level 5-year programs of work at the Regional level to assist in strategic budget allocation **(R)**

Recognize many of other area target accomplishments come from fuels reduction projects but are not collaterally funded. (See also Objective 1.1) **(R, F)**

OBJECTIVE 7.2: MAXIMIZE USE OF EXISTING INTERAGENCY AGREEMENTS, COOPERATIVE AGREEMENTS AND AUTHORITIES

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Produce examples of effective grant/agreement documents/templates for Forest/District use and consistency (share success stories of use of interagency agreements). **(R)**

Provide information to Forests and external partners on Federal Emergency Management Agency fire mitigation (and other) grant funding processes and opportunities. **(R)**

Increase stewardship contracting (including long-term stewardship contracts). **(F)**

Create Memorandums of Understanding with key partners, landowners and local officials, where possible, to support managed fire across ownership boundaries when the opportunities arise. **(F)**

OBJECTIVE 7.3: UTILIZE APPROPRIATE NON-FIRE FUEL TREATMENTS EFFECTIVELY

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

Analyze current treatment types to identify pros and cons of each method and help project designers evaluate the tradeoffs between different methods. Develop a handbook/crosswalk or a community of practice (California Fuels Committee?) to ensure new employees are aware of contemporary treatment options and that the knowledgebase is continually being improved and shared. **(F)**

Recognize the current supporting science that states the combined treatment of thinning the crown density where appropriate, removal of ladder fuels and surface fuel treatments (prescribed fire) as being the most effective practice for reducing damaging wildland fire effects. **(R, F)**

Promote greater use of the Pacific Southwest Research Station General Technical Report 220 for the Sierran mixed-conifer ecosystem. **(R)**

Provide areas/scenarios where the use of fire (as a first or subsequent entry) may not be appropriate. It may require initial entry of another management tool in order to introduce fire back into the landscape. Identification of these areas would be needed. **(F)**

Provide more training opportunities for fuels and other resource management personnel to learn about non-timber related stewardship project contracting. Example projects across the western U.S. (such as those done in conjunction with the The Nature Conservancy's Fire Learning Network) and Grants & Agreements (Wyden Authority, for example). **(F)**

Develop landscape-scale opportunities for stewardship contracts in conjunction with ecological restoration work (Region 3's Four Forest Restoration Initiative and White Mountain Stewardship as models). **(R, F)**

Work with resource specialists on integration of fuels management opportunities in resource restoration projects. Examples are fuels reduction in aspen and hardwood stands to reduce the risk of damage or loss from uncharacteristic wildfires. **(F)**

Develop "Gates" similar to the timber program that shows the process for Rx burn planning to implementation-ready. Consider using timber staff or USFS retirees to develop and institute. **(R)**

Explore opportunities to off-set the costs of mechanical treatments, such as biomass removal (ladder fuels) with timber product value via stewardship contracts. **(F)**

Task economist to identify best use of following, describing when and where the balance is: **(R)**

- Recognize the value of collecting retained receipts from stewardship contracts with excess value to spend on mechanical fuel treatments in stewardship contracts with insufficient value or on service contracts for restoration.
- Balance the value of retained receipts versus the potential of using collected trust funds to pay for implementation of prescribed fire projects where receipts can be used for personnel salary.

OBJECTIVE 7.4: POOL AVAILABLE RESOURCES

Strategic Actions ("R" indicates Regional level, "F" indicates "Forest level")

If and when NFRR (integrated resource Budget Line Item job code) is implemented, integrate consideration of the Fuels Program in project integration and selection. **(F)**

Determine the appropriate mix of the Budget Line Items of NFTM, NFVW, WFHF, CWK2 and NFCC to plan, prepare, and implement stewardship projects and prescribed burning. (See also Objective 1.1) **(F)**

Encourage adjacent Forests and Districts to develop joint projects or mechanisms to share resources and expertise across administrative boundaries. Efforts to share resources need to be recognized during performance evaluations, especially where measured accomplishments occur on one unit because of support from a neighboring unit. **(R, F)**

Examine the effects of travel restrictions or limitations on cross administrative unit sharing. **(R)**

APPENDIX B: ACRONYMS

CFLRA Collaborative Forest Landscape Restoration Act

EPA Environmental Protection Agency

HFRA Healthy Forest Restoration Act

IDT Interdisciplinary Team

JFSP Joint Fire Science Program

LRMP Land and Resource Management Plan

NEPA National Environmental Policy Act

NF National Forest

R5 Region 5; USDA Forest Service Pacific Southwest Region

RO Regional Office

USFS United States Forest Service

WFDSS Wildland Fire Decision Support System

WUI Wildland Urban Interface

APPENDIX C: CROSSWALK TO OTHER STRATEGIC PLANS (ADD LINKAGES TO OTHER KEY STRATEGIES BY JULY 2013)

Fuels Strategy				FAM BOD Strategic Plan					
	Goal 1				Part of Vision Focus Areas (VFA) 3 and 4				
		Objective 1.1				VFA 3 New Strategy?			
		Objective 1.2				VFA 3 New Strategy?			
		Objective 1.3				VFA 3 Strategy 3.1 New Tactic?			
		Objective 1.4				VFA 4 Strategy 4.4 New Tactic?			
	Goal 2				Part of Vision Focus Area (VFA) 2				
		Objective 2.1				VFA 2 Strategy 2.2 New Tactic?			
		Objective 2.2				VFA 2 Strategy 2.2 New Tactic?			
		Objective 2.3				VFA 2 Strategy 2.2 New Tactic?			
	Goal 3				Part of Vision Focus Areas (VFA) 2, 3, and 4 [NOTE: Also aligns with R5 Ecological Restoration Implementation Plan				
		Objective 3.1				VFA 2 Strategy 2.1 New Tactic**s**			
		Objective 3.2				VFA 2 Strategy 2.1 New Tactic**s,** VFA 3 Strategy 3.2 New Tactic, and/or VFA 2 New Strategy?			
		Objective 3.3				VFA 2 Strategy 2.1 New Tactic**s,** VFA 3 Strategy 3.2 New Tactic, and/or VFA 2 New Strategy?			
		Objective 3.4				VFA 4 Strategy 4.7 New Tactic?			
	Goal 4				Part of Vision Focus Area (VFA) 4 [NOTE: Also aligns with Nat'l Workforce Development Plan]				
		Objective 4.1				VFA 4 Strategies 4.1 and 4.2 New Tactic?			
		Objective 4.2				VFA 4 Strategy 4.1 New Tactic?			
		Objective 4.3				VFA 4 Strategy 4.1 New Tactic?			
	Goal 5				Part of Vision Focus Area (VFA) 2?				
		Objective 5.1				VFA 2 New Strategy, Strategy 2.2 New Tactic?			
		Objective 5.2				VFA 2 New Strategy, Strategies 2.1 and 2.2 New Tactics?			
		Objective 5.3				VFA 2 New Strategy?			
	Goal 6				Part of Vision Focus Area (VFA) 5?				
		Objective 6.1				VFA 5 Strategy 5.3 New Tactic?			
		Objective 6.2				VFA 5 New Strategy?			
		Objective 6.3				VFA 5 New Strategy?			
		Objective 6.4				VFA 5 New Strategy?			
	Goal 7				Part of Vision Focus Area (VFA) 3				
		Objective 7.1				VFA 3 Strategies 3.2 and 3.4 New Tactics?			
		Objective 7.2				VFA 3 New Strategy?			
		Objective 7.3				VFA 3 New Strategy and Strategy 3.1 New Tactic?			
		Objective 7.4				VFA 3 New Strategy and Strategies 3.1 and 3.2 New Tactics?			

APPENDIX D: COMPLETED ACTIONS (UPDATE BY AUGUST 2013)

APPENDIX E: GLOSSARY (IN PROGRESS)

(From: National Wildfire Coordinating Group (NWCG)

GLOSSARY OF WILDLAND FIRE TERMINOLOGY July 2012

http://www.nwcg.gov/pms/pubs/glossary/f.htm)

Fuel

Any combustible material, especially petroleum-based products and wildland fuels.

Fuel Management

Act or practice of controlling flammability and reducing resistance to control of wildland fuels through mechanical, chemical, biological, or manual means, or by fire, in support of land management objectives.

Fuel Reduction

Manipulation, including combustion, or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control.