



AGENDA

December 16, 2011

Yates Building, McArdle Room (1st floor)
 USDA Forest Service Headquarters
 1400 Independence Ave. SW
 Washington, DC 20250
 10:00 – 12:00 AM – Eastern Time

Conference Number: 1-866-675-7534; Passcode: 874608#

Reminder: Agendas, Notes and Handouts are available at myfirecommunity.net – WFEC Neighborhood

Time	#		Topic	Presenter
1000 – 1005	1		Welcome/Introductions	Roy Johnson
	2	<input checked="" type="checkbox"/> Information <input checked="" type="checkbox"/> Discussion <input type="checkbox"/> Decision	Meeting Objectives & Expectations <u>Description:</u> Outline the objectives and expectations of this meeting <u>Outcome:</u> 1. Understanding what we need to accomplish <u>Reference Material:</u> 1. Final Agenda	Tom Harbour
1005 – 1050	3	<input checked="" type="checkbox"/> Information <input checked="" type="checkbox"/> Discussion <input checked="" type="checkbox"/> Decision	Finalize Cohesive Strategy Phase II Report <u>Description:</u> The CSSC has incorporated all of the comments that were identified at the last WFEC meeting as well as on subsequent conference calls. The Next Steps has been re-written and will be reviewed. <u>Outcome:</u> 1. Final Phase II Report 2. Approval of Next Steps section <u>Reference Material:</u> 1. Updated Draft Phase II Report	Jenna Sloan
1050 – 1110	4	<input checked="" type="checkbox"/> Information <input checked="" type="checkbox"/> Discussion <input type="checkbox"/> Decision	WFLC “resolution” <u>Description:</u> Follow-up on WFLC assignment to develop a “resolution” on the Cohesive Strategy activities <u>Outcome:</u> 1. Knowledge of status 2. Agreement on what needs to be done in order to finalize the “resolution” <u>Reference Material:</u> 1. Draft “resolution”	Ann Walker
1110 – 1130	5	<input checked="" type="checkbox"/> Information <input checked="" type="checkbox"/> Discussion <input type="checkbox"/> Decision	NSAT Report <u>Description:</u> Update on comments received and status of the NSAT report. <u>Outcome:</u> 1. Knowledge of status of the NSAT report	Danny Lee



<i>Time</i>	<i>#</i>		<i>Topic</i>	<i>Presenter</i>
			2. Understanding of timeline to receive the NSAT report and summary of comments received. <u>Reference Material:</u> 1. None	
1130 – 1145	6	<input checked="" type="checkbox"/> Information <input type="checkbox"/> Discussion <input type="checkbox"/> Decision	Public Comments <u>Description:</u> Time for WFEC to hear from the public. Specific topics to be determined <u>Outcome:</u> 1. Awareness of public opinions related to WFEC activities <u>Reference Material:</u> 1. TBD	Public
1145 – 1200	7		Closeout/Bin items	Tom Harbour
1200			ADJOURN	

**A NATIONAL COHESIVE
WILDLAND FIRE MANAGEMENT STRATEGY
PHASE II NATIONAL REPORT
12/12/2011
DRAFT**

The Wildland Fire Leadership Council (WFLC) has adopted this vision for this century:

“To safely and effectively extinguish fire when needed; use fire where allowable; manage our natural resources; and as a nation, to live with wildland fire.”

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EXECUTIVE SUMMARY

The National Cohesive Wildland Fire Management Strategy (Cohesive Strategy) is a collaborative effort to identify, define, and address wildland fire problems and opportunities for successful wildland fire management in the three regions of the United States: the Northeast, the Southeast, and the West. The Cohesive Strategy is being built both from the top down and from the bottom up. At the national level, the Wildland Fire Leadership Council (WFLC) —an intergovernmental council of federal, state, tribal, county and municipal government officials, is the executive leadership body that charts the path and direction for the Cohesive Strategy effort and ensures the work and activities align with the spirit of the FLAME Act and other key collaborative wildland fire management documents. The fundamental role of the WFLC is to provide guidance to the regions through efficiency improvements; to fully utilize existing authorities to accomplish the three national goals; and to provide the necessary resources and investments to implement identified current successful regional actions.

Phase I of the Cohesive Strategy outlined a three-phase process to address the three primary factors presenting the greatest challenges and opportunities to make a positive difference to wildland fire management across America: restoring and maintaining resilient landscapes, creating fire-adapted communities, and improving wildfire response. As part of Phase I, the WFLC adopted the following as the vision for this century:

“To safely and effectively extinguish fire when needed; use fire where allowable; manage our natural resources; and as a nation, to live with wildland fire.”

In Phase II, Regional Strategy Committees (RSCs) were brought together using a holistic approach to create a unified regional strategy, not just for wildland fire suppression but to explore issues of natural resource management and the social and economic implications of landscape and wildland fire management. It is a goal of this effort to develop the national strategy with regional alternatives; therefore RSCs were formed to identify regional challenges, improve communication among partners, and identify proposed strategies and opportunities for improvement. Regional and local stakeholders have been involved—they’ve had a seat at the main table, their perspectives were valued and brought into the national wildland fire management decision-making process to a new level. Building partnerships and enhancing opportunities to collaborate among organizations are not only vital to the success of this vision and the Cohesive Strategy; but they are critical to the overall success of wildland fire management across the United States.

Representatives of federal, state, local, and tribal governments, non-governmental organizations and other interested parties were brought together to describe the unique regional problems and to identify current and future steps that can be taken -- together, to meet the goals of the three focus areas of the Cohesive Strategy:

- **Restore and Maintain Landscapes:** Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.
- **Fire Adapted Communities:** Human populations and infrastructure can withstand a wildfire without loss of life and property.
- **Wildfire Response:** All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

As part of the assessments, the RSCs identified regional values and objectives. Some common objectives and actions were identified in Phase II and are discussed in detail in later sections of this report.

Values – Each RSC articulated many value statements, and a short overview of each appears in this document. Several values were common to all three regions, including: safety of firefighters and the public, protection of private property, conservation of air and water quality, restoring healthy and resilient landscapes, aesthetics, honoring tribal heritage and land uses, and the maintenance and enhancement of strong economies. Regions also articulated values unique to their region, such as the Northeast assessment citing recreation as significant, the Southeast assessment noting industrial forestry infrastructure, and the West noting stewarding public lands and working forests. These, and the other values expressed, provide the basis for developing regional objectives, actions, performance measures, and areas to explore for reducing risk.

Objectives and Actions – The RSCs adopted the national goals as their own and crafted a suite of initial objectives and actions to support each. All three regions developed information that includes: identification of values, trends and uncertainties and the delineation of initial actions and objectives. This information, as identified in the regional assessments, will be valuable in Phase III of the Cohesive Strategy.

Several cross-cutting objectives, so-called because they will affect all three national goals simultaneously, were identified across the regions:

- (1) Collaboration and communication are the keys to success. Invest in, learn from, and build upon successful partnership and collaborative efforts, including land management plans, Community Wildfire Protection Plans or their equivalent, and keep all parties informed and involved throughout the process.
- (2) Develop and conduct effective education and outreach to empower citizen engagement in, and support for, wildland fire management activities.
- (3) Proactively use a variety of active vegetation management tools and techniques, including prescribed fire, to achieve local and large landscape objectives. Communicate the benefits of doing so.
- (4) Support working forests and wildlands, local economies and collaborate to create jobs, and diverse products and markets. Communicate the need and the resultant benefits.

The RSCs will continue to coordinate with the National Science and Analysis Team (NSAT) to incorporate the best available science into the Cohesive Strategy. The NSAT supports the regions by using scientific information, data, and pre-existing models to develop a conceptual framework that describes the relative effectiveness of actions and activities for managing risks associated with wildland fire. All levels and committees – from the Wildland Fire Executive Council (WFEC) and RSCs to the Cohesive Strategy Sub-Committee (CSSC) and the NSAT – will continue to work together in Phase III as collectively alternatives are explored and an analysis of alternatives is completed.

There are two keys to the Cohesive Strategy's success: first is the commitment to collaborate. Working together will allow us to accomplish the goals of the National Cohesive Wildland Fire Management

Strategy. The second is a requirement for a comprehensive communication and implementation strategy which provides information and seeks feedback from all stakeholders throughout the process.

During Phases I and II, inclusiveness and the enhanced level of collaboration brought a renewed, strengthened approach to developing potential solutions for a more efficient and effective wildland fire management across the United States in the future. This national report summarizes regional ideas to conclude Phase II and sets the stage for Phase III of the Cohesive Strategy.

INTRODUCTION

Fire is a natural process and a mechanism for biological renewal across forest and rangeland ecosystems. During the 20th Century, federal, state, and local firefighters were successful at putting out most wildland fires in the early stages. An unintended consequence was the overstocking of the nation's forests with trees and ladder fuels. These overstocked conditions combine with other stresses such as drought, insects, and disease, invasive species, and longer, hotter summers to create uncharacteristically large wildfires that threaten homes, communities, and cultural and resource values, and can cause widespread property damage.

Large, destructive wildfires led to the drafting of the 1995 Federal Wildland Fire Policy and Program Review. The review looked at wildland management fire issues, focused mainly on the federal ownership, and included fuels management, the role of fire in the environment, and wildland-urban interface issues. The 1995 review was updated in 2001 -- the year Congress passed the National Fire Plan. The National Fire Plan brought together diverse stakeholders, including federal and state land management agencies, tribes, private landowners, local governments, and firefighting agencies to develop the National Fire Plan 10-Year Strategy Implementation Plan to reduce fuels, protect communities through education and homeowner assistance, and improve firefighting capacity and coordination.

The Quadrennial Fire Reviews (QFR) were conducted in both 2005 and 2009. The intent of these assessments was to consider the present and look to the future to advance a unified wildland fire management strategic vision for the five federal resource management agencies under the Departments of the Interior (DOI) and Agriculture (USDA), in partnership with others in the wildland fire management community. The QFR anticipated future wildland fire management needs, risk to communities and firefighters, as well as described core mission strategies and key capabilities that could be applied to wildland fire management challenges. The QFR was also the first in what would become a series of reviews, plans and strategies to move the fire community and the nation forward safely and more effectively. None, however, completely solved the problems; as communities and the wildland fire environment are constantly changing, requiring the fire community to do the same.

Annual fire suppression costs are high. In 2002, the cost of suppression to the federal government was \$1.7 billion. In 2008, state and local governments spent over \$1.6 billion on suppression and wildland fire mitigation. In 2009, the escalating federal fire suppression costs and adverse impacts to other federal land management programs led Congress to pass the Federal Land Assistance and Enhancement Act (FLAME Act), which authorized a supplemental funding source for federal emergency wildland fire suppression. In addition, the FLAME Act directs the USDA and DOI to develop a National Cohesive Wildland Fire Management Strategy, to comprehensively address wildland fire management in the United States.

The FLAME Act was the catalyst for the development of a cohesive strategy for managing fire-prone landscapes and wildland fire across the nation. Understanding the challenges presented require a holistic approach, unified thinking, and cooperation among the multitude of stakeholders who share concern for America's landscapes led to the creation of a national cohesive strategy—not a federal cohesive strategy.

Within the fire community, a shared vision has taken shape: working together to prepare landscapes for natural fire occurrences, to prepare communities to face wildfire risks, and to coordinate effective wildland fire response. An example of this vision is the Greater Okefenokee Association of Landowners. This is an organization of over 70 landowners/agencies (private, state, and federal) that works together and strategizes for wildfires that occur in and near the fire prone Okefenokee Swamp in southeast Georgia.

Previous collaborative efforts, as identified in the Phase I of the Cohesive Strategy, highlighted the need for shared responsibilities, effective partnerships, improved interagency coordination and response, and active land management. They created an imperative for a new direction in expectations for federal, state, and local wildland fire protection agencies to address our nation's wildland fire problem at the most efficient cost.

A COLLABORATIVE APPROACH

The Cohesive Strategy is a national, collaborative approach to addressing wildland fire across all lands and jurisdictions. It is being developed with input from wildland fire management agencies and organizations, land managers, and policy-making officials representing all levels of governmental and non-governmental organizations. The Cohesive Strategy takes a holistic view of wildland fire and resource management, including both natural wildland fire ignitions and prescribed fire for landscape management purposes, and pre-and post-fire management. The Cohesive Strategy presents a shared vision of the future of wildland fire and resource management.

The Cohesive Strategy guidance, vision, and goals are established by the WFLC. Decisions related to reducing risk will be made at the local, regional, and national levels. All three levels will be coordinated through the structure of the Cohesive Strategy. The Cohesive Strategy is built on several principles and values, including engaging stakeholders, managers, and scientists; using the best available science, knowledge, and experience; and emphasizing partnerships and collaboration.

The work from the “bottom-up” began in Phase II of the strategy with the creation of RSCs and the development of regional strategies. Those regional strategies will unite to form one national strategy. This Cohesive Strategy is different from all prior plans because of the collaborative process by which it was formulated. It is not merely a strategy for federal agencies, it is a strategy for the many groups that have come together across the nation to combine their regional perspectives and create one shared vision of how all stakeholders can work together to reduce risks of wildland fire to landscapes, to communities, and to firefighters. The Cohesive Strategy is a collaborative effort to create and implement three regional strategies, tailored to meet regional needs, and to work across land ownership boundaries.

Guiding Principles and Core Values

During Phase I, guiding principles and core values were crafted through discussions with federal, state, tribal, and local governmental and non-governmental organizational representatives. They are an overarching set of principles that apply to all stakeholders in the wildland fire management community – and reach across the different goals of the strategy, from resilient landscapes and fire-adapted communities to wildfire response. These guiding principles and core values were adopted by the three RSCs as regional guiding principles:

- Reducing risk to firefighters and the public is the first priority in every fire management activity.
- Sound risk management is the foundation for all management activities.
- Actively manage the land to make it more resilient to disturbance, in accordance with management objectives.
- Improve and sustain both community and individual responsibilities to prepare for, respond to, and recover from wildfire through capacity-building activities.
- Rigorous wildfire prevention programs are supported across all jurisdictions.
- Wildland fire, as an essential ecological process and natural change agent, may be incorporated into the planning process and wildfire response.

- Fire management decisions are based on the best available science, knowledge and experience, and used to evaluate risk versus gain.
- Federal agencies, local, state, and tribal governments support one another with wildfire response, including engagement in collaborative planning and the decision-making processes that take into account all lands and recognizes the interdependence and statutory responsibilities among jurisdictions.
- Where land and resource management objectives differ, prudent and safe actions must be taken through collaborative fire planning and suppression response to keep unwanted wildfires from spreading to adjacent jurisdictions.
- Safe aggressive initial attack is often the best suppression strategy to keep unwanted wildfires small and costs down.
- Fire management programs and activities are economically viable and commensurate with values to be protected, land and resource management objectives and social and environmental quality considerations.

The Three National Goals

Flowing from the guiding principles and core values are the three national goals identified in the Cohesive Strategy. Each of the RSCs adopted these goals into their assessment and used them to further draft objectives, actions, performance measures. The three national goals are:

- **Restore and Maintain Landscapes:** Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.
- **Fire-adapted Communities:** Human populations and infrastructure can withstand a wildfire without loss of life and property.
- **Wildfire Response:** All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

Governance

The WFLC oversees the entire Cohesive Strategy effort. In Phase I, the WFLC designated the Wildland Fire Executive Council (WFEC) to facilitate the development and implementation of the National Cohesive Wildland Fire Management. The WFEC is composed of representatives of federal and state agencies, firefighting organizations, tribes, counties, and cities (see Appendix D).

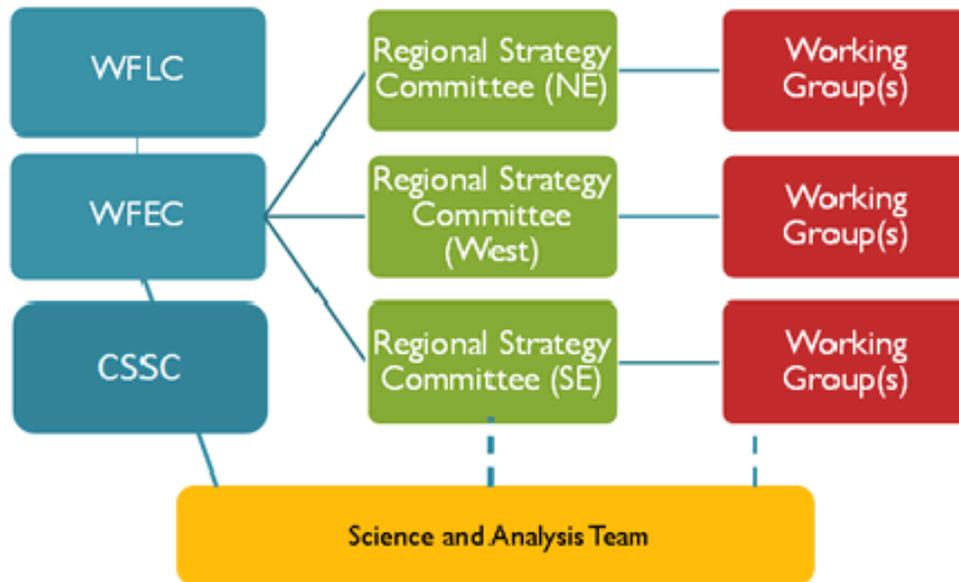


Figure 1. Organizational chart for Cohesive Strategy governance

The WFEC is supported by the Cohesive Strategy Sub-Committee (CSSC), which was chartered by the WFEC at the beginning of Phase II to provide oversight and guidance on the development and execution of the proposed processes and tasks necessary to complete Phases II and III.

The RSCs and their working groups were also chartered by WFEC at the beginning of Phase II. The RSCs are responsible for completing the regional strategies and assessments in Phase II. The CSSC has reviewed all regional assessments to ensure the documents meet the requirements specified in Phase I and meet the needs to complete Phase III. A National Science and Analysis Team (NSAT), which reports to the CSSC, supports the WFEC, CSSC and RSCs as the Phase III trade-off analyses are completed. These groups – the CSSC, RSCs and their working groups, and the NSAT – will continue to function through Phase III and beyond.

A Three-Phase Process

The Cohesive Strategy has been structured as a three-phase process. Phase I began in March 2010 and was finished in March 2011 with the publication of the *National Cohesive Wildland Fire Management Strategy* and *The Federal Land Assistance, Management and Enhancement Act of 2009: Report to Congress*. Both documents were approved by WFLC and Office of Management and Budget (OMB), and signed by the Secretaries of Agriculture and the Interior.

Phase I was guided by the WFLC who created the Cohesive Strategy Oversight Committee (CSOC). The CSOC was the collaborative planning body that developed the blueprint for a national Cohesive Strategy through three regional strategies. The CSOC understood that different regions of the country had different needs and that a “one-size fits all” approach would not meet those needs. The CSOC provided a detailed foundation for the national framework for risk management and elaborated on the national guiding principles, challenges, goals and governance.

In Phase II, the CSOC transitioned into the CSSC. The WFEC and CSSC guided Phase II through completion of the regional assessments and drafting of the national report. Phase II was directed by the

Wildland Fire Executive Council (WFEC) through the CSSC and developed by the RSCs, which are composed of representatives of federal and state agencies, tribes, industry groups, counties, municipalities, and non-governmental organizations. An RSC was formed in each of the three regions. Public outreach was conducted in each region, in the form of focus groups and forums to increase awareness of the Cohesive Strategy process and to gather input regarding local and regional perceptions. Following the forums, the RSCs reviewed the public input and developed their objectives, with a catalog of potential actions and options for risk reduction.



Figure 2. Cohesive Strategy Regions: Northeast, Southeast, and West

Phase II of the Cohesive Strategy provided a unique opportunity to the three regions of the country—Northeast, Southeast, and West (see **Error! Reference source not found.**)—to chart their own course in reducing the risks posed by wildfire to multiple values. The RSCs came together, with the support of Working Groups, and broadened engagement of regional stakeholders, managers and analysts, non-governmental organizations and universities, to identify the challenges, values, and opportunities for improved land and fire management in their regions. This regional approach to Phase II of the Cohesive Strategy will result in a National Strategy that is supported by local, regional, and national information, engagement and action. Regional assessments include obstacles, real and perceived, that stakeholders experience and identification of strategies to address them.

In Phase III, options for future alternatives will be explored using the Comparative Risk Assessment Framework and Tools (CRAFT) process, which integrates geographic features and risk factors relating to wildland fire with expressed values in a proven scientific analysis process. The results of the scientific analysis will be used by the WFEC, CSSC, and the RSCs for their evaluation and determination of future risk reduction strategies.

The Cohesive Strategy is an iterative process that will be revisited every five years. Additionally, in 2012, the wildland firefighting agencies will begin working on the next QFR, which will be published in 2013. The QFR will be aligned with the Cohesive Strategy, and future Cohesive Strategies and QFRs will build on each other.

Comparative Risk Assessment within the Cohesive Strategy

A key difference between the Cohesive Strategy effort and other collaborative planning efforts is in the method employed for planning and analysis. A comparative risk assessment tool was selected for use in Phase II and III because it allows the consequences of alternative wildland fire management strategies to be evaluated. The CRAFT planning and analysis process implemented in Phase II guided each region in the identification of values, goals, objectives, actions and activities. Using the CRAFT framework, each RSC developed multiple management scenarios and will develop alternatives for meeting the goals and objectives identified. Unlike some past efforts, this effort will result in the development of *multiple* alternative strategies, where the risk trade-off of each will be considered by stakeholders and managers in Phase III.

The Phase I document characterized risk as “an inescapable component of living with wildfire” and offered common and scientific definitions of risk and risk management. Whether one uses risk in the conventional sense of “something bad may happen” or a more precise definition, such as the expected loss from an uncertain future event(s), the basic elements of uncertainty and loss are there. Following this reasoning, one can view the Cohesive Strategy as a problem of risk management. That is, effective management requires understanding the nature of wildfire and its contributing factors, recognizing the consequences—good and bad—of fire, addressing uncertainty, and crafting plans that reduce the chances of catastrophic losses. Real-world constraints on funding, available resources, and administrative flexibility further require consideration of economic efficiency and practicality.

Given the premium placed on collaboration and engagement among all interested parties within the Cohesive Strategy, it is important that the quantitative aspects of risk assessment be embedded within a broader social discussion of values, options, potential consequences, and trade-offs inherent in any chosen strategy. The CRAFT is a structured process and set of tools designed to meet the needs of collaborative efforts to tackle complex resource management issues with conflicting values at stake, and high levels of uncertainty.

In conjunction with the NSAT, the RSCs embarked on this Phase II process, which included proposing regional objectives and designing initial alternatives. Each participant contributes to each step, although the role played by analysts and scientists differs from that of managers and stakeholders. CRAFT is being used to help ensure consistency among RSCs and provides the framework for the work of the NSAT.

REGIONAL STRATEGY COMMITTEES

Phase II gave the RSCs an opportunity to take ownership of regional ideas and goals. It improved working relationships among stakeholders, increased awareness of the wildland fire problem and outlined options to be considered for dealing with these challenges from a variety of perspectives. Additionally, the RSC members interacted with each other and with national-level stakeholders and decision makers to share perspectives on natural resource management and fire management in a unified, national process to collaboratively and holistically address wildland fire. A collaborative spirit was fostered within the regions; and as partners, regions will continue to enhance existing relationships and building new partnerships into the future. The RSCs and these relationships are critical for Phase III, as regions work to chart a course of action to implement collaborative management strategies and to use shared resources to achieve their common goals.

The RSCs were supported in their efforts by the NSAT, which includes a range of individual scientists and analysts representing federal and state agencies, tribes, universities, and non-governmental organizations. The NSAT created conceptual models to assist the RSCs in the Phase III assessment of the consequences of alternative wildland fire management strategies as a process for reducing risk. The RSCs sought input and engagement from additional stakeholders through forums and other means. Local input was solicited and provided to all the RSCs. The RSCs identified current successes, relationships, and opportunities for work that can be done before the completion of Phase III of the Cohesive Strategy. The CRAFT process will be carried through Phase III where it will provide input for analyzing the comparative risk of differing trade-offs for reducing risk. The RSCs developed regional assessments, which outline their existing situation in qualitative terms, the values they hold in common, the trends they see occurring, and the objectives, actions, and activities they can undertake to achieve the national goals.

The three regions are all very large, spanning multiple states and composed of a variety of geographic areas and vegetation types. States and regions possess detailed information relating to wildland fire as it interfaces with broad land management objectives. This information is included in state and local assessments, management plans, and policies. Phase II incorporates local information along with expertise and insights from the stakeholders who have been living and working in the region, dealing with wildland fire and natural resource problems. An example of the uniqueness of the regions and the challenges those differences present can be seen in a difference in land ownership patterns. The Northeast and the Southeast are characterized by private land with intense fragmentation of ownership, while the West is dominated by large blocks of public land. All of the states have federal, state, local and private land within them. Each unique ownership pattern presents challenges in wildland fire management, and the regions are best able to articulate those challenges and to collaboratively develop solutions.

PHASE II – REGIONAL ASSESSMENTS AND STRATEGIES

The three regional assessments are separate documents reflecting the unique context in each of the regions. This document highlights the similarities and differences among the three regions and their strategies for reducing wildland fire risk and includes section summaries with excerpts from the content of the regional assessments. The regional assessments have expanded discussion and also provide detail on the potential actions and activities identified by the regions for Phase III analysis.

The CRAFT framework provided a list of 26 questions for the regions to consider as they created their regional assessments (see appendix E). The CRAFT questions were selected to identify regional challenges and opportunities and to guide the conversations during Phase II. These conversations included forums and comments by stakeholders, and the deliberations of the RSCs. By focusing on a discrete set of questions, the regional assessments yielded consistent types of information and have created the building blocks for analysis in Phase III.

The regional assessments describe the overall conditions and context of wildland fire and fire response in each region. They describe the values, both ecological and social, within the regions and the trends and uncertainties relating to wildland fire and risks to landscapes and communities. The assessments identify the unique legal, regulatory and jurisdictional environment in which wildland fire and resource management agencies operate nationally and regionally. Utilizing this framework of regional context, conditions, values, trends, uncertainties, and policies and regulations, the RSCs developed objectives and actions and activities in an initial objectives hierarchy for each region. The RSCs additionally began work on initial alternatives, or combinations of actions and activities under a defined future scenario, for reducing risk. The RSCs will continue this work to refine specific alternatives in Phase III with the added support from the NSAT.

Regional Conditions and Context

The following paragraphs demonstrate that although many conditions were common between the regions, the three regions also face differing wildland fire problems due to their unique geography, climate and landownership patterns.

The conditions and context common to all regions include:

- Existing collaborative efforts to suppress wildfire;
- Population growth in the wildland urban interface and in densely populated areas;
- Diverse land ownership and management; and
- Seasonal and extended drought conditions

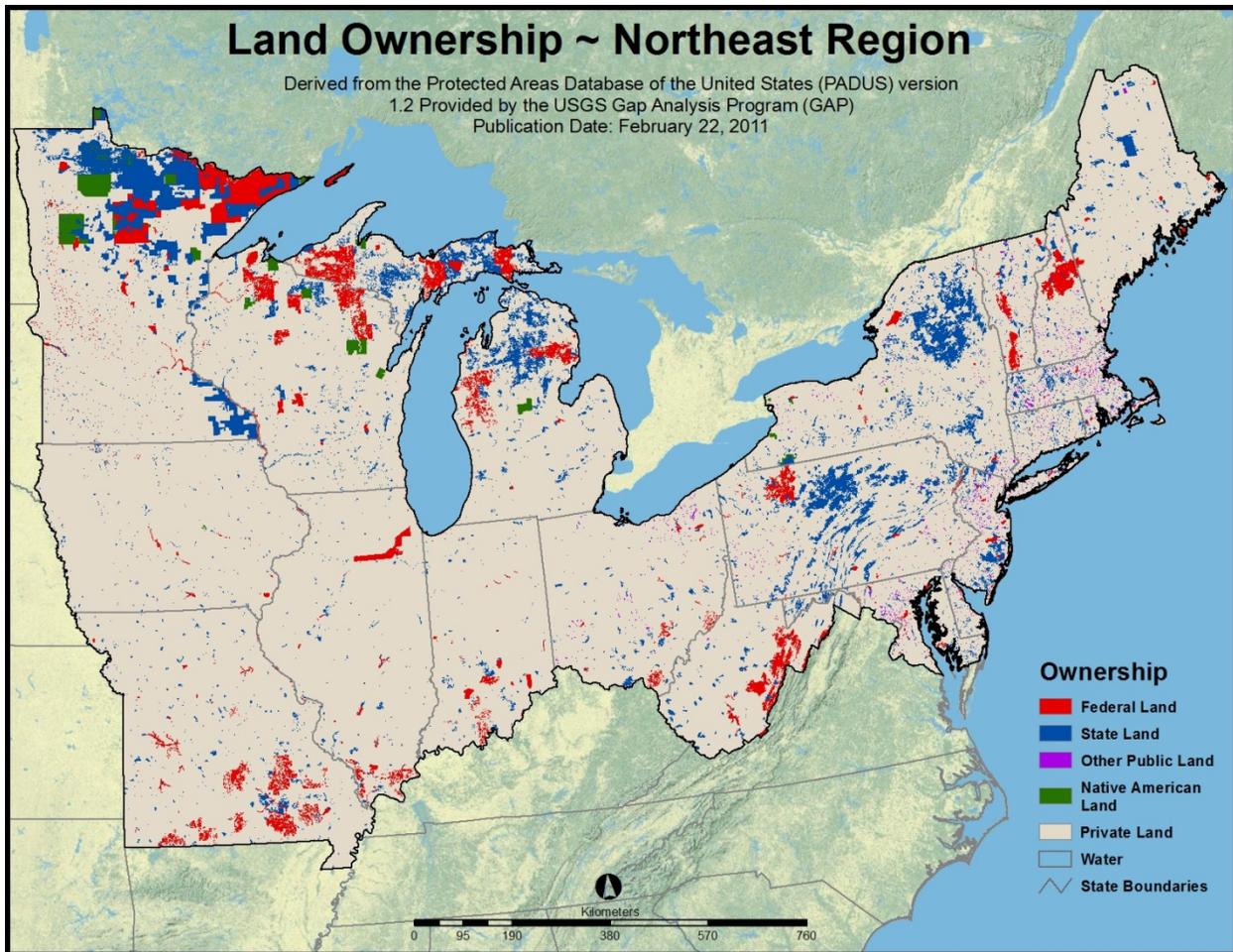


Figure 3. Map showing Northeast Region land ownership

Northeast Region

Northeast Region comprises 20 densely populated states where the vast majority of the land is in private ownership, and wildfires occur primarily in the spring, fall and summer. Local partnerships focus on initial attack and putting fires out quickly. In addition, fire suppression is enhanced through interstate compacts among the states and with Canada.

Lands are owned and held in stewardship by a diversity of individuals, tribes, industries, organizations, and local, state and federal agencies. Land uses and ownership patterns are complex, with many small in-holdings creating a diverse range of owner objectives. Public lands are often isolated among other land uses, including private and industrial forests and agricultural lands. Diverse land management and ownership patterns, hazardous fuels situations created by the occurrences of natural and weather/climate events, high wildfire occurrence, and an extensive wildland urban interface characterize the Northeast Region.

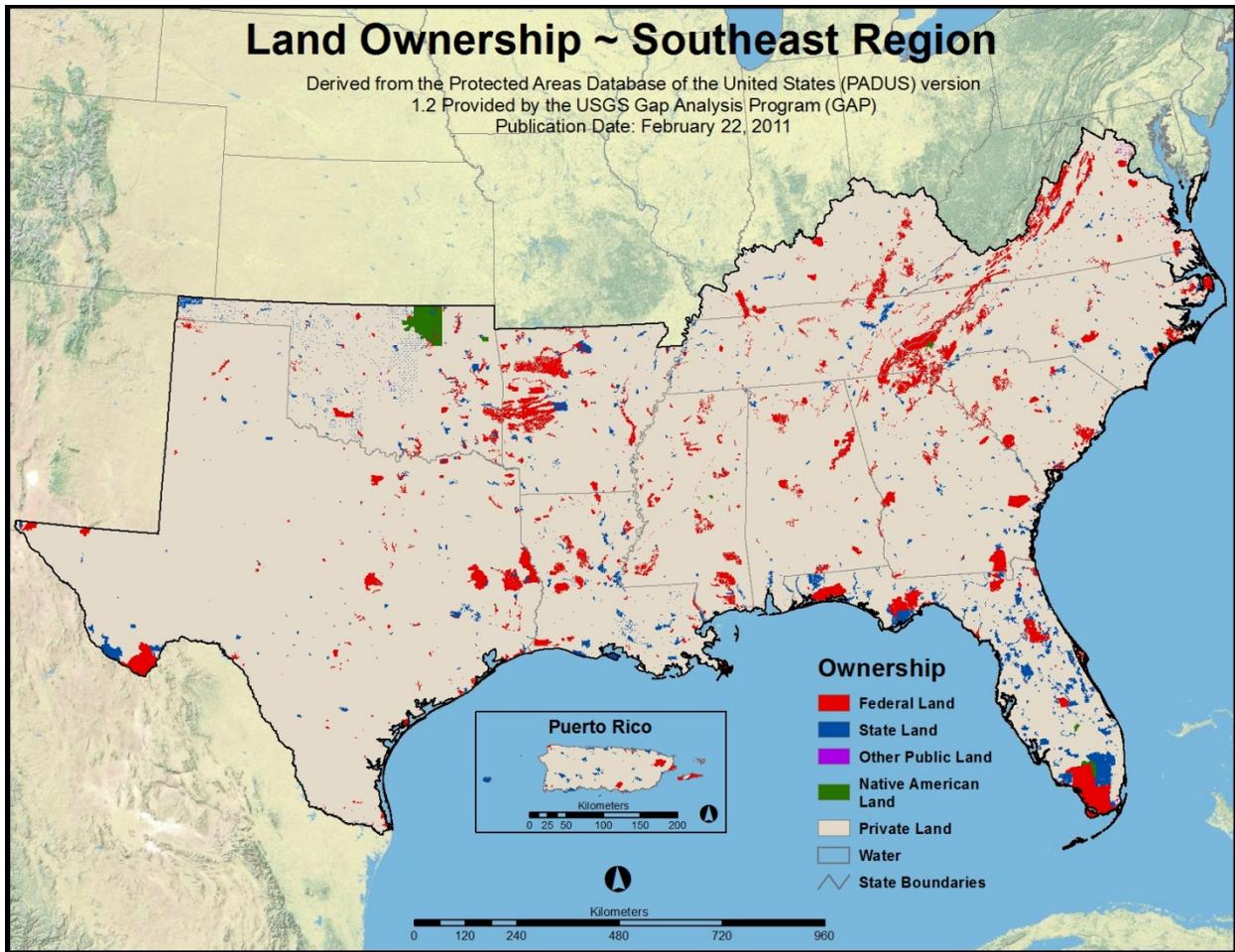


Figure 4. Map showing Southeast Region land ownership

Southeast Region

The Southeast Region comprises 13 states stretching from the Atlantic Seaboard to Texas. High wildland fire occurrence, a year-round fire season, and rapid regrowth of vegetation/fuels characterize the wildland fire management problem in the Southeast. Land ownership is highly fragmented with the majority of forestlands in private ownership. Fragmentation poses a challenge to a coherent policy of landscape management and fuels reduction. A culture of prescribed burning exists in the Southeast and is essential to managing fuel loads. The Southeast implements more prescribed burns, with more acres treated than any other region, mostly on private land.

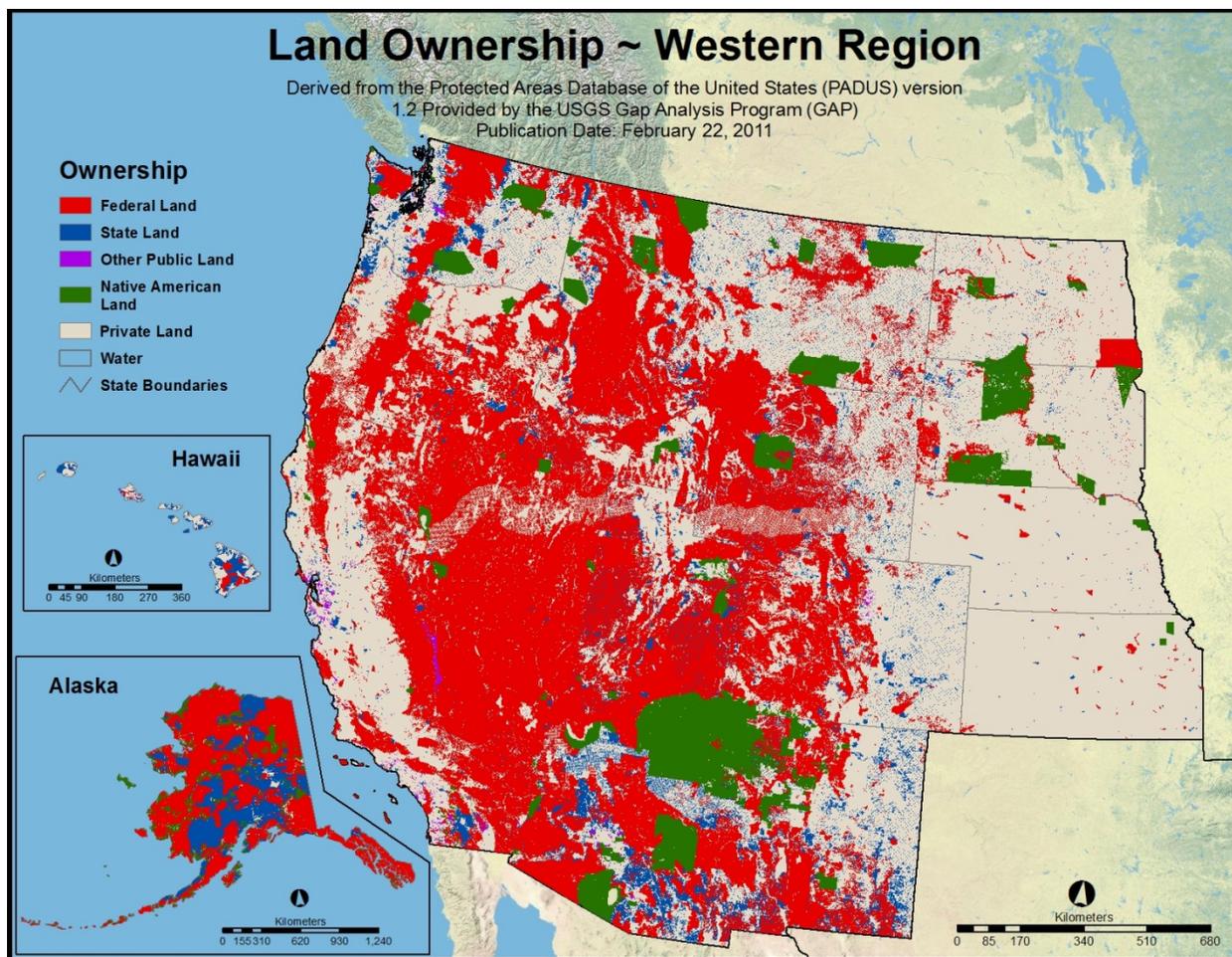


Figure 5. Map showing Western Region land ownership

West Region

The West Region comprises 17 states spanning nearly half of the continental United States, including Alaska, Hawaii, and the affiliated Pacific Islands. Wildland fire management in the West is challenging due to a variety of issues including; steepness of terrain, access limitations, & changing climate & invasive species. In areas managed for wilderness values, wildland fire management focuses on maintaining wilderness characteristics. Many parts of the West are experiencing extended drought for more than the past decade. Drought is one stressor that leads to increased wildfire threats. A stressed system or forest is more susceptible to infestations of insects, pathogens and disease, which can kill vegetation and in some areas has left millions of acres of dead, standing trees (see appendix F). The West has seen a rapid escalation of severe wildfire behavior over the past two decades resulting in increased wildfire suppression costs, significant home and property losses, and increased threats to communities. Wildfires in the West result in complex and costly efforts for post-fire restoration due to steep topography, threats to a clean water supply, and highly erosive soils and flooding.

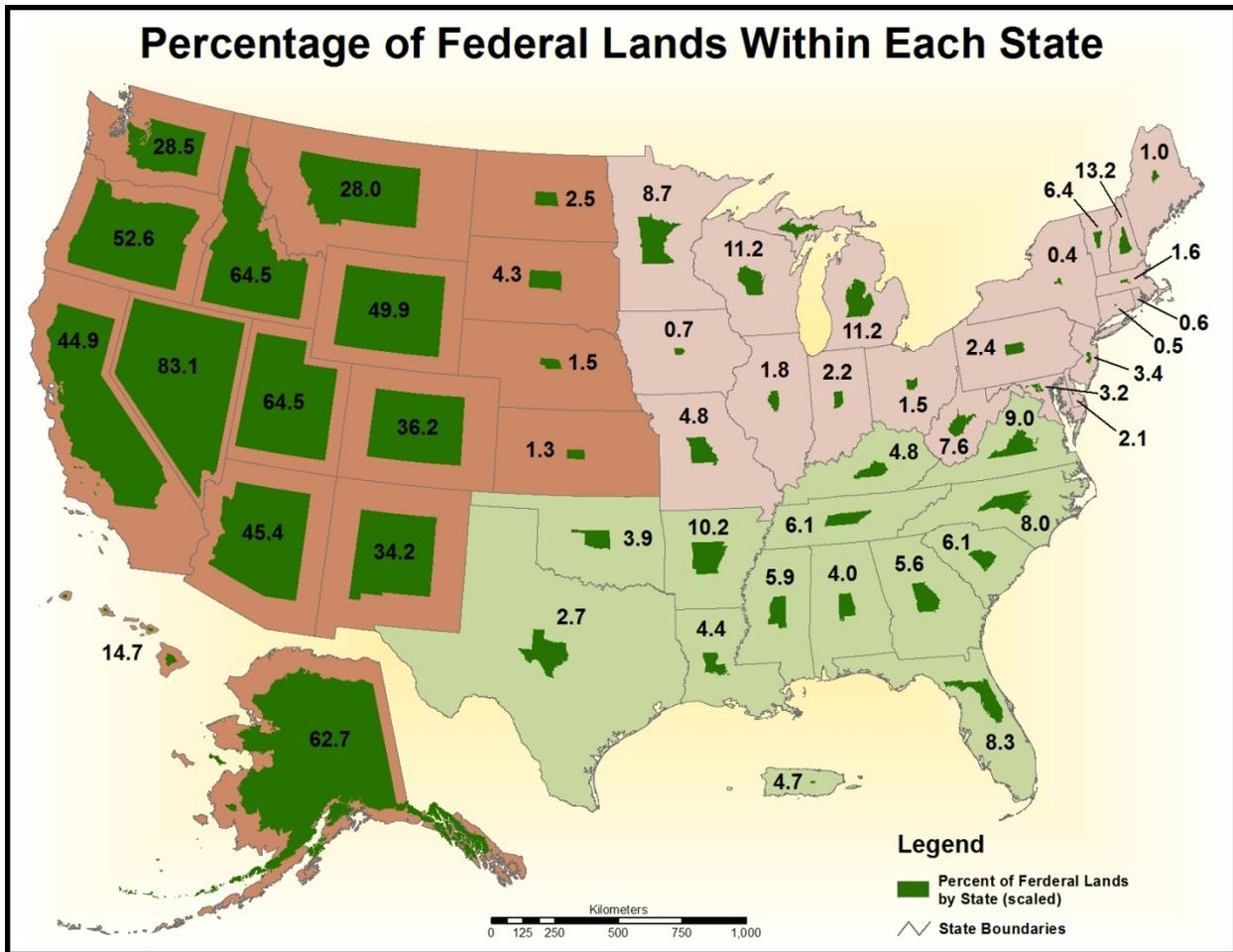


Figure 6. Percent of federal lands within each state.

Policies and Regulations

Wildland fire and resource management decisions are guided and informed by a suite of laws, regulations and administrative policies that exist at the federal, state, tribal and local levels. The interpretation of the laws, policies and regulations ultimately determine management activities. Each of the regions identified a suite of federal, state, local, and tribal laws, regulations, and policies as significant in their impacts the accomplishment of wildland fire and resource management goals, including but not limited to:

- National Environmental Policy Act,
- Endangered Species Act,
- National Forest Management Act,
- Clean Air Act, and
- USDA Forest Service's National Forest System Land Management Planning Rule, among others.

State laws and policies also impact wildland fire management effectiveness, such as:

- Mandates to suppress fire on state and private lands,
- Laws and policies that limit or prevent the use of prescribed fire and/or the use of fire for resource benefit,
- Water quality standards,

- Differing state laws governing jurisdictional responsibilities for wildfire suppression, prescribed fire operations, and open burning permits,
- State statutes governing wildfire and emergency management training requirements,
- Liability laws, and
- Air quality standards and policies pertaining to smoke management and emissions permitting.

Values

Values are characteristics or qualities of life considered significant with respect to personal or cultural importance, worth (whether intrinsic or monetary), usefulness, or excellence. Questions in the CRAFT framework guided the RSCs in delineating their primary values relating to wildland fire and resource management.

Stakeholder input, RSC and Working Group members' professional observations, peer-reviewed literature, and earlier analyses identified values through both Phase I and Phase II of the Cohesive Strategy. The following values are common to all regions:

- *Safety of firefighters and the public.* Public and firefighter safety was the value most consistently shared by stakeholders across the regions and is expressed as a national core value. Firefighter injuries and fatalities occur for a number of reasons including aircraft and vehicle accidents, heart attacks, smoke inhalation, and burns. Public safety concerns related to wildfires include evacuations, protecting home and property, and post fire trauma or distress. Other issues that can affect the safety of firefighters and the public are: access issues in rural areas, visibility on roads during wildfire or prescribed fire events, water supplies for firefighting, predictive capabilities, and communications on the fire line, among others.
- *Protection of private property.* Landowners have diverse interests and objectives for their land including wildlife habitat, recreation, timber production, tax interests, and aesthetics. Many value their individual liberties and private property rights, admire self-reliance, a sense of community, and a strong sense of connection with the land.
- *Water conservation and quality.* There is near-universal agreement on the ecological and public value of the clean, generally abundant water supplies that sustain human and animal life, supply drinking water, support healthy fisheries, generate electric power for homes and industries, and irrigate crops.
- *Air quality.* Similar to water conservation, high air quality, good visibility, and low levels of smoke, smog, or other pollutants or respiratory health hazards also rank at or near the top of amenity values.
- *Maintenance and enhancement of local economies.* Many stakeholders expressed the need to maximize return on investment and use economic principles to achieve environmental objectives. The forest products industry can plan a crucial role in providing cost effective and efficient landscape restoration that supports rural economies and fuels the creation of temporary and long-term employment. Recreation and tourism are also key components of many rural economies.
- *Restoration of healthy and resilient landscapes.* Healthy ecosystems provide numerous ecological services, support a variety of land uses (hunting, fishing, recreation, farming, ranching, timber, mining, etc.), offer a desirable backdrop and physical setting for homes and communities, and support a plethora of historic, spiritual, and cultural resources. Fire resilient landscapes are resilient to other disturbance processes that can degrade ecosystem services (pollination, carbon

sequestration, ground water recharge, harvestable populations of fish, game, plants, etc.), food and materials production, recreational value, scenic beauty, and sense of solitude.

- *Protection of scenic viewsheds (visible natural environment)*. The aesthetic appearance of the landscape is important, and management activities that are perceived as having a negative impact on that appearance are often resisted. Scenic areas contribute to viable recreation- and tourism-based local economies.
- *Honoring tribal heritages, traditional values, and land uses*. Preserving and respecting traditional uses and practices is vitally important. Wildland fire and resource management policies and practices need to take into account cultural values and beliefs, related historic and spiritual sites and resources, and the relevant lessons to be gleaned from traditional ecological knowledge. Timber resources are a valuable trust asset and tribes accept and generally encourage timber management that results in healthy forests and local economic gains. Being a firefighter is a respected and desired profession, and firefighting is an economic benefit in tribal communities.

Although the three regions share many similar values, each region has unique values and some examples from the three regional assessments are presented in the following paragraphs.

Unique Northeast Regional Values

The Northeast RSC identifies a variety of unique values and groups according to five themes: Land and Resources, Protection of Private Property and Investment, Willingness to Collaborate. Education and Awareness, and Create Partnerships across Jurisdictions

Land and Resources

Recreation: The Northeast contains a large portion of the country's population and wildland-urban interface areas. Many residents and visitors use wildlands for recreational activities such as hunting, fishing, camping, bird-watching, mountain-biking, hiking, and leaf-peeping. Wildfire and wildland fire management activities can impact trails, campgrounds, wildlife habitat, and cause temporary closures for public safety, negatively affecting recreational opportunities in the short and/or long term.

Forest product markets are crucial to local and regional economies of many northeastern states. Protection of the forest resource to provide raw materials is essential, and a robust forest products industry provides a cost-effective means for reducing hazardous fuels and achieving resilient fire- dependent ecosystems.

Willingness to Collaborate and Create Partnerships across Jurisdictions

Jurisdictions and ownership: The Northeast is a patchwork of jurisdictions and ownership, and often more than one agency is involved in managing wildland fire. This strategy will include many stakeholders at various levels and it will need buy-in by many parties to be successful.

Coordinated efforts to engage the public in issues and collaboration with all stakeholders will enable effective and efficient wildland fire management. As much as coordination and collaboration are considered important, for the Cohesive Strategy to be successful, it must ensure that partners are able to maintain their unique missions and values. Because of the many geographic and cultural divisions of the Northeast, flexibility in implementing the strategy will be imperative.

Education and Awareness

Continued engagement with the public on wildland fire management issues is crucial. Lack of action on the part of the public or landowner is not necessarily due to lack of knowledge and understanding of fire risk. Trust in those conveying the information and the availability of personal resources to mitigate fire risk are necessary, too. Educational programming should provide consistent messages, be realistic and related to local values and needs, and encourage personal responsibility. Prevention education can have a significant impact on reducing wildfires in this region where greater than 95 percent of the fires are human-caused.

Unique Southeast Regional Values

Diverse values are associated with wildland fire and resource management in the Southeast (refer to the Southeast Regional Assessment for a detailed discussion of the region's values, trends, and uncertainties). The Southeast RSC broadly categorizes these values into five overarching categories of values: ecosystem, infrastructure, societal, economic and wildland fire management.

The **Ecosystem** includes values associated with biodiversity, wildlife habitat and healthy forest/landscapes, as well as the air and water quality components, many of which are fire adapted and require periodic burning to maintain characteristic ecosystem structure and diversity.

The **Infrastructure System** contains values associated with human infrastructure, habitations, other structures and private property.

The **Societal System** encompasses human, social and cultural values. Fire (both wildland fire and prescribed burns) has a significant place in the history and culture of the Southeast. Historically, individual landowners played a large role in prescribed burning; and the tradition continues today. As fire was limited throughout the United States during the first half of the 20th century, Southerners continued to implement prescribed burns to support traditional land uses, for aesthetic purposes and for fuel reduction. The values gathered under the Societal System include:

- Aesthetics – viewsheds and indirect community benefits,
- Quality of life – human health and safety, clean water, public services, safety for wildland fire responders, and
- Land use – traditional land uses (e.g., hunting, recreation, grazing, farming, silviculture), tribal issues, community involvement in and acceptance of wildland fire management and prescribed fire.

The **Economic System** includes values related to direct and indirect costs of wildland fires (suppression expenditures as well as short- and long-term impacts to economies related to silviculture and biomass, tourism, and recreation). Though wildland fire response may create a small increase in short-term employment, wildfires may have a significant negative long-term impact on local economies that rely on working forests, recreation and/or tourism. Wildfire can cause economic devastation in the region, damaging or destroying marketable timber, biomass and other forest products and can also create costs associated with restoration activities. Failing to implement the full range of wildland fire management options can also have negative effects on local economies where natural systems rely on active land management practices such as prescribed fire to maintain landscape resiliency.

The **Fire Management System** includes values related to wildland fire response capacity and capability, interagency collaboration and coordination across jurisdictions, training and planning to ensure adequate resource availability, and succession planning.

Unique West Regional Values

The Western RSC identifies many values similar to those of the other two regions; however, the following values are expressed uniquely by the West.

Valuing people for who they are, not what they have in the bank: Western communities and their individual residents differ widely in their technical, infrastructural, social and economic capacity to locally address wildland fire management issues. Management strategies need to recognize those differences so future responsibilities and resources can be allocated appropriately.

Living and respecting the western or frontier culture: Among the key (and sometimes contradictory) elements of the culture of the West are a spirit of adventure and curiosity, concern for preserving individual liberties and private property rights, admiration of self-reliance (but quick response to neighbors needing help), and a strong sense of connection with the land. Management strategies seen as directive or imposed from afar are almost certain to be less well-received (and often prove less effective) than ones developed locally and collaboratively.

Enjoying vast, wild, open landscapes: People in the West count on the land to provide numerous ecological services; support a variety of land uses (hunting, fishing, recreation, farming, ranching, timber, mining, etc.); offer a desirable backdrop and physical setting for homes and communities; and support a plethora of historic, spiritual, cultural resources, and dynamic and diverse habitats. The appearance of the landscape is important and aesthetics vary by individual, and management activities that are perceived as having a negative impact on that appearance are usually resisted.

Using and stewarding public lands: Public lands comprise more than half the total land area of the West, and maintaining public access to the lands has long been a treasured—and zealously guarded—western value. Events during the last two decades have clearly shown the need for improved communication and cooperation among all landowners, managers, and other concerned stakeholders in restoring and maintaining the on-the-ground conditions and practices necessary to preserve the watersheds, critical habitats, and other western values to be protected from uncharacteristic wildfire. The growing numbers of large landscape-scale community wildland fire protection plans, multiple-ownership hazardous fuels reduction projects and landscape restoration efforts will be significant elements of future wildland fire management strategies.

Trends and Uncertainties

Response, input, and observations also reveal trends or general directions of concern in wildland fire management and common uncertainties that must be considered in developing and implementing the Cohesive Strategy. As with the values, all regions identify some universal trends and uncertainties:

- Population growth,
- Increasing wildland-urban interface,
- Changing climate,
- Invasive species spread,
- Changing public expectations with regard to wildland fire response,
- Economic fluctuations,
- Tightened budgets, and
- Increasing role of traditional wildland fire capability (equipment and personnel) in other disaster and all-hazard response.

Each region also had trends and uncertainties unique to their region, as identified below.

Northeast Region

Lack of Fire: Lack of fire has created two primary issues in the Northeast. First, fire-dependent ecosystems continue to change without fire on the landscape. Fire regimes have departed from

historical conditions and fire-dependent plants are being replaced by shade-tolerant, fire-sensitive vegetation which is less flammable. Although this vegetation change can benefit areas (such as the wildland-urban interface) where there are values to be protected, negative impacts to the function of and services from fire-dependent ecosystems can be severe. Shade-tolerant forests are not excluded from wind, ice, and drought events, nor are they immune to insects and disease such as emerald ash borer, eastern hemlock woolly adelgid, or beech bark disease, all of which can increase fuel loading that may lead to more extreme fire behavior and negative impacts.

The second primary issue is complacency on several levels. The Northeast can be described in risk management terms as low occurrence but high risk. Unlike the West which has large, significant fires on an annual basis, or the Southeast which has a history and culture of fire (both wildfire and prescribed), the Northeast neither has large fires on a regular basis nor does prescribed fire play a significant role. Long intervals between large wildfire events create challenges in investment strategies in preparedness, whether by governments or homeowners. Wildfire preparedness at the local fire department level can be overshadowed or downplayed because of the responsibility for more-frequent all hazard and medical emergency response.

Fire-related Science: An abundance of fire-related science is pertinent to most areas in the Northeast. The challenge for fire managers as well as land managers will be synthesizing and applying the abundant science to their local conditions to plan and implement fire management objectives on small parcels and landscapes, and across ownerships.

Forest products industry: The forest products industry is integral to cost-effective landscape restoration, hazard mitigation, and fuels reduction. Industry infrastructure (skills and equipment) for using pulp, saw timber and biomass is necessary for cost-effective treatments. Lack of a sustainable supply of wood has caused industry infrastructure to decline or disappear in some areas like Illinois and Indiana. In other areas with abundant supplies of wood, the recent decline in the forest products industry has forced forest product companies to close. When infrastructure and skills are lost, costs for services increase. There is a reluctance to invest in high-value equipment and facilities when uncertainties exist like sustainable supply or contracts for services. It is unclear how the demand for wood products, including biomass, will impact wildland fire management in the Northeast. Currently, where biomass markets are available, non-merchantable material can be treated and disposed of at a lower cost.

Prescribed burning is accomplished on a small but increasing percentage of the region; state and federal agencies conduct most activities. Uncertainties exist related to how much should or could be burned given the capacity of agencies and organizations, budgets, air quality issues related to smoke and other local concerns. More expertise with smoke modeling, particularly in the highly dissected landscapes, is needed to avoid putting too much smoke into communities. Improved ability to identify and work with those households and individuals with smoke-related health concerns is also needed. Sharing and learning from successful projects can contribute to building capacity and responding to these issues.

Southeast Region

While changes in the southeastern United States are rapid, no single driver dominates; instead a combination of processes will determine the future of the region's landscapes. Changes in demographics, land ownership patterns, socio-economic conditions, firefighting capacity, and Rural Fire Department (RFD) training and retention rates will also impact the occurrence of and ability to manage wildland fire.

Private land ownership: Changes in the patterns and trends in land ownership in the Southeast create challenges related to wildland fire management. The majority of forest land in the Southeast is privately owned and managed, and most of the holdings are relatively small. The divestiture of three quarters of the region's industrial timberlands since 1998 has contributed to ownership fragmentation, making landscape-scale management more complex. The trend away from intensive forest management (also a result of divestiture) leads to increased fuel loads and the potential for more intense wildland fires. Traditionally, public and private land managers have relied on prescribed fire for fuels management. As surrounding lands are developed, the effective use of prescribed burning will be impacted, leading to more costly management techniques (e.g., mechanical clearing to avoid short-term smoke impacts) or potentially increasing the risk of wildland fire.

Understanding of wildland fire: Demographic shifts are also expected to impact wildland fire management. Populations in the region are becoming increasingly diverse, with new residents representing a broad range of ages, ethnicities, backgrounds, and varying levels of understanding of wildland fire. Some areas with high rates of citizen turnover make wildland fire education and the use of prescribed burning a challenge. In these areas, every new cohort of citizens has to be educated with respect to wildland fire, the use of prescribed burning, smoke management, and effective land management of their own property to reduce wildland fire risk. Each transfer of ownership has been shown to increase the potential for moving away from traditional management toward a less intensive approach (increasing fuels) and/or toward development (increasing wildland-urban interface).

Rural Fire Departments: State forestry agencies rely heavily on RFDs to provide initial wildland fire response and reporting. RFDs assist in suppressing many ignitions before they grow large enough to pose a threat to people and values to be protected. However, RFDs experience high turnover rates; training and retention are constant challenges for RFDs and the state forestry organizations that support them.

Economic trends: *Increasing demand for softwood and bio-energy production is expected to impact some areas of the Southeast. The impact on wildland fire from this increase in demand is unclear.*

West Region

In addition to the trends and uncertainties shared among the regions, the Western RSC addresses additional issues including:

- Increased incidence and spread of uncharacteristically large wildfires,
- Proposed listing of endangered species,
- Degradation of drinking water and watersheds,
- Spread of native and non-native insects and pathogens,
- Lack of succession planning to ensure adequate staffing and training of wildland fire responders, and
- Decline of the forest products industry (i.e., loss of infrastructure and skilled labor) and growth of a biomass industry and alternative markets have affected and will continue to affect local, rural economies.

The prevalence of collaboration and large-scale collaborative planning is a significant positive trend in the West that the Western RSC seeks to build upon in developing its assessment and strategy.

Objectives and Actions

The aim of the Cohesive Strategy is to produce a strategy for achieving the national goals and reducing risks posed by wildland fire that incorporates objectives and actions at the national, regional and local level. While no two regions identify initial objectives and potential actions in exactly the same language, there are significant elements held in common among all three regions. There are also objectives and actions unique to each region. The following sections outline the initial objectives and a snapshot of potential actions developed by the RSCs. Initial objectives and potential actions are not presented in order of priority within this report.

Objectives Common to All Regions

Each of the RSCs identified broad and strategic objectives that will contribute toward success in each of the three national goals identified in the Cohesive Strategy. Cross-cutting objectives which relate to all three of the national goals are presented below, along with objectives common to all regions for each national goal.

Cross-Cutting Objectives to Meet Multiple Goals

- Invest in, learn from, and build upon successful partnerships and collaboration efforts.
- Develop and conduct effective education and outreach to empower citizen engagement in and support for wildland fire management activities.
- Proactively use a variety of active vegetation management tools and techniques, including prescribed fire, to achieve local and large landscape objectives.
- Support working forests and wildlands, local economies and jobs, and diverse products and markets.

Restore and Maintain Resilient Landscapes

Despite the unique regional ecosystems and social-economic contexts under which objectives and actions have been developed, a number of ideas emerge that can be considered common across two or more regions with regard to restoring and maintaining resilient landscapes.

- Address ongoing and episodic (e.g., invasive species, insects and disease, storms) non-fire threats that may increase susceptibility to wildland fire.
- Develop and sustain capacity (e.g., skills, resources, infrastructure) to plan and carry out landscape treatments.
- Take advantage of opportunities to address policy barriers that prevent full coordination and collaboration and/or the most flexible use of existing authorities to plan and implement landscape treatments.
- Foster communication and promote strategic interagency policy development and planning across agencies, organizations, and the public.
- Increase public awareness to ensure acceptance and active participation in efforts to achieve landscape objectives.

Fire-adapted Communities

The three RSCs express their vision of creating fire-adapted communities quite differently, but these elements that contribute to creating fire-adapted communities are held in common:

- Reduce unwanted human-caused wildland fire ignitions in and near communities.
- Support community wildland fire protection planning.

Wildland Fire Response

Given the very different wildland fire environments in the Northeast, Southeast, and West, approaches to improving wildland fire response differ. Three common, overarching elements are:

- Providing for firefighter and public safety.
- Maintaining capacity.
- Improving effectiveness and efficiency of the wildland fire management organization.

Unique Regional Objectives – Cross-cutting

Based on unique regional conditions and stakeholder engagement, the Northeast, Southeast, and West identify, individually, the following concepts as cross-cutting, in that they affect all three of the national goals.

Northeast Region

Although not stated as cross-cutting actions, per se, these three items are included in the Executive Summary of the *Northeast Regional Assessment* as “three main recommendations that emerged from a collaborative effort to identify, define, and address wildland fire management problems and opportunities in the Northeast Region of the United States.”

- Invest in successful partnerships and collaboration.
- Invest in local resources for wildland fire response.
- Invest in joint management planning and implementation that achieves strategic objectives and reduces the effects of fragmentation of fire dependent landscapes.

Southeast Region

The Southeast RSC identifies several actions and activities common across the national goals and regional objectives. These actions should be considered part of each of the regional objectives. This concept is particularly important for the modeling work to be done in Phase III since it outlines how each action is related to the regional objectives and national goals.

- Conduct education and outreach to incorporate all Southeastern residents as active participants in fire adapted communities and wildfire prevention, landscape restoration, including prescribed fire and fuels management.
- Encourage the standardization of a simplified fire reporting system so that all fires, regardless of jurisdiction are captured.
- Support for maintaining working forest and viable forest products markets.

- Expand the use of prescribed burning.

The Southeast RSC also agrees on three “strategic opportunities” for reducing fire threat and impact. Similar to the “main recommendations” from the Northeast RSC, these concepts are critical to achieving success across the three national goals. They add detail and context to the cross-cutting actions listed above as well as individual objectives under each goal.

- Expand outreach and education to landowners and residents, particularly those new to the region and/or with a non-traditional ownership background. The outreach and education should stress prevention, increase awareness and acceptance of wildland fire management activities across the landscape, explain smoke dynamics between wildland fire and prescribed fire, and encourage WUI residents to take personal responsibility for making their home and communities more fire adapted. (SE and West)
- Enhance collaboration, training, and capacity-building across agencies to increase firefighter safety, wildfire response, and management effectiveness.
- Continue proactive fuels mitigation through all management techniques including prescribed burning to allow for maintenance of ecosystem function and to reduce fire hazard.

West Region

The Western RSC went through a process in developing the objectives hierarchy that initially included a great deal of repetition of ideas common across the national goals and regional objectives. The WRSC ultimately chose to highlight these actions as “Common across the Three National Goals” to underscore their fundamental importance to being successful in implementing the Cohesive Strategy.

- Invest in efforts that have a track record of success in meeting community and landscape objectives through effective collaboration, including leveraging investment capability and overcoming typical barriers to success. Use the lessons learned from these efforts to inform and encourage the development of similar capacity in other communities. Provide collaboration training and assistance where needed to facilitate planning.
- Use a variety of active vegetation management tools and techniques, including planned and unplanned wildland fire, to achieve local and large landscape objectives. Emphasize the design and use of treatments that reduce hazardous fuels and contribute to resilient landscapes while meeting social and economic needs.
- Collaboratively identify post-fire hazards in advance of fire seasons to clarify roles and responsibilities, position for the best response to post-fire natural hazard impacts on landscapes and communities, and use the local workforce to perform work whenever possible.
- Support existing industries (e.g., forest products, grazing, fishing, hunting, tourism, recreation, energy and minerals development) and encourage new markets (e.g., biomass) that facilitate implementation of landscape treatments where sustainable and economically feasible. Support employment conditions consistent with existing hiring practices and processes that lead to fair competition and the creation of family-wage jobs.

- Combine the best elements of existing education programs to create a West-wide wildland fire management education campaign with a strong, visible, and memorable message.

Unique Regional Objectives – Restore and Maintain Resilient Landscapes

The following objectives supporting the national goal related to restoring and maintaining resilient landscapes.

Northeast Region

Objectives and actions specific to challenges in the Northeast Region (e.g., fragmentation, hazardous fuels, episodic events, lack of active management in fire-dependent ecosystems) seek to restore landscapes that are resilient to fire, provide habitat to the organisms that depend on them, and present low risk to the human communities that border them and the fire fighters who protect them. The RSC members and stakeholders who developed the *Northeast Regional Assessment* believe that the most resilient landscapes in the Northeast will be achieved by thoughtful planning and management. Restoring landscapes is a regional interest, and fire resiliency is one piece of this interest.

- Restore and maintain structure, composition, and function of fire-dependent communities (e.g., jack pine systems, oak woodlands, prairie and grasslands, barrens and savannas).
- Treat (weather/pest/drought-related) event fuels expeditiously in fire-dependent and non fire-dependent landscapes.
- Protect threatened, endangered and sensitive animal and plant habitat.
- Prevent the spread of invasive plants.
- Maintain/increase skills and resource capacity to return fire to fire-dependent landscapes.
- Improve treatment effectiveness and wildland fire planning using the best available science.
- Identify and address policy barriers and conflicts that prevent full coordination and collaboration.
- Foster communication among stakeholders and build partnerships.
- Reduce landscape fragmentation by building shared objectives.
- Utilize existing Burned Area Emergency Rehabilitation (BAER), Burned Area Rehabilitation (BAR) funding and expertise to identify and treat invasive organisms, water quality issues, and erosion.

Southeast Region

Response to this goal in the Southeast acknowledges the challenge of maintaining or restoring landscapes in a complex environment of many small landowners; the objectives focus on a need for locally-calibrated, proactive treatment to restore and maintain landscapes. Resilient landscapes are resilient to fire and balance the need to reduce catastrophic wildfire risk to WUI communities throughout the Southeast. Healthy working forests are part of the Southeast's cultural heritage, as well as a critical part of the regional economy. The region's diversity and

uniqueness means that restoring and maintaining landscapes is a critical goal. The wildland fire management community agrees that flexibility to select locally-appropriate management techniques must be retained and encouraged so that prescribed burns can be implemented where appropriate and feasible, while in other areas mechanical treatments may be the only option. One key objective is identifying and focusing on the areas in which limited resources can be leveraged or combined to create the most significant impact on restoring landscapes and reducing the risk of catastrophic wildfires. However, rapid urbanization and soaring population within the Southeast may necessitate a greater focus on communities and the WUI rather than landscapes; therefore although Restore and Maintain Landscapes is a priority goal in the Southeast, management directives must be written with the understanding that restoration efforts may not be feasible in certain areas of the Southeast where human structures mingle with fire adapted landscapes in the WUI.

- Build and maintain resiliency in southeastern landscapes through strategic use of prescribed fire, mechanical treatments, grazing, etc., and manage wildfire where and when appropriate based on ownership and landscape context.
- Promote strategic interagency policy development and planning across agencies, organizations, and the public to more effectively integrate wildland fire planning into land-use planning and economic development.
- Develop and sustain capability and capacity required to plan and carry out landscape treatments, including prescribed fire.
- Encourage increased public awareness to ensure public acceptance and active participation in achieving landscape objectives.
- Mitigate environmental threats other than wildland fire (i.e. storm damage, insects, ice storms, hurricanes, insects and disease) that reduce ecosystem vitality and increase susceptibility to wildfire.

West Region

Sustaining landscape resiliency and the role of wildland fire as a critical ecological process in the West requires a mix of actions that are consistent with management objectives; use all available methods and tools; consider and conserve a diversity of ecological, social, and economic values; include sincere coordination and integration with all partners; and support market-based, flexible, proactive solutions that take advantage of economies of scale. All aspects of wildland fire will be used to restore and maintain resilient landscapes.

- Actively manage the land to achieve healthy forest and rangeland conditions.
- Protect landscapes and multiple values from the effects of unwanted fire.
- Improve interagency and stakeholder coordination and planning of actions that contribute to achieving landscape resiliency.
- Develop and maintain professional and industrial capacity to implement cost-effective and sustainable landscape treatments and support local economies.
- Fully use existing policies and procedures to provide the management flexibility needed to implement a mix of landscape treatments.

- Increase public awareness, acceptance, and active participation in achieving landscape objectives using all available tools.
- Identify and prepare for non-fire threats and disturbances that may increase susceptibility to wildland fire and/or impair ecosystem function.

Unique Regional Objectives – Fire-adapted Communities

The following objectives related to the national goal of creating fire-adapted communities.

Northeast Region

A suite of issues including expanding human populations, increased human-caused wildfire ignitions, and fuel accumulation (from wind, ice, insect and disease events, as well as vegetation growth in the absence of fire) continue to create complex challenges for communities across the Northeast. Community adaptability is at the center of coordinated cross-jurisdictional wildland fire management that addresses quality of life as a part of the larger environmental landscape. A fire-adapted community acknowledges the risks associated with its surroundings and, together with fire authorities including local fire departments, mitigates risks to safety and a sustainable quality of life.

- Fire authorities, local governments, and community members negotiate/accept risk and the range of actions taken to mitigate risk.
- Reduce wildland fire hazards.
- Reduce unwanted human ignitions in and near communities.
- Identify and address conflicts/barriers to fire-adaptation in local land use planning, building ordinances, and building codes.
- Develop agreements and memorandum of understanding (MOUs) that ease jurisdictional barriers for efficient and effective treatment and maintenance of fuel treated areas (for example, neighborhood agreements).

Southeast Region

This goal is particularly important in the Southeast, where human communities are adjacent to or located within wildland fire prone landscapes. Communities can survive wildfire without loss of life or significant damage to infrastructure and recover and thrive economically. However, this requires human populations directly engage in wildland fire planning to assess the level of wildfire risk to themselves and their communities, sharing responsibility and participating in actively mitigating the threat. In order for this to be successful, communities must take responsibility for the consequence of their actions. At the same time, the wildland fire management community must catalyze this process through education, engagement, outreach, and support to communities in preparation and planning. In addition to engaging with existing communities, a vital part of the engagement process must be raising awareness of incorporating wildfire risk into the design process for future homes and communities. In the Southeast, there may be as much potential for change through engaging in the process of creating fire adapted human communities as through effective fuels management.

- Support development of, and maintain engagement with communities by developing and leveraging partnerships through community wildfire planning for improved preparedness.

- Eliminate loss of life and minimize loss of structures.
- Coordinate public policy and shared responsibility across jurisdictions.

West Region

Preventing or minimizing the loss of life and property due to wildland fire in the West requires a combination of thorough pre-fire planning and action, followed by prudent and immediate response during an event. Post-fire activities can also speed community recovery efforts and help limit the long-term effects and costs of wildfire. Community Wildfire Protection Plans (CWPPs) or their equivalents should identify high-risk areas and community-specific requirements. Collaboration, self-sufficiency, individuals' and/or communities' acceptance of the risks and consequences of their actions (or non-action), treating homes and property equally regardless of appraised value (social justice), and facilitating culture and behavior changes are important concepts.

- Prevent unwanted human-caused wildland fire ignitions within or in close proximity to communities.
- Reduce hazardous fuels within the wildland-urban interface and nearby areas containing community values to be protected.
- Continue to develop, support, and maintain CWPPs as one of the primary tools to achieve the goals of the Cohesive Strategy.
- Build a culture of self-sufficiency to prepare for and protect life and property from wildland fire.
- Improve effectiveness and self-sufficiency of emergency response within each community.
- Improve post-fire recovery efforts that impact public health and safety, water sources, power transmission corridors, and other critical infrastructure.

Unique Regional Objectives – Wildfire Response

The following objectives related to improving wildfire response.

Northeast Region

Throughout the Northeast, local fire departments, both professional and volunteer, are key partners and are often the first and sole responders on wildfires; support from federal and state agencies is vital. Wildfires may be small in size but numerous and occur in bursts throughout the fire seasons. These factors, combined with the density of people and parcels of land under diverse ownership, create a complex wildfire response environment. A balanced wildfire response requires integrated pre-fire planning with effective, efficient, and coordinated emergency response.

- Provide for firefighter and public safety.
- Ensure that wildfire response reflects the broader wildland fire management strategy.
- Maintain the capacity to suppress unwanted fires.

- Improve organizational efficiencies and wildfire response effectiveness.
- Coordinate planning, training, detection and response activities for efficiencies.
- Improve and maintain infrastructure (airports, roads and bridges, etc.) that affect wildfire response.
- Address capacity issues related to all-hazard response.
- Provide access and reporting standards to all wildfire response agencies and organizations.

Southeast Region

The objectives and actions developed by the Southeast RSC address a number of challenges and opportunities including a year-round fire season, widespread wildland-urban interface, smoke management, policy conflicts across multiple jurisdictions, and other issues. Focused on firefighter safety, wildland fire management, and flexibility for locally-appropriate response to unplanned ignitions, two main objectives are identified below. Of particular concern in the Southeast is the need for specialized equipment such as tractor plows that are not in widespread use outside of the region. A second major concern is ensuring appropriate and consistent training for partners and cooperators, particularly RFDs, whose membership changes frequently. Finally, promoting indirect attack where appropriate has proven an effective way to minimize risk to firefighters and maximize resource benefit. The wildland fire management community agrees a need exists for agencies and organizations to retain the ability to select and apply techniques and tactics based on local conditions and needs.

- Increase firefighter safety by using risk management.
- Increase and leverage resource capability and capacity. Streamline and support training across all areas to maximize effectiveness.

West Region

Balanced wildfire response in the West requires integrated pre-fire planning with effective, efficient, and coordinated emergency response. Pre-fire planning helps tailor responses to wildfires across jurisdictions and landscape units that have different uses and management objectives. Improved prediction and understanding of weather, burning conditions, and various contingencies during wildfire events can improve firefighting effectiveness, thereby reducing losses and minimizing risks to firefighter and public health and safety.

- Provide for safety of wildland fire responders and the public.
- Guide response using risk management principles and values to be protected, as determined by early and frequent involvement of all partners, before, during, and after a wildland fire event.
- Improve effectiveness and efficiency of the wildland fire management organization.
- Improve administration and maximize the coordination and effectiveness of wildland fire management resources.
- Develop community-based strategies to deal with post-fire hazards on natural and cultural resources, responders, communities, and planned activities.

- Collect and use accurate and consistent fire information from all wildland fire protection jurisdictions to improve understanding of the wildland fire and response workload and provide feedback to decision support systems.

Actions and Activities

The intent of the following section is to illustrate the concept of an objectives hierarchy, where the RSCs developed objectives tied to the national goals and potential actions and activities which support the objectives. In some cases, the RSCs discussed in detail the sub-objective and action level to the hierarchy of goals, objectives and actions. More than 300 actions are described in the three regional assessments; however only a limited snapshot of potential actions is synthesized within this report, none taking precedence over other actions found within the regional assessments.

As the three goals of the Cohesive Strategy are interdependent, investment in actions tied to one goal can and should lead to success in all three national goals. The assessment process and the resulting collaboration and identification of regional actions and activities will continue as we move into Phase III and beyond. The RSCs noted in their assessments that some actions can be embarked on immediately at little to no cost, such as enhancing opportunities for homeowners to proactively reduce hazards around their homes and property, increasing collaboration across agencies, and thinking beyond the wildland-urban interface.

The following are example actions as excerpted from the regional assessments and their potential to reduce risk will be evaluated in Phase III as part of the refinement of regional alternatives (i.e. portfolios of actions and activities).

Goal: Restoring and Maintaining Resilient Landscapes

Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives

Northeastern Regional Objective: Restore and maintain structure, composition, and function of fire-dependent communities (e.g., jack pine systems, oak woodlands, prairie and grasslands, barrens and savannas).

Potential Action: Use prescribed fire strategically in fire dependent ecosystems.

Example Activity: Support prescribed fire councils and support the development of prescribe fire councils in states that don't have them.

Southeastern Regional Objective: Develop and sustain capability and capacity required to plan and carry out landscape treatments, including prescribed fire.

Potential Action: Sustain and further develop a network of trained practitioners capable of utilizing applied fire science (smoke management, appropriate burn season, technology, etc.) to plan and implement a comprehensive prescribed fire program.

Example Activity: Prescribed burning is critically important in the South for landscape restoration, hazardous fuel reduction and a myriad of other reason. Most of the burning done in the South is done by private landowners or their contractors. Several states in the South have Prescribed Burner Certification programs which provide some protection from liability if the certified burner is trained and meets certain other requirements such as having a written prescribed burn plan, etc. The state forestry agencies are usually responsible for managing the Prescribed Burner Certification programs and providing the training required by the program.

Southeastern Regional Objective: Build and maintain resiliency in Southeastern landscapes through strategic use of prescribed fire, mechanical treatments, grazing, etc, and manage wildfire where and when appropriate based on ownership and landscape context.

Potential Action: Promote and use fire to emulate natural disturbance patterns to maintain and improve ecological systems, balancing social, cultural, and economic needs, especially over large contiguous landscapes

Potential Action: Use prescribed fire to reduce fuel loads where feasible, prioritizing burning to maintain fuel loading in previously treated areas

Potential Action: Use education and incentive programs to encourage new and nontraditional private landowners to manage their lands to contribute to resiliency while providing forest products and expanding ecosystem markets (“working forests”)

Example Activity: Support the “One Message, Many Voices” campaign and development of other unified prescribed fire education programs. Prescribed burning education in the South is provided through several venues including the “One Message Many Voices” (OMMV) program. The idea of OMMV is that the public will receive the same message on prescribed burning from many communicators. OMMV is a joint program of the Southern Group of State Foresters, Tall Timbers Research Station and prescribed fire councils. Advertisements encourage viewers to participate in outdoor recreational activities and are directed to www.visitmyforest.org for local outdoor recreational opportunities. In the process of viewing the recreational opportunities the view is exposed to prescribed burning messages and to the website www.goodfires.org.

Western Regional Objective: Develop and maintain professional and industrial capacity to implement cost-effective and sustainable landscape treatments and support local economies.

Potential Action: Support traditional (e.g., timber, grazing, fishing, hunting, tourism, recreation, energy and minerals development) uses and industries that contribute to land management objectives and support local economies.

Potential Action: Support development of new technologies and local infrastructure for biomass removal and utilization through multiple means including legislation such as Farm/Energy Bill incentives that address emerging industry needs.

Goal: Creating Fire-adapted Communities

Human populations and infrastructure can withstand a wildfire without loss of life and property.

Northeastern Regional Objective: Reduce wildfire hazards on public lands that border communities to create fuel transition zones.

Potential Action: Coordinate fuels reduction and maintenance of desired conditions across jurisdictions.

Example Activity: Throughout the northeast, there exists a mosaic of federal, state, and local public lands which border wildland urban interface communities. Working together, the land management agencies can utilize the most appropriate funding authorities to complete priority projects on the landscape.

Southeastern Regional Objective: Coordinate public policy and shared responsibility across jurisdictions.

Potential Action: Develop new, and enhance existing agreements to allow fuels mitigation work to be conducted in the wildland urban interface (WUI) across jurisdictions.

Example Activity: Greater Okefenokee Landowner Association (GOAL) - The Okefenokee National Wildlife Refuge is adjacent to high value private timberlands (working forest), state forest, National Forest and towns and communities in SE Georgia and NW Florida. Heavy fuel, difficult terrain and WUI make fire response in this area difficult, complex and dangerous. Goal was formed to allow concerned private landowners, homeowners, state and federal agencies to better communicate and coordinate pre-suppression and suppression activities. Some of GOAL's accomplishments include construction and maintenance of the "swamp edge break" which is a fire break constructed around the refuge; fuel mitigation work adjacent to the swamp edge break; and coordinated response to wildfire. During the Honey Prairie Fire, which started in April and continues to burn as a ground fire, a unified command was established of U.S. Fish and Wildlife, National Forest, Georgia Forest Commission and Florida Forest Service. In this area private landowners (GOAL members) have resources that can be used in fire suppression and actively engage fire response in coordination with state and federal partners.

Western Regional Objective: Reduce hazardous fuels within the wildland-urban interface and nearby areas containing community values to be protected.

Potential Action: Encourage proactive vegetation management on public and private forests, woodlots, rangeland, fields, WUI home sites, and around infrastructure

Example Activity: Develop a long-term coordinated program of planned and scheduled on the ground projects that would achieve fuels reduction and land management objectives, provide year round employment, and sustain a reliable flow of raw and value-added wood products.

Goal: Responding to Wildfires

All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

Northeastern Regional Objective: Maintain a shared capacity to suppress unwanted fires.

Potential Action: Support local fire departments as integral to the suppression of wildfires across the Northeast.

Example Activity: Increase and improve wildland fire suppression training adequate to respond to local conditions.

Southeastern Regional Objective: Increase and leverage resource capability and capacity. Streamline and support training across all areas to maximize effectiveness.

Potential Action: Utilize relationships to increase interagency cooperation during wildland fire suppression. Develop/encourage the implementation of statewide mutual aid agreements and cross-jurisdiction MOUs, including Cooperative Fire Agreement billing. Support development of interagency all hazard Type 3 IMTs

Example Activity: The Department of Homeland Security will present an award to the unified command partners of the Bastrop County, Texas Fire Complex on November 14 in Washington. This award will be for outstanding coordination and cooperation in responding to the Bastrop County Complex which burned over 34,000 acres and more than 1,500 homes. Partners involved in the unified

command include, the city of Bastrop, Bastrop County, Texas Division of Emergency Management, Texas Department of Public Safety, Texas Forest Service, the Atlanta based National Incident Management Organization (NIMO), and the Southern Area type 1 IMT (Red Team).

Example Activity: Texas has developed the Texas Intrastate Fire Mutual Aid System (TIFMAS) and a network of interagency type 3 all hazard IMTs. TIFMAS is made up of structural fire departments from across Texas that can respond to structural or wildland fire incidents when needed. Funding for the responding fire departments is provided through the Texas Division of Emergency Management. The Texas Forest Service (TFS) was very involved in the development of interagency type 3 IMTs in Texas. These type 3 IMTs are composed primarily of city and county personnel. When these type 3 IMT are deployed they are assigned a Texas Forest Service liaison to assist with coordination. The TFS uses these organizations in concert. When the TFS request TIFMAS resources on a wildfire they also request a type 3 IMT to provide coordination and assistance for TIFMAS responders. TIFMAS has provided 700 pieces of firefighting equipment and over 3,000 firefighters to support wildfire response in Texas this year.

Western Regional Objective: Improve effectiveness and efficiency of the wildland fire management organization.

Potential Action: Seek opportunities to make strategic investments that will improve organizational effectiveness.

Example Activity: Promote realignment of protection responsibilities to the organization that is best suited and prepared to provide wildfire protection cost-effectively, while retaining jurisdictional authorities (e.g., block protection areas, offset protection agreements, protection contracts).

Barriers and Proposed Solutions

Through regional objectives and actions tied to the three national goals, the RSCs propose constructive resolutions to ongoing policy conflicts and suggest ways to take advantage of the opportunities they present. Some viable opportunities to address policy barriers and gaps that prevent full coordination and collaboration and/or the most flexible use of existing authorities to plan and implement landscape-scale treatments have been examined in the regional assessment reports.

The following illustrates a handful of actions proposed by regions to address barriers to success in their region.

Barrier: Landscape scale restoration is often difficult to achieve due to complex process requirements of federal laws, rules, and policies. New interpretation and engagement with key partners can take advantage of flexibility that currently exists but may not be exercised for fear of litigation.

Potential action: Encourage Federal Agencies to use authorities under HFRA and HFI to expedite the planning/collaboration process used to treat large landscapes.

Potential action: Work with EPA and CEQ to maximize flexibility for implementing actions following uncharacteristic wildland fire events.

Barrier: Responding to wildland fire events is a complex, interagency task. Many resources that would otherwise be available for mobilization are unavailable because of cumbersome qualifications standards and procedures.

Potential action: Build on existing success (e.g., IQCS, Recognition of Prior Learning (RPL), Service First) to develop a national qualifications system to track federal, tribal, local, state, and private community responders.

Barrier: Many states have laws that require all wildfires to be suppressed. Alternative wildfire management strategies such as managing lightning caused fires are not universally available to all fire management agencies, especially state agencies who have responsibility for managing wildfires on private lands.

Potential actions: Manage wildfire strategically to restore and maintain landscape resilience, by addressing state specific regulations on [managing] lightning ignitions. Further exploration may identify areas where compatible management objectives exist. Implementation strategies could be developed for when and where natural ignitions could be managed for landscape resilience and resource benefits.

Barrier: In many fire prone landscapes, there is a need to include a broader range of groups who embrace, adopt and implement fire adapted community principles at local planning and zoning scales for, at a minimum, new construction and development.

Potential actions: Identify and address conflicts/barriers to fire adaptation in local land use planning, building ordinances, and building codes. Work with local planners to include fire safe features in new development (e.g., building codes, landscaping, and evacuation routes) and specific restrictions when building in dangerous topography/conditions. Engage insurers to educate homeowners and developers for using fire resistant building materials, designing appropriate access roads to homes and developments, and using Firewise principles.

Barrier: There are a number of policy barriers and process complexities that affect the ability to effectively and efficiently share resources not only for wildfire but for fuels and prescribed fire work. As budgets decline and skill gaps grow, reliance on a mobile skilled workforce is one option while local expertise is developed. One example is the new national template for cooperative fire agreements which is designed so cooperators are responsible to bill the end user. A state will have to directly bill another state for fire personnel versus billing managed at the federal level. Processes for updating and revising agreements are slow and cumbersome. Qualification standards pose barriers to sharing resources when the Forest Service follows one set of rules while all others follow 310-1.

Potential Actions: Improve organizational efficiencies and wildfire response effectiveness. Address preparedness strategically for greater efficiency and cost effectiveness. Develop a flexible and mobile response capacity, given changing fire seasons and fuel events.

MANAGEMENT SCENARIOS AND AREAS TO EXPLORE FOR REDUCING RISK

Phase II of the Cohesive Strategy had two main components: (1) to bring together the stakeholders and communities to look for synergies and ways to work together to improve land management, reduce wildfire risk and improve suppression capability; and (2) to gather information describing conditions in the three regions pertaining to the threat of wildfire, values at risk, trends, and uncertainties. The next step is to define initial alternatives. Initial alternatives are built on an understanding of the national goals and regional needs and constraints. The RSCs began the task of exploring alternatives through the development of management scenarios (as described in the Southeast and the West) and areas to explore for reducing risk (as described in the Northeast). The ideas expressed by the RSCs set the stage for the analysis to take place in Phase III but are not alternatives for implementation.

According to the NSAT, “effective management requires understanding the nature of wildfire and its contributing factors, recognizing the consequences—good and bad—of fire, addressing uncertainty, and crafting plans that reduce the chance of catastrophic losses. Real-world constraints on funding, available resources, and administrative flexibility further require consideration of economic efficiency and practicality.”

Stakeholders and the NSAT worked together to define the management constraints for reducing risk in each region. The alternatives presented in the three regional assessments are not plans or decisions. They are articulations of options and possible areas of program emphasis to reduce the risk of wildland fire. Analytical methods will be used to test initial alternatives developed by the RSCs. The initial alternatives are preliminary and will be refined in Phase III.

Using the CRAFT process, the NSAT will explore the likely outcomes of the scenarios presented and additional scenarios yet to be developed. They will use wildfire risk maps and fire behavior models to determine the relative effectiveness of different approaches across the landscape. Management options to be considered will be evaluated not only for potential cost effectiveness, but also from a perspective of risk, social acceptability and consistency with prevailing policies. After processing the scenarios in light of the best scientific data and risk assessment models available, they will come back to the RSCs with options and recommendations.

It is difficult to judge the effectiveness of one alternative action or activity against another. Since effectiveness is the ability to get a desired change in real-world conditions, it will vary according to the conditions. There is no one correct strategy for reducing risk and protecting communities and firefighters. While reducing fuels through prescribed burning or mechanical treatment might be most effective in some areas of the country, in others it may be more effective to focus on educating landowners, preventing ignitions, and preparing communities for wildfire. And with limited resources, it makes sense to use local information and science to help locate the most effective programs for the different areas of the country.

The CRAFT process guided the RSCs to list possible broad objectives, actions, and activities. Phase III will continue the CRAFT process as RSCs identify the combination of actions and activities that best reflects the continuation of current policies and practices and other reasonable combinations of actions and activities that collectively could contribute to long-and short-term goals.

The Northeast’s “Areas to Explore for Reducing Risk”

To develop “alternative management scenarios”, the Northeast RSC spent much of their time identifying objectives and activities that would significantly increase, decrease, or change their ability to meet the national goals. They developed a list of activities that they want the NSAT to explore to determine how

much change would occur if the activity is increased, decreased, or eliminated. The activities listed are not proposed “alternatives.” They are simply a list of areas to explore to determine if efficiencies can be gained by reallocating resources. The Northeast RSC feels they need more data to develop alternative management scenarios. The Northeast articulates four investment options:

- Invest in preventing human-caused ignitions,
- Invest in fuels treatments,
- Invest in building capacity in wildfire response, and
- Invest in protecting values at risk.

Within those categories, specific actions are listed. For example, “invest in preventing human-caused ignitions” sets out three levels of funding for prevention activities and the option of investing in local ordinances that reduce unwanted ignitions from debris burning and other sources.

Under “invest in fuels treatments,” three levels of funding for fuels treatments will be explored, and the option of treating only around communities in fire-risk landscapes, or in landscapes affected by wind, storm, pest, drought, or other events.

Under “invest in building capacity for wildfire response,” the options range from increased staffing, training, and detection, to investing in water-scooping aircraft, to eliminating barriers to cost sharing and cross billing, or appointing a fire warden in each town.

And, under “invest in protecting values at risk,” some of the options are: to treat fire-dependent ecosystems with prescribed fire, invest in fire-proofing homes and modify codes for new development and structure construction.

It is anticipated that the result of the analyses will show that a mix of investments in some, if not all, of these areas will be recommended. These alternatives are set out in a manner that gives the NSAT the ability to test each action separately and then return information to the RSC as to which actions are most likely to be effective, and where they are likely to be effective.

The Southeast’s Management Scenarios

The Southeast sees the development of alternatives as a way to weigh various national and regional values and goals to strategically use available resources to the greatest effect. They set out four potential management scenarios:

- Present management situation;
- Increased personal responsibility through outreach and education;
- Increased firefighter safety and wildfire response through enhanced collaboration, training and capacity; and
- Increased proactive fuels mitigation through all management techniques including prescribed burning.

These management scenarios are described along with anticipated consequences. The intent is to see what an increase in certain areas of management emphasis might accomplish. Running these changes in

program emphasis through the scientific analysis will allow managers to compare trade-offs to make better management decisions.

The West's Management Scenarios

The West also developed management scenarios to explore different levels of emphasis on a suite of actions for implementation, focusing on the national goals. Each scenario emphasizes a subset of the regional objectives and actions while assuming no significant increase or decrease in budgets. While each scenario emphasizes actions to focus on one of the goals, efforts toward the other goals are assumed to continue.

- Scenario One – Emphasize landscape resiliency. This scenario places greater emphasis on restoring the landscape with fuels treatments through prescribed fire, wildland fire, and mechanical treatments including active forest management with harvest of commercial products in those landscapes where they are appropriate, and using suppression where appropriate, to enhance landscape resiliency.
- Scenario Two – Emphasize fuels treatments to create fire-adapted communities. This scenario places greater emphasis on fuels treatments, including active forest management, within the WUI and areas identified in CWPPs and similar plans.
- Scenario Three – Emphasize the creation of fire-adapted communities through collaboration and self-sufficiency. This scenario places greater emphasis on assisting private citizens, landowners, and land managers to increase collaborative efforts and take action to protect their values at risk.
- Scenario Four – Emphasize effectiveness in wildfire response. This scenario places greater emphasis on increasing the effectiveness and efficiency of firefighting organizations across all jurisdictions.

The West assumes that emphasis on specific objectives and actions within a scenario will result in synergies from the alignment of energy by those involved in implementation of the emphasized objectives. This synergy would lead to implementation levels that exceed the current level even in the absence of additional funding or reduction in implementation of other objectives.

REGIONAL COLLABORATION AND OUTREACH

RSCs are collaborative teams representing wildland fire agencies, tribes, industry, and non-governmental organizations. The RSC's undertook extensive outreach to contact stakeholders for input relating to challenges, values, trends and objectives. However, the compressed timeframe prevented them from reaching everyone who wished to be involved. The RSC's recognize that a strong outreach strategy is key to building a successful National Strategy and will continue outreach efforts in Phase III. Outreach and collaboration is the key to building a national cohesive strategy for wildland fire management.

Phase II of the National Cohesive Wildland Fire Management Strategy continues developing the existing national strategy by engaging people affected by and essential to implementation at a regional scale. The goals of Phase II are twofold: (1) to solicit input and build collaborative relationships between wildland fire management organizations and stakeholders affected by the strategy, and (2) to better represent the unique resources and values associated with distinct geographic regions of the United States. Collaboration and communication will continue beyond Phase II as integral components of the Cohesive Strategy.

The Cohesive Strategy effort is the first time all wildland fire organizations, land managers and policy-making officials representing all levels of governmental and non-governmental organizations have come together to create a shared national strategy. It is also the first time individual regions of the country have had the opportunity to identify regional goals, objectives, and challenges to be incorporated in the national strategy. In preparing their assessments and strategies, the Northeast, Southeast, and West RSCs reached out to the following groups to gather input and concerns:

- Federal, state, tribal, and local agencies and organizations,
- Local natural resource and fire service agencies,
- Industry groups,
- Private landowners, and
- Community members.

Each RSC held meetings to familiarize members with the Cohesive Strategy and to develop the process for obtaining input from stakeholder groups. Each RSC identified individuals representing diverse skills, experience, backgrounds, and organizations to create a Working Group to gather input, build relationships, and support the work of the RSC during the effort. (See appendix D for RSC and Working Group members.)

RSCs contacted over 4,500 stakeholders by telephone and email and through posts to outreach websites and in person at meetings. Stakeholders provided input through an online form, written comments, and/or in focus groups and forums. Participation and response varied among the regions and stakeholder groups.

Engagement with diverse stakeholders during outreach efforts provided valuable information to help identify common societal and environmental values and concerns, in addition to trends and uncertainties for each region. The three regional assessment reports provide expanded discussions of the collaboration and outreach efforts and the resulting values, trends, and uncertainties identified during Phase II. The following sections of this report present identified values, uncertainties, and concerns and identify

opportunities, options, and possible alternatives for developing and implementing the Cohesive Wildland Fire Management Strategy.

NATIONAL SCIENCE AND ANALYSIS TEAM

The NSAT was created to: (1) provide analytical support to the RSCs and CSSC and (2) support the development and implementation of the Cohesive Strategy through the application of proven scientific processes and analysis. To achieve this goal, the NSAT is charged with three primary tasks during Phase II and Phase III:

- (1) Assemble credible scientific information, data, and preexisting models that can be used by all teams working on the Cohesive Strategy.
- (2) Develop a conceptual framework that describes the relative effectiveness of proposed actions and activities on managing risks associated with wildland fire.
- (3) Construct an analytical system using the products developed in tasks 1 and 2 to quantitatively analyze regional and national alternatives identified by the RSCs and CSSC.

Tasks 1 and 2 were addressed within Phase II, and will continue. Task 3 is exclusively a Phase III effort.

NSAT Efforts during Phase II

A wide range of individual scientists and analysts were invited to participate in the NSAT. These individuals represent federal, state, and tribal agencies, universities, and various non-governmental organizations, as well as a variety of topic areas spanning the complex issue of wildland fire management. The sub-teams that were active during Phase II include:

- Fuels management, wildfire extent and intensity
- Wildfire ignitions and preventions
- Smoke management impacts
- Landscape resilience
- Firefighter safety
- Fire adapted human communities
- Wildfire response and suppression effectiveness
- Public acceptance and policy effectiveness

Due to the complexity of wildland fire management, many of the identified topics necessarily overlap or intersect. This is especially true for issues such as landscape resilience, fire-adapted human communities, and public acceptance and policy effectiveness. As the conceptual models developed during Phase II are translated into more quantitative models to be used in Phase III, the various components and relationships among them will be made more explicit. Additional detail regarding sub-team reports, expectations for Phase III, and conclusions are provided in the full NSAT report.

The NSAT sub-team efforts built upon and expanded each of these major processes. For example, the wildfire ignitions sub-team considered a broad range of factors that affect where, when and how wildfires start, and how various combinations of engineering, enforcement, and education can influence human-caused ignitions. Similarly, the fuels management sub-team examined how various combinations of prescribed fire and other fuel treatments affect vegetation structure and composition, which in turn

influence (and is influenced by) wildfire extent and intensity. Such interactions play out differently across different ecological biomes and at different spatial and temporal scales.

In many ways, the products from the sub-team efforts reflect the state of knowledge about various aspects of wildland fire and the availability of existing models and data. This process has highlighted the importance of data standards and data accessibility across federal, state, tribal, local and non-governmental organizations.

Fine-scale processes tend to be better understood than broad-scale processes or strategic issues. For example, there is extensive literature on fire behavior and combustible properties of fuels; less is understood about the large-scale effectiveness of strategic fuel treatments.

There has been considerably more research focused on the biophysical aspects of wildland fire than has been directed at equally important socio-political issues. Thus, we can assuredly state that fire-wise landscaping and construction materials will help reduce the incidence of homes lost to wildfire; we are less confident as to how to ensure such practices are implemented. Smoke is an archetypal issue—technically well-understood but socio-politically complex and difficult.

Each sub-team produced one or more conceptual models of the processes operating within their area of interest. Collectively, these conceptual models create a rich tapestry that illustrates the extensiveness, complexity and interconnectedness of wildland fire. Along with the information summarized on existing analytical models and data sources, the conceptual models provide a strong foundation for building more rigorous models in Phase III that can be used to compare and contrast alternative strategies for reducing risk. It is recognized that the model development process and model analysis in Phase III must be conducted in a collaborative and fully transparent manner to meet a level of trust and acceptance by the agencies and the public.

NEXT STEPS FOR COHESIVE STRATEGY

It is important to understand that the completion of each phase of the Cohesive Strategy is a separate milestone, but the Cohesive Strategy is a national, iterative process that will continue into the future. This section includes many of the next steps planned for the Cohesive Strategy effort, each of which positions our Nation one step closer to achieving the vision of “safely and effectively extinguish fire when needed; use fire where allowable; manage our natural resources; and as a nation, to live with wildland fire”. Much was accomplished in Phase II, all of which will be built upon as the effort moves forward.

The existing governance structure – WFLC, WFEC, CSSC, NSAT and RSCs – will continue to focus on supporting the Cohesive Strategy. In addition to those currently involved, outreach and engagement to additional stakeholders, managers, scientists, and analysts is a critical component of each next step. It is the responsibility of each member of each committee and team to conduct outreach and garner engagement from the many voices nationwide. Collaboration and communication among existing and new contacts will continue to be a key to the success of this effort.

The work which began in Phases I and II will continue in Phase III. This next phase of the Cohesive Strategy involves the following:

- I. Identify Specific Regional Alternatives
- II. Continue and Expand Outreach Within and Among the Regions Utilizing the Communications Framework
- III. Continue to Identify Immediate Opportunities
- IV. Complete Regional and National Science-based Risk Analyses Reports

NSAT will develop analytical models and interact with the regional strategy committees and workgroups to explore alternative management strategies (alternatives) for each region, based on application and utility of the models. To complete these analyses, the WFEC, CSSC, and RSCs will engage with the NSAT to:

1. **Translate the conceptual models developed in Phase II into quantitative and qualitative models, as appropriate.** Create a nationally consistent set of analytical models that can operate at regional scales using regionally specific data, relationships, and assumptions. Retain the individuality of the regions, recognizing regional differences, while employing a consistent analysis across the nation.
2. **Compile and integrate appropriate data to quantify and validate the relationships presented in the models, using both federal and state data sources.** Specific data, relationships, and information needed to run the analytical models will be brought together for initial tests.
3. **Identify performance measures that can be used across all regions and within a given region.**
4. **Identify geographic variations in the models to reflect appropriate differences across the regions.** Variations in wildland fire and wildland fire management are apparent across the major regions. It is important that the analytical models reflect appropriate variations.
5. **Interact with the RSCs to validate that the modeled relationships are reasonable.** Validations of the models and the data will be conducted with the RSCs and the WGs.
6. **Explore specific alternatives developed by the RSCs through regional analysis.** Alternatives are strategic management options which reflect the decision space available for broad national and regional choices related to wildland fire management and policies. Initial regional alternatives coupled with additional alternatives developed

nationally, will be analyzed to explore the potential outcomes and associated tradeoffs of different choices, using the models to predict outcomes.

7. **Interact with the RSCs to revalidate analysis models and iteratively refine regional alternatives to be included in the comparative risk analyses – national tradeoff analysis.** Analyze analysis models via beta testing prior to refinement of alternatives. Refine alternatives to include in the comparative risk analyses – national tradeoff analysis. Illustrate the tradeoffs – benefits and consequences with regard to modeled performance outcomes – associated with each alternative to inform policy managers and decision-makers.
 8. **Conduct and document the comparative risk analyses – national tradeoff analysis. Coordinate efforts with other committees to report on results of the national tradeoff analysis.** Utilize models to project how risk varies under each alternative. The risk tradeoff analysis will allow for a comparison of the performance outcomes of each alternative based on a modeling projection. The tradeoffs – benefits and consequences – of each alternative are intended to be useful for further deliberations among stakeholders, partners, agencies, and policy makers, as decision processes move forward. A report will document the process, analyses and results of the regional and national science-based risk analyses.
- NSAT will communicate regular progress reports to the WFEC through the CSSC.

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America's fire problems are complex and difficult to solve independently. To improve our collective understanding, we will gain more knowledge and context through the risk assessment and analysis process. Risk assessment and analysis provides scalable information for reducing risk at the local, regional national levels. The intent of the risk assessment and analysis is not to make a final decision as to which alternative management options will be selected. Rather the intent is to derive information useful for further deliberations among stakeholders, partners, agencies, and policy makers at multiple scales as decision processes move forward within and beyond Phase III. Refer to the Phase II Report of the National Science and Analysis Team: Scientific Basis for Modeling Wildland Fire Management for additional detail on the risk assessment and analysis process.

V. Complete Regional Action Plans and a National Action Plan

RESPONSIBILITIES AND TIMELINE

The WFEC and CSSC are responsible for providing guidance and oversight to the RSCs and NSAT throughout Phase III. The WFLC, WFEC and CSSC will support the completion of each objective; provide the necessary guidance to complete analyses; and ultimately provide a report recommendation to the Secretaries of the Interior and Agriculture as a result of Phase III by February 2013. A Regional Implementation Plan for each of the three regions will be completed in 2013 as well as a National Implementation Plan.

COMMUNICATION AND OUTREACH

Communication throughout the Cohesive Strategy supports stakeholder efforts to rapidly disseminate information about progress, and systematically acquire and use feedback and input to improve the potential for highly effective collaboration.

The WFEC created the Cohesive Strategy Communication Workgroup on September 2, 2011. The WFLC and the WFEC recognized the importance of communication during the Cohesive Strategy process and committed resources and support to ensure that all interested stakeholders are able to access timely information, engage in the process and affect the final outcome.

Overarching communication outcomes were agreed upon: information dissemination, organizational communication and collaboration, and implementation. This is to ensure that stakeholders, interested parties, and the public are informed of progress in the development of the Cohesive Strategy; that communication processes are used to enhance and sustain collaboration among stakeholders toward development and implementation of the Cohesive Strategy; and that management and oversight options are available to move forward on the Cohesive Strategy in a collaborative manner.

At the November 2011 WFLC meeting, WFLC members concurred with the November version of the Communication Framework presented (refer to Appendix G). Recognizing the need for a Communications Steering Group (CSG), WFLC directed the WFEC to develop an implementation scenario for the communication efforts. The CSG will be defined, developed and implemented in the first half of the 2012 calendar year. Since communications is dynamic process the strategy and tactics will evolve and be evaluated for its effectiveness on a routine basis.

CONCLUSION

The completion of Phase II is a significant milestone in the National Cohesive Wildland Fire Management Strategy effort. The synthesis of regional assessments and strategies meets the goals laid out by WFLC for Phase II and supplies an initial set of alternatives to add to and analyze during the national trade-off analysis in Phase III. A multitude of stakeholders within each region came together to discuss their goals for landscape management within the context of the inevitability of wildland fire. They found many commonalities among their concerns and a starting place to move forward to restore landscapes, protect communities from wildfire, and improve suppression response. The three goals of the Cohesive Strategy are not mutually exclusive, and the stakeholders realized that working toward one goal will enhance opportunities to work toward the other goals.

Phase II has resulted in the development of robust regional assessments and strategies that are supported by numerous stakeholders and, in many cases, ready for action. Focusing on engaging regional and local stakeholders in the development of objectives and actions gives the Cohesive Strategy a measure of local support that was not present in previous efforts to improve wildland fire management. Ownership of, and investment in, regional strategies by those who developed them is a remarkable and early sign of success. Successful implementation of the Cohesive Strategy requires a collaborative process among multiple levels of government and a range of interests, resulting in healthier landscapes, enhanced community protection, and diminished risk and consequences of severe wildland fire. This collaborative process is ongoing and will continue into Phase III and beyond.

Phase II has shown the value of a decision-making structure that operates from the top-down and from the bottom-up. All voices must be at the table to truly take an all-lands and landscape-scale approach to land and wildland fire management. The multi-stakeholder representation on the committees, from the WFLC to the WFEC, CSSC, the RSCs, and the NSAT has resulted in shared support for the Cohesive Strategy.

This early success positions all stakeholders to move forward into Phase III and develop a full range of alternatives to be analyzed for their ability to achieve a shared vision for the future, as articulated in the FLAME Act. Phase III will incorporate scientific modeling of landscapes and wildfire behavior to ascertain the most strategic methods for reducing wildfire impacts to forests and communities.

Wildfire will always remain a natural force that brings benefits as well as unwanted destruction to landscapes, beyond the control of humans. We can do our best to safeguard those things we value – life, property, and healthy functioning ecosystems-- by applying our knowledge in ways that can effectively reduce the unwanted impacts of wildfire. The community of land management professionals, the firefighting community, and residents of wildland-urban interface communities are working together to make this vision a reality. Developing the Cohesive Wildland Fire Management Strategy is an important step in the process of learning to live with fire by focusing on collaborative efforts to minimize fire's unwanted impacts.

This Cohesive Strategy is not a report for the shelf; rather, it is one piece of a living, ongoing process that requires continued engagement. The Cohesive Strategy builds on existing collaborative efforts in the wildland fire management community with the expected outcome of building a holistic, national wildland fire management framework—one that links healthy and resilient landscapes to fire-adapted communities and wildfire response, rather than considering them separately. We are committed to implementing, effectively communicating, and regularly revisiting the Cohesive Strategy in the context of adaptive management; we believe all of these are critical elements for continued success.

Appendix A: Glossary

The National Wildfire Coordinating Group (NWCG) maintains an extensive glossary of fire management terminology and acronyms (found at www.nwcg.gov/pms//pubs/glossary/index.htm). Some terms used in this document that have specific meaning in the context of wildland fire management, but are not found in the NWCG glossary are defined below.

Affected party	A person or group of people who are affected by the outcome of a decision or action.
Biomass	Any organic matter that is available on a renewable or recurring basis. Under the Farm Security and Rural Investment Act of 2002 (Title IX, Sec. 9001), biomass includes agricultural crops, trees grown for energy production, wood waste and wood residues, plants (including aquatic plants and grasses), residues, fibers, animals wastes and other waste materials, and fats, oils, and greases (including recycled fats, oils, and greases), but not recycled paper or unsegregated solid waste. (From Farm Bill Glossary on the National Agricultural Law Center website http://nationalaglawcenter.org/# .)
Fire-adapted community	Human communities consisting of informed and prepared citizens collaboratively planning and taking action to safely coexist with wildland fire.
Fire-adapted ecosystem	An ecosystem is “an interacting, natural system, including all the component organisms, together with the abiotic environment and processes affecting them” (NWCG Glossary). A fire-adapted ecosystem is one that collectively has the ability to survive or regenerate (including natural successional processes) in an environment in which fire is a natural process.
Fire community	Collectively refers to all those who are engaged in any aspect of wildland fire-related activities.
Fire exclusion	Land management activity of keeping vegetation or ecosystems from burning in a wildland fire.
Fire management community	A subset of the fire community that has a role and responsibility for managing wildland fires and their effects on the environment. [according to the Phase I report Glossary]
Fire science community	Subset of the fire community consisting of those who study, analyze, communicate, or educate others on the components of fire management that can be measured, such as fire behavior, fire effects, fire economics, and other related fire science disciplines.
Landscape Resilience	The ability of a landscape to absorb the effects of fire by regaining or maintaining its characteristic structural,

compositional and functional attributes. The amount of resilience a landscape possesses is proportional to the magnitude of fire effects required to fundamentally change the system.

Silviculture

“The art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands to meet the diverse needs and values of landowners and society on a sustainable basis” - definition from John A. Helms, ed., 1998. The Dictionary of Forestry. The Society of American Foresters, Bethesda MD.

Stakeholder

A person or group of people who has an interest and involvement in the process and outcome of a land management, fire management, or policy decision.

Viewshed

An area of land, water, or other environmental element that is visible to the human eye from a fixed vantage point.

APPENDIX B: ACRONYMS

AD	Administratively Determined
BAER	Burned Area Emergency Rehabilitation
BAR	Burned Area Rehabilitation
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CAR	Community at Risk
CE	Categorical Exclusion
CEQ	Council of Environmental Quality
CRAFT	Comparative Risk Assessment Framework and Tools
CS	Cohesive Strategy
CSOC	Cohesive Strategy Oversight Committee
CSSC	Cohesive Strategy Sub-Committee
CWPP	Community Wildfire Protection Plan
DHS	Department of Homeland Security
DOD	Department of Defense
DOI	Department of the Interior
EACG	Eastern Area Coordinating Group
EAJA	Equal Access to Justice Act
EMAC	Emergency Management Assistance Compact
EMDS	Ecosystem Management Decision Support system
ESA	Endangered Species Act
FACA	Federal Advisory Committee Act
FEMA	Federal Emergency Management Agency
FEPP	Federal Excess Property Program
FFT2	Firefighter 2
FLAME Act	Federal Land Assistance, Management, and Enhancement Act
FLN	Fire Learning Network
4FRI	Four Forest Restoration Initiative (in Arizona)
FPA	Fire Program Analysis
FPU	Fire Planning Unit
FWS	U.S. Fish and Wildlife Service
GACC	Geographic Area Coordinating Center

GAO	General Accounting Office
HB	House Bill
HFRA	Healthy Forest Restoration Act
HVR	Highly Valued Resource
IAFC	International Association of Fire Chiefs
ICS	Incident Command System
ID	Idaho
IMT	Incident Management Team
IQCS	Incident Qualification and Certification System
ITC	Intertribal Timber Council
JFSP	Joint Fire Science Project
LMPs	Land Management Plans
LRMPs	Land and Resource Management Plans
MAC	Multi-Agency Coordination
METI	Management and Engineering Technologies International, Inc
MNICS	Minnesota Incident Command System
MOU	Memorandum of Understanding
MT	Montana
NACo	National Association of Counties
NASA	National Aeronautics and Space Administration
NASF	National Association of State Foresters
NEMAC	National Environmental Modeling and Analysis Center (UNC Asheville)
NEPA	National Environmental Protection Act
NFPA	National Fire Protection Association
NGA	National Governors' Association
NGO	Non-government Organization (e.g., non profit)
NICC	National Interagency Coordination Center
NIFC	National Interagency Fire Center
NLC	National League of Cities
NMAC	National Multi-Agency Coordinating Group
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NSAT	National Science and Analysis Team
PDSI	Palmer Drought Severity Index

NWCG	National Wildfire Coordinating Group
OMB	Office of Management and Budget
OR	Oregon
OWFC	Office of Wildland Fire Coordination
PPE	personal protective equipment
QFR	Quadrennial Fire Review
RFA	Rural Fire Assistance
RFD	Rural Fire Department
ROSS	Resource Ordering and Status System
RPL	Recognition of Prior Learning
RSC	Regional Strategy Committee
SAF	Society of American Foresters
SERPPAS	Southern Regional Partnership for Planning and Sustainability
SFA	State Fire Assistance
SGA	Southern Governors' Association
SGSF	Southern Group of State Foresters
SWRA	Southern Wildfire Risk Assessment
TNC	The Nature Conservancy
USDA	U.S. Department of Agriculture
USFA	U.S. Fire Administration
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VFA	Volunteer Fire Assistance
VFD	Volunteer Fire Department
WFDSS	Wildfire Decision Support System
WFEC	Wildland Fire Executive Council
WFLC	Wildland Fire Leadership Council
WG	Western Regional Working Group
WGA	Western Governors' Association
WRSC	Western Regional Strategy Committee
WUI	Wildland-urban Interface

APPENDIX C: REFERENCES

Cohesive Wildland Fire Management Strategy Foundational Documents

2009 Quadrennial Fire Review (QFR), http://www.iafc.org/files/wild_QFR2009Report.pdf

National Policy Framework Documents including:

- *A Call to Action*, 2009, http://forestsandrangelands.gov/strategy/documents/call_to_action_01232009.pdf
- Artley, Donald, Wildland Fire Protection and Response in the United States The Responsibilities, Authorities, and Roles of Federal, State, Local, and Tribal Government, International Association of Fire Chiefs, 2009, (Missions Report) <http://forestsandrangelands.gov/strategy/documents/wildlandfireprotectionandresponseusaug09.pdf><http://forestsandrangelands.gov/strategy/documents/wildlandfireprotectionandresponseusaug09.pdf>
- *Mutual Expectations for Preparedness and Suppression in the Interface*, http://forestsandrangelands.gov/strategy/documents/mutual_expectations_2010.pdfhttp://forestsandrangelands.gov/strategy/documents/mutual_expectations_2010.pdf

A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: A 10-Year Strategy Implementation Plan. Western Governors Association, 2006, http://forestsandrangelands.gov/resources/plan/documents/10-yearstrategyfinal_dec2006.pdf,

References and Documents

A National Cohesive Wildland Fire Management Strategy, 2010

http://forestsandrangelands.gov/strategy/documents/reports/1_CohesiveStrategy03172011.pdfhttp://forestsandrangelands.gov/strategy/documents/reports/1_CohesiveStrategy03172011.pdf

Federal Land Assistance, Management and Enhancement Act of 2009 Report to Congress, 2010, http://forestsandrangelands.gov/strategy/documents/reports/2_ReportToCongress03172011.pdf

Jakes, P, et al, Improving Wildfire Preparedness: Lessons from Communities across the U.S., Human Ecology Review, Vol 14, No 2, 2007, Society of Human Ecology, <http://www.sfrc.ufl.edu/faculty/monroe/jakesetal.pdf><http://www.sfrc.ufl.edu/faculty/monroe/jakesetal.pdf>

Northeastern Regional Strategy Committee. 2011. *A National Cohesive Wildland Fire Strategy: Northeastern Regional Assessment*. September 30, 2011. 56 p

O’Laughlin, Jay. 2011. “Federal Land as a Percentage of Total State Land Area,” Fact Sheet #8, Policy Analysis Group, College of Natural Resources, University of Idaho, Moscow. Available online at <http://www.cnrhome.uidaho.edu/default.aspx?pid=120573><http://www.cnrhome.uidaho.edu/default.aspx?pid=120573>

Southeastern Regional Strategy Committee. 2011. *A National Cohesive Wildland Fire Strategy: Southeastern Regional Assessment*. September 30, 2011. 79 p.

Western Regional Strategy Committee. 2011. *A National Cohesive Wildland Fire Strategy: Western Regional Assessment*. September 30, 2011. 61 p.

References from A National Cohesive Wildland Fire Strategy: Northeastern Regional Assessment. September 30, 2011.

Cardille, Jeffrey A., S. J. Ventura, and M. G. Turner. 2001. Environmental and Social Factors Influencing Wildfires in the Upper Midwest, United States. *Ecological Applications* 11:111–127.

McCaffrey, Sarah. Personal communication.

Mangan, Richard. 2007. Wildland firefighter fatalities in the United States: 1990–2006. Boise, ID: National Wildfire Coordinating Group, Safety and Health Working Team, National Interagency Fire Center 841: 28.

Noss, Reed F., E.T LaRoe III, and J.M. Scott, 1995. Endangered Ecosystems of the United States: A Preliminary Assessment of Loss and Degradation. U.S Dept. of the Interior, National Biological Service, Washington DC. (<http://biology.usgs.gov/pubs/ecosys.htm>)

Nowacki, Gregory J., and M. D. Abrams. 2008. The demise of fire and “mesophication” of forests in the eastern United States. *BioScience* 58:123–138.

Nowak, D., and J. Walton. 2005. Projected urban growth (2000-2050) and its estimated impact on the U.S. forest resource. *Journal of Forestry* 103(8): 383-389. Nowak, D., J. Walton, J. Dwyer, L. Kaya, and S. Myeong. 2005. The increasing influence of urban environments on U.S. forest management. *Journal of Forestry* 103(8): 377-382.

Radeloff, V. C., R. B. Hammer, S. I. Stewart, J. S. Fried, S. S. Holcomb, and J. F. McKeefry. 2005. The Wildland-Urban Interface in the United States. *Ecological Applications* 15:799–805.

Smith, B., P. Miles, C. Perry, and S. Pugh. 2009. Forest resources of the United States, 2007. Gen. Tech. Rep. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office: 336.

Stein, S., R. McRoberts, R. Alig, M. Nelson, D. Theobald, M. Eley, M. Dechter, and M. Carr. 2005. Forests on the edge: housing development on America’s private forests. Gen. Tech. Rep. PNW-GTR-636. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station: 16.

Swanston, C., M. Janowiak, L. Iverson, L. Parker, D. Mladenoff, L. Brandt, P. Butler, M. St. Pierre, A. Prasad, S. Matthews, M. Peters, D. Higgins, and A. Dorland. 2011. Ecosystem vulnerability assessment and synthesis: a report from the Climate Change Response Framework Project in northern Wisconsin. Gen. Tech. Rep. NRS-82. Newtown Square, PA: U.S Department of Agriculture, Forest Service, Northern Research Station: 142.

USDA Forest Service, Fire and Aviation Management. 2006. Annual Wildland Fire Summary Report. [Online database]. <http://famweb.nwcg.gov>. [Date accessed unknown].

USDA Forest Service, Northeastern Area. 2007. Northeastern Area State and Private Forestry Strategic Plan Update for Fiscal Years 2008-2012. Newtown PA. (http://na.fs.fed.us/pubs/strat_plan/na_strategic_plan_2008-2012_lr.pdf)

USDA Forest Service, Northeastern Area State and Private Forestry, Cooperative Fire Management. 2007. Combined Summaries of Community Wildfire Protection Data, March. Newtown Square, PA.

References from A National Cohesive Wildland Fire Strategy: Southeastern Regional Assessment. September 30, 2011.

A Cohesive Strategy the Forest Service Management Response to the General Accounting Office Report, GAO/RCED-99-65, April 13, 2000.

Andreu, A. and L. A. Hermansen-Baez. 2008. Southern Group of State Foresters. Fire in the South 2. The Southern Wildfire Risk Assessment.

Briefing paper: Identifying Communities at Risk and Prioritizing Risk-Reduction Projects, July 2010 <http://www.stateforesters.org/files/201007-NASF-CAR-Briefing-Paper.pdf>

Briefing paper: State Forestry Agency Perspectives Regarding 2009 Federal Wildfire Policy Implementation, July 2010 <http://www.stateforesters.org/files/201007-NASF-FedFirePolicy-BriefingPaper.pdf>

Brown, D.G., K. M. Johnson, T. R. Loveland, and D. M. Theobald. 2005. Rural Land-Use Trends in the Conterminous United States, 1950–2000. *Ecological Applications*, 15(6) 2005. pp. 1851-1863.

Buckley, D., D. Carlton, D. Krieter, and K. Sabourin. 2006. Southern Wildfire Risk Assessment Final Report. <http://www.southernwildfirerisk.com/reports/projectreports.html>

Butler, B. J. and D. N. Wear. 2011. Chapter 5. Forest Ownership Dynamics of Southern Forests. In: Forest Futures Technical Report. D. N. Wear and J. G. Greis. <http://www.srs.fs.fed.usda.gov/futures/>

Hermansen-Baez, L.A., Prestemon, J.P., Butry, D.T., Abt, K.L., Sutphen, R. The Economic Benefits of Wildfire Prevention Education. 2011. http://www.interfaceSoutheast.org/products/fact_sheets_the-economic-benefits-of-wildfire-prevention-education/ or www.srs.fs.usda.gov/pubs/ja/ja_hermansenoo2.pdf

Lippincott, C.L. 2000. Effects of *Imperata cylindrica* (L.) Beauv. Cogon grass invasion on fire regime in Florida sandhill (USA). *Natural Areas Journal* 20:140-149.

Managing the Impacts of Wildfire on Communities and the Environment – A Report to the President in Response to the Wildfires of 2000. Fire and Aviation Management, USDA Forest Service.

Miller, J. H. D. and J. Coulson Lemke. Chapter 15. The Invasion of Southern Forests by Nonnative Plants: Current and Future Occupation with Impacts, Management Strategies, and Mitigation Approaches. In: Forest Futures Technical Report. D. N. Wear and J. G. Greis. <http://www.srs.fs.fed.usda.gov/futures/>

Mutual Expectations for Preparedness and Suppression in the Interface, http://www.forestsandrangelands.gov/strategy/documents/mutual_expectations_2010.pdf

Nowacki, G.J. and M.D. Abrams. 2008. The demise of fire and “mesophication” of the eastern united states. *BioScience*, 58, 123–128.

Poulter, B., R.L. Feldman, M. M. Brinson, B. P. Horton, M. K. Orbach, S. H. Pearsall, E. Reyes, S. R. Riggs, and J. C. Whitehead. 2009. Sea-level rise research and dialogue in North Carolina: Creating windows for policy change. *Ocean and Coastal Management*. 52(3-4):147-153.

Prestemon, J.P., Butry, D.T., Abt, K.L., and R. Sutphen. 2010. Net benefits of wildfire prevention education efforts. *Forest Science* 56 (2): 181-192.

Smeins, F.E. and L.B. Merrill. 1988. Long-term Change in a Semi-arid Grassland. In: *Edwards Plateau Vegetation – Plant Ecological Studies in Central Texas*. Edited by B.B. Amos and F.R. Gehlbach. Baylor Univ. Press, Waco. 144 p.

Southern Group of State Foresters 2007. Issue Paper Wildland Fire and Forest Fuels on Private and State Lands.

http://www.forestry.ok.gov/websites/forestry/images/3.5_3000_CF_Wildland%20Fire%20And%20Fuels%20Priority%20Issue%20Paper.pdf

http://www.forestry.ok.gov/websites/forestry/images/3.5_3000_CF_Wildland%20Fire%20And%20Fuels%20Priority%20Issue%20Paper.pdf

Stanturf, J. A. and S. L. Goodrick. 2011. Chapter 17: Fire. In: *Forest Futures Technical Report*. D. N. Wear and J. G. Greis. <http://www.srs.fs.fed.usda.gov/futures/http://www.srs.fs.fed.usda.gov/futures/>

Stephens, S.L. 2005. Forest fire causes and extent on United States Forest Service lands. *International Journal of Wildland Fire*, 2005. 14, 213-222.

U.S. Forest Service. United States Global Change Research Program. 2011. Southeast Region. In: *USGCRP Global Climate Change Impacts in the U.S.* Accessed July 30, 2011.

<http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/full-report/regional-climate-change-impacts/southeast>

Wear, D. N. and J. G. Greis. 2011. *The Southern Forest Futures Project Summary Report (Draft)*. U.S. Forest Service.

Western National Forests: A Cohesive Strategy is needed to address Catastrophic Wildland Fire Threats. 1999. U.S. General Accounting Office.

Wildland Fire Management: Important Progress Has Been Made, but Challenges Remain to Completing a Cohesive Strategy. U.S. Government Accountability Office, January 2005

Wildland Fire Management: Federal Agencies Have Taken Important Steps Forward, but Additional Strategic Action is Needed to Capitalize on those Steps. U.S. Government Accountability Office, September 2009

Wildland Fire Management: Update on Federal Agency Efforts to Develop a Cohesive Strategy to Address Threats. U.S. Government Accountability Office, May 2006.

***References from A National Cohesive Wildland Fire Strategy: Western Regional Assessment.
September 30, 2011.***

Public Land Ownership by States.

<http://www.nrcm.org/documents/publiclandownership.pdf><http://www.nrcm.org/documents/publiclandownership.pdf>

National Fire Protection Association (NFPA) Third Needs Assessment of the U.S. Fire Service;
Conducted in 2010 and Including Comparisons to the 2001 and 2005 Needs Assessment Surveys.

APPENDIX D: MEMBERSHIP LISTS

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Butch Blazer, USDA Deputy Undersecretary for Natural Resources and the Environment	USDA
Tom Tidwell, Chief	USFS
Johnathan Jarvis, Director	NPS
Rowan Gould, Acting Director	USFWS
Bob Abbey, Director	BLM
Mike Black, Director	BIA
Marcia McNutt, Director	USGS
Glenn Gaines, United States Fire Administration	DHS
John Kitzhaber, Governor, State of Oregon	Governor, Western States Representative
Bev Perdue, Governor, State of North Carolina	Governor, National Governors' Association
Dan Shoun, County Commissioner, Lake County, State of Oregon	Counties Representative
Joe Durglo, President, Confederated Salish and Kootenai Tribes	President, ITC
Mary Hamann-Roland, Mayor, City of Apple Valley	NLC
Jeff Jahnke, State Forester, State of Colorado	NASF
Chief Robert Roper, Ventura County (California) Fire Department	IAFC

APPENDIX E: QUESTIONS FROM THE COMPARATIVE RISK ASSESSMENT FRAMEWORK AND TOOLS (CRAFT)

OBJECTIVES
<p><i>Situation and Context</i></p> <ol style="list-style-type: none"> 1. What is the National Wildland Fire Management Cohesive Strategy (Cohesive Strategy)? 2. What are the primary overarching goals of the Cohesive Strategy? 3. What is the specific role of regional efforts in the Cohesive Strategy? 4. What do you hope to accomplish with this specific workshop? <p><i>Guidelines</i></p> <ol style="list-style-type: none"> 5. What general policies, regulations or laws govern wildland fire management in your area, agency or organization? 6. Which of these, if any, have created conflicts among agencies and across lands? Which of these have helped create effective collaboration across different agencies? Explain briefly. <p><i>Values</i></p> <ol style="list-style-type: none"> 7. What broad societal and environmental values have been associated with fire in this region? 8. Briefly characterize how each broad value relates to or is affected by fire. 9. What are the dominant common values or perspectives among agencies? What are the dominant conflicts among values or perspectives? 10. Which of these conflicts are exceptionally difficult to address and why? <p><i>Uncertainties</i></p> <ol style="list-style-type: none"> 11. What challenges in wildland fire management are created or compounded by lack of knowledge or understanding? 12. What societal or environmental changes or trends could affect wildland fire? 13. Briefly describe the uncertainties associated with these changes or trends that make them difficult to predict. <p><i>Goals and Objectives</i></p> <ol style="list-style-type: none"> 14. What broad management goals or priorities exist for this area that relate to wildland fire? 15. Are there more specific goals which are not explicit to wildland fire but may be related (i.e., an historic site with preservation goals for a particular landscape, or a natural area managed for ecosystem process)? 16. How do your goals as stated above relate to the national goals of the Cohesive Strategy? Are there additional goals that contribute to the broader national goals? <ol style="list-style-type: none"> 1. Restoring and maintaining resilient landscapes <ol style="list-style-type: none"> 1.1 1.2 2. Creating fire-adapted communities <ol style="list-style-type: none"> 2.1 2.2 3. Wildfire Response 17. Which of the above are the highest priorities for completing this assessment and analysis? 18. For each priority goal, identify contributing objectives, and a range of actions and activities that could meet each objective. 19. Now finalize into an objectives hierarchy. <p><i>Measures for Success (Endpoints)</i></p> <ol style="list-style-type: none"> 20. How do you or can you quantify management success in meeting the goals and objectives? Identify endpoints or performance measures that could be used to illustrate outcomes. For each endpoint, identify the spatial and temporal resolution and units of measure (e.g., dollars, acres, etc). 21. What is the level of acceptability of these endpoints given the range of perspectives and values?
ALTERNATIVES
<p><i>Actions</i></p> <ol style="list-style-type: none"> 22. List the possible broad actions and activities from the objectives section (#). <p><i>Alternatives</i></p> <ol style="list-style-type: none"> 23. Identify the combination of actions and activities that best reflects the continuation of current policies and practices. 24. Identify other reasonable combinations of actions and activities (alternatives) that collectively could contribute to long and short-term goals. Consider how actions might affect each other with possible cumulative or interactive effects. 25. Are there technical or financial constraints that limit the range of actions and activities that might be pursued? Consider how overcoming these barriers might create opportunities for greater success. 26. Consider how issues vary across the region and where some actions might be more successful than elsewhere. If necessary, refine the alternatives to recognize and incorporate spatial variability.

APPENDIX F:

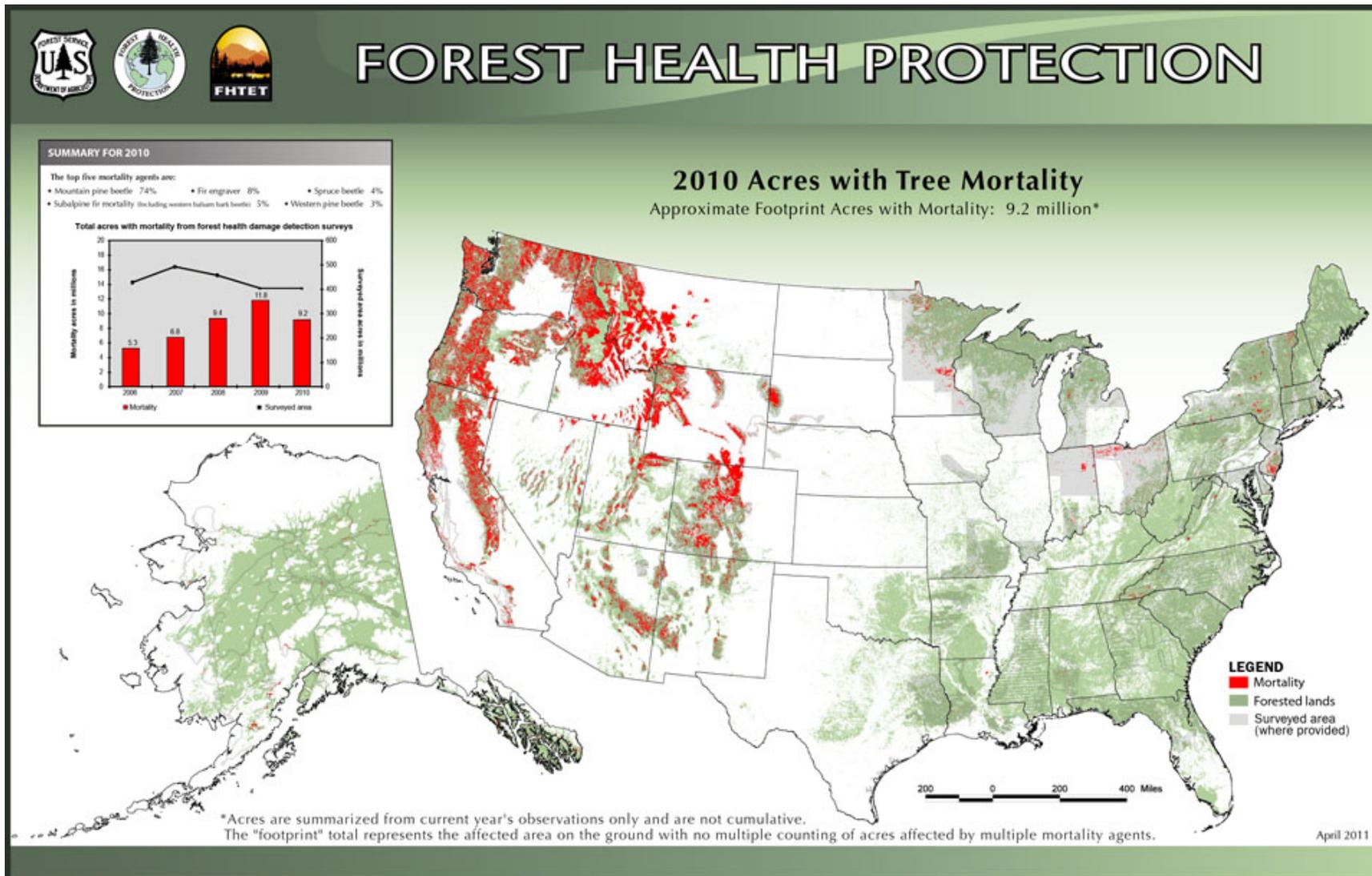


Figure 7. Tree mortality in the United States in 2010

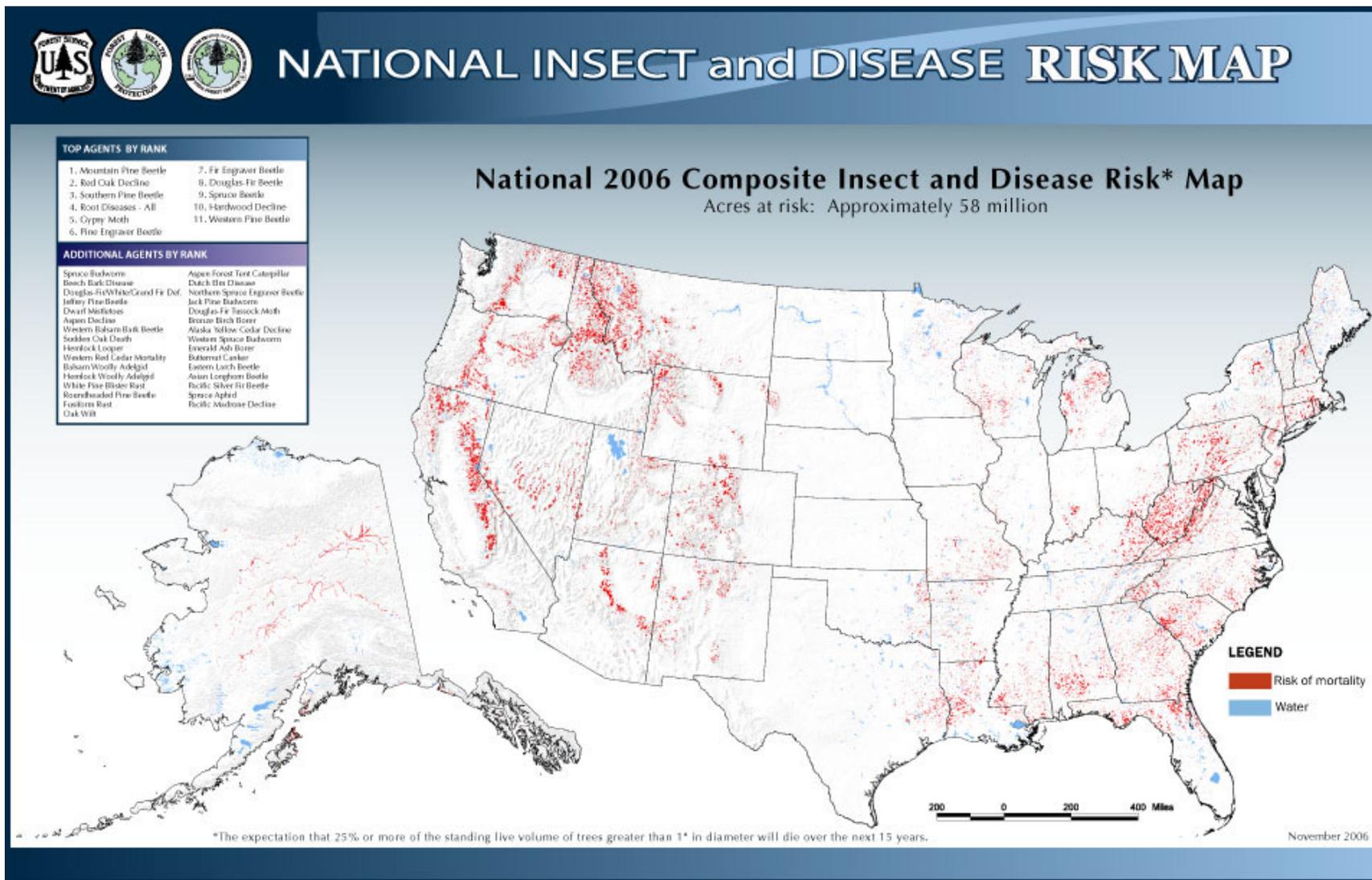


Figure 8. National insect and disease risk in 2006

APPENDIX G: COMMUNICATIONS FRAMEWORK

At the November 2011 Wildland Fire Leadership Council (WFLC) meeting, WFLC members concurred with the November version of the Communication Framework presented. Recognizing the need for a Communications Steering Group (CSG), WFLC directed the Wildland Fire Executive Council to develop an implementation scenario for the communication efforts. The CSG will be defined, developed and implemented in the first half of the 2012 calendar year. Since communications is dynamic process the strategy and tactics will evolve and be evaluated for its effectiveness on a routine basis.



Proposal

Date: December 12, 2011

Subcommittee: Cohesive Strategy Subcommittee (CSSC)

Description of Issue or Assignment:

The revised Cohesive Strategy Phase II Report is being delivered for WFEC review and final comment.

Following completion of edits to the Cohesive Strategy Phase II report, as requested by the WFLC and WFEC, the WFEC is being asked to review and comment on the draft document in order to finalize that document for submission to WFLC.

Discussion of Proposed Recommendation(s):

The CSSC has completed WFLC and WFEC edits to the Phase II report received following the November 9-10, 2011, WFLC meeting and the December 2, 2011, WFEC meeting. On December 2, 2011, WFEC further tasked the CSSC to review the remaining WFLC feedback that was not discussed at the December 2 WFEC meeting and make recommendations to WFEC regarding incorporating those edits into the Cohesive Strategy Phase II Report.

The CSSC met via teleconference on December 5 and 7, 2011, to discuss the recommended edits and how best to incorporate them into the draft report. CSSC members have been working closely with the RSC chairs/designees, the NSAT and the writer/editor team to ensure that all edits and other resultant changes have been integrated into the report, and that continuity of the report is maintained.

Identify Considerations:

WFEC has committed to submitting the final Phase II report to WFLC by COB December 30, 2011. The CSSC will gather final WFEC feedback for modifications/edits to the report at the December 16, 2011, meeting. From December 16 – 29, 2011, the CSSC will perform a final format and technical edit, and prepare the report in Publisher format for subsequent WFLC and OMB review. The formatted report will be submitted to WFEC by COB December 29, 2011.

Rationale for Recommendation(s):

WFEC members must have the opportunity to review and discuss all of the feedback provided by WFLC and the suggested resolution of edits by CSSC regarding the Cohesive Strategy Phase II Report before it is accepted by WFEC and forwarded to WFLC. Therefore, CSSC is offering the following proposal.



Proposal

Recommendation(s):

CSSC proposes the following process to finalize and accept the Cohesive Strategy Phase II Report:

1. WFEC will review the 2nd draft report and be prepared to discuss any further edits and concerns at the December 16, 2011, WFEC meeting.
2. WFEC will review, discuss and concur on the rewrite of the 'Next Steps for Cohesive Strategy' section of the report, which includes a subsection on responsibilities and timeline. **NOTE:** Two options on text to describe the Regional and National Analysis are included for discussion/decision (one is highlighted in red, another in blue).
3. WFEC will provide any feedback to the CSSC regarding final edits/recommendations to be made to the report during the December 16, 2011, meeting.
4. WFEC will render a decision regarding the acceptance of the Cohesive Strategy Phase II Report and provide a tasking to CSSC to complete the finalization of the document for submittal to WFLC by December 29th.

Decision Method Used:

- Subcommittee Consensus
- Modified Consensus (explain, i.e. majority, super-majority)
- Chair Decision

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WFEC Decision:

- WFEC Approves
- WFEC Approves with Modifications (not required to resubmit for WFEC approval – see notes below)
- Need More Information (required to come back to WFEC for approval)
- WFEC Does Not Approve

Roy Johnson, DFO

Date



Proposal

Notes regarding decision: