WESTERN FORESTRY LEADERSHIP COALITION

Across the Western Landscape:

Priority Issues and Strategies for Western Forests

Introduction

Forests in America continue to change and evolve. The 2008 Farm Bill set into motion a landmark endeavor for all U.S. states and Pacific Islands to complete assessments of the forests within their boundaries and to develop strategies to address identified threats and opportunities. These Statewide Forest Resource Assessments and Strategies (Forest Action Plans) were submitted to and approved by the U.S. Forest Service (USFS), on behalf of the secretary of the U.S. Department of Agriculture (USDA), in June 2010. The National Association of State Foresters hosts the website www.forestactionplans.org where all Forest Action Plans and a state summary are posted.

The Western Forestry Leadership Coalition (WFLC), whose members consist of state and USFS forestry leaders, commissioned Sanborn Map Company to conduct a review and analysis the Forest Action Plans for the western U.S. states and Pacific Islands. Focused largely on the assessments, the *Western Synthesis Project* revealed detailed findings, trends, issues, and opportunities relevant to the natural resources of these forests and the people who depend on them. This publication provides a summary of the *Western Synthesis Project* and further explores the strategies developed by the states and islands in their Forest Action Plans.

The analysis in the *Western Synthesis Project* showed that, as diverse as the West is, there are foundational issues held in common across forest types and ownerships. These issues are best addressed through coordinated, strategic action. This strategic approach to the most pressing cross-boundary issues in forest conservation and management in the West is the foundation upon which the WFLC members and staff focus our attention and resources. As such, this publication also serves as the WFLC five-year strategic plan. The issues and strategies contained herein are supported by a WFLC annual implementation plan to guide short-term actions and responses to current events.

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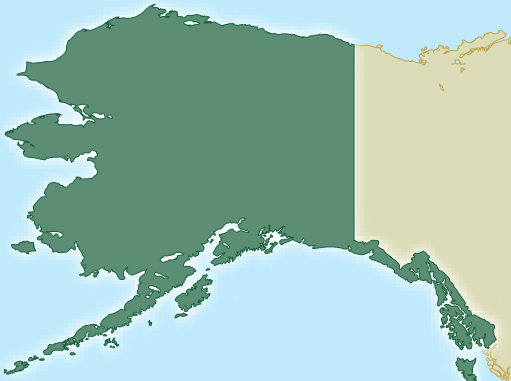

USFS REGIONS
ALASKA
INTERMOUNTAIN
NORTHERN
PACIFIC NORTHWEST
PACIFIC SOUTHWEST
ROCKY MOUNTAIN
SOUTHWEST

USFS RESEARCH STATIONS
FOREST PRODUCTS LAB
PACIFIC NORTHWEST
PACIFIC SOUTHWEST
ROCKY MOUNTAIN

US STATES
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CALIFORNIA
COLORADO
HAWAII
IDAHO
KANSAS
MONTANA
NEBRASKA
NEVADA
NEW MEXICO
NORTH DAKOTA
OREGON
SOUTH DAKOTA
UTAH
WASHINGTON
WYOMING

US AFFILIATED PACIFIC ISLANDS

HAWAII

COMMONWEALTH OF THE NORTH MARIANA ISLANDS

GUAM

FEDERATED STATES OF MICRONESIA

PALAU

MARSHALL ISLANDS

AMERICAN SAMOA

Forests of the West

The forests of the West contain an incredible assemblage of resources. They cover approximately 365 million acres, 49 percent of the nation's total forested area, and are managed by a diverse set of owners. The primary trends and threats facing western forests — and forests across the nation — include changing ownership patterns, increased wildland-urban interface (WUI), wildland fire, invasive species, and wide-ranging climate change impacts. These trends affect all lands, regardless of ownership. Similarly, they affect all people, threatening the basic assets we need and often take for granted: clean air, abundant water, safe communities, open spaces, and economic opportunities.

Cooperation and coordination across jurisdictional boundaries are needed to address these trends and preserve the western way of life. State, territorial, and federal forestry organizations facilitate and engage in partnerships with local landowners, other state agencies, federal and tribal landowners, and private organizations that result in coordinated efforts to better manage forests and address the threats that face them. States also deliver and leverage USFS State and Private Forestry funding programs including the Forest Health, Forest Stewardship, Urban and Community Forestry, Fire, Forest Legacy, and Community Forest Programs.

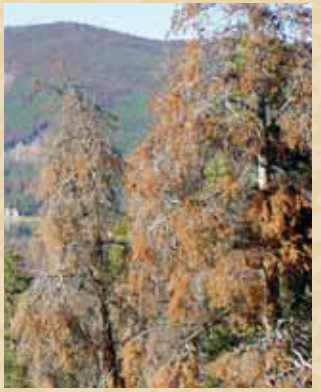
State forestry organizations, in partnership with the USFS and other groups, have a long history of working with our nation's forests and supporting sustainable forest management. By focusing on priority outcomes that address landscape scale issues, the Forest Action Plans provide a tool to guide us toward the conservation, protection, and enhancement of all our western forests.

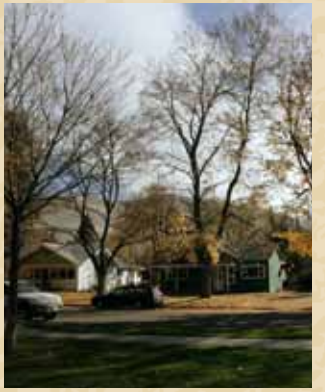
About the Western Forestry Leadership Coalition

The Western Forestry Leadership Coalition (WFLC) is a state and federal government partnership. The members of the coalition include the 23 State and Pacific Island Foresters of the West and the 7 western Regional Foresters, 3 western Research Station Directors, and Forest Products Laboratory Director of the U.S. Forest Service. This partnership creates a clear voice on western forestry, strengthening our ability to address pertinent issues and help meet the needs of society. The mission of the WFLC is to promote science-based forest management that serves the values of society and ensures the health and sustainability of western forests.

Key Findings: Priority Issues Across the West

Analysis of the Forest Action Plans reveals the following priority issues that span the entire western region: forest health and invasive species; wildland fire and the wildland-urban interface; sustaining working rural and urban forests; climate change, carbon sequestration, and biomass energy; and water quality and quantity. These issues are interrelated; challenges and opportunities arise from a set of interacting set of drivers that include climate change, shifting economic conditions, and changing demographics and social values. These drivers place stress on ecological, economic, and social systems, which result in the loss of forestland and the benefits those lands provide. This concept and accompanying recommendations are explored in depth in the WFLC report *Threats to Western Private Forests: A Framework for Conserving and Enhancing the Benefits from Private Working Forests in the Western U.S.* Successfully addressing these priority issues forms the foundation of strategic activities to be undertaken by the WFLC members in the coming years.





Forest Health and Invasive Species

Forest health is declining across the 23 western states and Pacific Islands, and prospects for long-term problems influenced by climate variability and change are real. In some cases, the affected area encompasses millions of acres crossing jurisdictional boundaries and in almost all cases, forest health problems are multifaceted. In addition, there is a clear link between forest health conditions and the potential for wildfire occurrence and damage to natural resources, infrastructure, and other values. Forest health issues are not confined to rural forests — tree health and stand vigor is challenged in many urban and community settings as well. In fact, some of the most destructive forest health problems historically have been invasive species and diseases that impact community forests and trees such as Dutch Elm Disease, Chestnut Blight, and more recently the Asian Longhorned Beetle and the Emerald Ash Borer.

Western forests must continue to be managed to ensure ecological, economic, and social sustainability. Overly-dense forests are susceptible to both native and non-native insect and disease invasions, extreme weather events, and uncharacteristic wildfire. These forest health risks threaten not only the continued health of the forests but also that of adjacent communities, economies, watersheds, airsheds, wildlife habitats, and recreation areas in the West. The increase and spread of exotic and native pests and disease within and between states and islands is a growing management concern (e.g., the Mountain Pine Beetle outbreak in the Rocky Mountains, Emerald Ash Borer in the Great Plains, and Sudden Oak Death in the Pacific Northwest). Opportunities for the spread of insects, disease, and invasive plants are found in unregulated transportation of goods such as firewood, agricultural and nursery products, and movement of seeds on vehicles. Working across boundaries is essential to successfully addressing forest health issues.

Mitigating and Adapting to Climate Variability and Change: Western forests provide significant opportunities to mitigate the impacts of climate variability and change.

Wildland Fire and the Wildland-Urban Interface

Today, the risk of wildland fire across the dry forests of the West is increasing, particularly in the case of large, highly destructive fires that consume many acres and burn with fierce intensity. Although the total number of fires is stable or declining, the total acreage burned and numbers of large fires are increasing in most state and Pacific Islands For example, Montana reports that four million acres of forestland have burned in uncharacteristic wildfire in the last decade. Alaska states that acreage burned over the past two decades is on an upward trend. Experiences in Nevada and Washington are similar. In California, the three largest fire years in terms of acreage burned since 1950 have all occurred since 2000. In Oregon, six of the last nine wildfire seasons have been above average and involved one or more uncharacteristically severe events. Whether large or small, urban or rural, nearly all states and Pacific Islands identified this issue directly and collectively. The added influence of human development and the resulting wildland-urban interface (WUI) was also referenced across the West as contributing to the challenge of managing wildland fire.

While significant interagency and interstate efforts have taken place over the past decades to facilitate cross-boundary work, the risk to communities, fire protection services, fire use and management, and smoke management and air quality continue to raise important issues across the West into the foreseeable future. A West Wide Wildfire Risk Assessment (WWA) for the 17 western states and six Pacific Islands will be complete by 2012 and will serve as an effective tool in addressing wildfire preparedness, suppression, and mitigation across all land ownerships (www.westwideriskassessment.com). The WWA will contribute to the western regional assessment for the *National Cohesive Wildland Fire Management Strategy* (www.forestsandrangelands.gov) and will serve as an effective model for collaborative approaches to other forestry-related issues. Efforts should be focused on achieving the three goals identified in the *National Cohesive Wildland Fire Management Strategy*: 1) restoring and maintaining resilient landscapes, 2) creating fire-adapted communities, and 3) responding to wildfires.

Sustainable Communities and Economies

The western United States, with its wide-open expanses and rich natural beauty, is a highly desirable place to live and work. Unfortunately, this high desirability has impacts on our forests and natural resources. The West has experienced significant population growth over the past 60 years, primarily due to in-migration into urban areas. Since the 1980s, development has been pushing outward from cities and towns into rural areas as land values for forest uses have declined (tracking with the loss of much of the region's forest products industry) and values for development have risen. This development is encroaching on forestlands and leading to fragmentation, parcelization, and higher management and wildfire protection costs in the wildland-urban interface.

The significance of this issue is its universality — it is happening across the entire West, in every corner of the region, from the farthest island group to the heart of the Great Plains. The threat is particularly significant in the Pacific Islands where land area is limited and development is cited as the most significant threat to forest sustainability.

Maintaining healthy forests provides jobs and other social and recreation benefits for communities. Our ability to manage western forests actively and sustainably affects people, communities, economies, and forest ecosystems. This task is becoming increasingly difficult in the face of development. Additionally, in many cases the scale of management activities has been unable to keep up with the need for active management, resulting in declines in forest health often occurring on a landscape-scale. Issues affecting sustainable forest management include legal authorities, regulations, financial resources (needed versus available), domestic and international markets, physical infrastructure, land use change, and social license to actively manage forests. Opportunities for actions that span boundaries and support active forest management, vibrant urban and community forests, and a diverse forest products industry are significant, and there are many successes to build from. Opportunities for developing and sharing common "best practices" across the western states and Pacific Islands for collaboration, legal and policy frameworks, incentives, and on-the-ground assistance are substantial.

Helping Urban and Community Forests Thrive While Connecting People with Forests. Forests represent a sense of "special place" and well-being for many people. Urban and community forests provide that connection for much of the western population.

Climate Change, Carbon Sequestration, and Biomass Energy

The effects of climate variability and change in the West will most likely include shifts in species ranges, changes in snowpack duration and extent that affect water supplies, changes in the frequency and intensity of wildfire and pest disturbances, and changes in overall forest productivity. For example, in Alaska, increases are now seen in mean annual temperatures, maximum and minimum daily temperatures, growing degree days, and the frost-free season. Alaska's forest ecosystems will continue to respond to these changes in climate. When compared to the twentieth-century average, the West has experienced an average temperature increase during the last five years that is more than 70 percent greater than for the world as a whole. Climate change is particularly significant for the Pacific Islands, where many small populations of endemic and "specialist" species are restricted to small geographic areas and are highly vulnerable to change. Sea level rise, coastal erosion, freshwater contamination, and extreme weather events are also of significant concern to island communities. Wyoming is considered highly sensitive to climate variability and change due to a naturally dry climate and a high dependence on mountain snowpack for surface water. A similar set of factors exist in California, Nevada, and Utah.

The issue of climate variability and change was identified as a priority by all states and Pacific Islands, either directly or indirectly, and most are actively working in collaborative efforts to better understand the developing nature of potential changes and impacts. It is only through this collaborative approach that greater understanding and effective actions for mitigation and adaptation will occur.

Forests play a complex and important role in both climate change adaptation and mitigation. Management for carbon sequestration and the production of biomass energy are two approaches many states and islands are pursuing that can create economic incentives for landowners to sustain forest health, reduce fuel loads, and provide alternative, sustainable energy. However, without integrated markets for biomass, carbon and traditional wood products, management expenses continue to present challenges.

Water Quality and Quantity

In many western communities, water needs are at critical levels. Conditions are acute in large cities such as Phoenix, Denver, Salt Lake City, Las Vegas, and Los Angeles. In addition, rivers that have their origins in western forested watersheds provide life-giving water to states outside the region, as far away as Kentucky and Tennessee. In Colorado alone, the headwaters of four major U.S. river systems originate in forested watersheds, providing water to 18 states. These forested watersheds contribute significantly to the health and productivity of the aquatic habitat of hundreds of fish and wildlife species, many of which are threatened or endangered. Water from forested watersheds also drives the economic engines of the West, from agricultural use to industrial needs in manufacturing and high tech, to service industries, recreation, and tourism. All of these sectors rely on large quantities of high-quality water. Fresh water is particularly important to the Pacific Islands where streams provide water for drinking, cooking, bathing and recreation, and support healthy coral reef ecosystems.

Some would argue that water is the most important benefit flowing from the forests of the West and, given its essential value for the maintenance of human life, that argument has strong merit. The importance of forest protection, conservation, and wise management cannot be overstated, nor can the role of forest landowners and resource managers in meeting the water needs of the West.

Western Forest Action Plans reveal that water quality and quantity are declining and that the threats to water quality and quantity are many and complex. In addition, many of the threats are directly related to other forest issues such as development (loss of forest cover), forest health, and wildfire (degraded forests). Drought conditions are impacting most western states. Shortages are compounded by warming temperatures and increasing demand brought on by growing populations. Water quality continues to be a shared management issue, and many surface and groundwater concerns and opportunities span state boundaries. Ensuring a sustainable supply of fresh water requires diligent and forward-looking stewardship of our forests. Clean and abundant water is a direct result of healthy, well-managed forests, and a healthy forest is a direct result of sound policies and management actions.

Water is the Lifeblood of Western U.S. Culture, Natural Systems, and Economies. Much of that water comes from forested watersheds.

Western Strategies

Long-term strategies that address multiple resource issues and engage multiple partners are often the most successful given the complex nature of the problems and opportunities at hand. When combined with targeted actions and concrete goals, we have a true action plan for sustainable forestry in the western United States. The *Western Synthesis Project* identified nearly 2,000 strategies developed by western states and their partners that can be acted upon in partnership. These strategies can be categorized into common themes, as described in the following section. Acted upon and promoted by the WFLC and its individual members, these strategies cross boundaries, issues, organizations, and delivery methods.

Conserve and manage working forest landscapes

Promote and sustain a viable forest products industry that supports resource management and restoration on all lands. Tools and funding sources (such as the Forest Stewardship Program, National Resource Conservation Service cost share programs, and others) that support private lands stewardship, enhancement of native species and habitats, and the provision of multiple ecosystem services need to be safeguarded and increased. Actions to balance supply and demand for a diversity of wood products, including biomass energy, can include market development, supply contracts, relationships with local design and construction professionals, engagement in refining policies that support biomass businesses, and the planting and harvest of merchantable species.

Minimize forest conversion and fragmentation through conservation easements, appropriate development planning, and effective intergenerational transfer. Effective conservation programs can benefit native ecosystems and species, reduce forest conversion and fragmentation, and support the flow of ecosystem services. Tools available for private, community, and public (state or federal) conservation include the Forest Legacy and Community Forest Programs and other programs. Tax and other financial incentives, zoning, transfer of development rights, and other tools can help guide development decisions and facilitate the transfer and continued management of family forestlands.

Protect forests from threats

Maintain federal, state, and local agency capacity in wildland fire preparedness, prevention, and response through the sharing of resources, equipment, and information; training; data collection and technology development; and integration of state, federal, and other programs. Wildfire vulnerability maps (based on fire occurrence, weather, and other data) can be developed and used to prioritize scarce and shared resources for community-level actions that support wildfire risk reduction and forest health goals. Open lines of communication before, during, and after wildfire events will help sustain clear roles and responsibilities. Active engagement in the development and implementation of the *National Cohesive Wildland Fire Management Strategy* will help tie together the above efforts and facilitate landscape scale work and capacity.

Minimize risks to individuals, firefighters, property, and communities from wildland fire through effective response to wildfire incidents, education programs, and private lands stewardship. Effective and safe response relies on local and interagency capacity, having response plans in place, utilizing cross-boundary authorities and well-equipped and well-trained firefighters. Education about private lands stewardship to reduce wildfire risks, improve forest health, and safeguard public health can include demonstration projects, training, and information about smoke management and wood utilization (i.e., alternatives to burning waste). Recognition of good stewardship can support landowner, homeowner, and community participation. Specific management actions can include fuel breaks, thinning, pruning, prescribed burning, and other landscape modifications. Integrating projects to achieve multiple objectives (e.g., a trail serving as a fuel break, fuels reduction improving wildlife habitat or reducing insect threats) will increase efficiency.

Effectively control forest pests, diseases, and invasive species by focusing on priority areas and species to maintain ecosystem health, preserve ecosystem services, and avoid public safety hazards associated with large-scale tree mortality events. An adaptive and collaborative cycle of planning, responding (with quarantine, eradication, biocontrol, integrated pest management, and other methods), and monitoring will foster sound decision making and efficient action. Regulating the movement of firewood and other raw wood products can help reduce the transport of invasive species, pests, and disease within and across state lines and islands.

Enhance public benefits from trees and forests

Actively and sustainably manage trees, forests, and watersheds for ecosystem health, economic benefits, and community resilience. Cooperation across programs, agencies, and ownerships can be facilitated through collaborative planning processes and clearly articulated relationships. Private landowner participation may be enhanced through the use of certification programs, cost-effective biomass utilization, and aggregation of managers/producers into larger groups that can more easily access traditional and emerging markets. Use of cross-boundary authorities can support stewardship across all lands and effectively engage all landowners. The application of agroforestry practices in agricultural, riparian, and urban areas can conserve ecosystem services, watershed function, and a diverse forest products industry. Conservation of biodiversity and wildlife habitat, water quantity and quality, carbon sequestration and storage capacity, and recreation opportunities are of particular importance.

Facilitate the sustainable use of biomass by understanding and overcoming existing constraints (regulation, policy, markets, transmission capacity, perception, etc.), funding state and federal programs, and developing effective partnerships to promote the use of woody biomass for traditional wood products, energy, and other applications. Communicate the economic and ecological benefits of biomass utilization, including rural economic development and hazard reduction. Work toward a predictable, dependable supply of raw material from all ownerships and support a consistent, workable definition of renewable biomass for federal policies.

Sustain and enhance urban and community forests that deliver multiple social, economic, and ecological benefits. Employ strategies that engage a diverse set of partners, integrate across multiple agencies and organizations, and deliver innovative projects. Offering training and certification to private sector nursery, arboriculture, design, and maintenance professionals will increase local capacity. Encouraging smart growth and a green infrastructure approach to conservation and development planning will support the integration of trees, forests, parks, and open spaces for the benefit of residents and the local ecology. Conserving and enhancing the urban tree canopy through assessments and inventory, planting, hazard tree removal, forest health monitoring, and other activities can contribute to energy and water conservation, air and water quality, and public health.

Mitigate and adapt to climate change impacts, including increased temperatures, changes in timing and amount of precipitation, extreme weather events, and sea level rise. Document the state of knowledge on climate change impacts to and vulnerability of ecosystems, species, and communities in order to identify stresses (e.g., invasive species, uncharacteristic wildland fire) that will be most exacerbated. Develop and adapt management plans and practices to promote flexible forest and community response to changing conditions. The most important mitigation strategy is to maintain and enhance forests as carbon sinks. Management actions include preventing forest conversion or loss to wildfire, planting new trees (reforestation and afforestation), and supporting diverse forest products that sequester carbon and/or offset fossil fuel emissions.

The Way Forward – A Six-Point Plan

Looking across all 23 state and Pacific Island Forest Action Plans, a Six-Point Plan for successful implementation emerges and defines the way forward. Behind each of these ideas is the recognition that the Forest Action Plans build on decades of successful partnerships among state forestry agencies, the U.S. Forest Service, and others, and contribute to achieving common goals. Successful implementation of the Six-Point Plan across landscapes by all responsible agencies, landowners, and stakeholders holds promise for healthy and sustainable western forests.

1 Strengthen partnerships and collaborative approaches

Effective collaboration allows partners to make the most of available funding, capacity, resources, and information.

2 Build adequate and flexible capacity and funding

Shared priority strategies offer compelling arguments to support capacity (staff, skills, training, equipment, data, etc.) and funding to accomplish base-level work, as well as to undertake new initiatives.

3 Capitalize on "co-benefits"

Focus on opportunities to meet multiple objectives with one management action, e.g., fuel reduction projects that maintain watershed benefits and/or support local economies through the production of biomass energy and other forest products. This will result in the most efficient implementation efforts.

4 Actively manage all forestlands

With such a complex patchwork of ownership and management responsibilities, coordinated work across jurisdictional boundaries and on all lands is critical. It is only through a landscape-scale approach that major threats to western forests can be mitigated and managed, and benefits can be provided to citizens and communities.

5 Support research to inform science-based decision making

To support effective implementation of priority strategies and to prepare for future needs, research and the best available science must be a part of an ongoing, collaborative effort to define and act upon the forestry issues of the West.

6 Gain support through effective engagement

Successful strategy implementation will only occur if citizens — collectively and individually — understand, accept, and support the principles, strategies, and actions envisioned in the Forest Action Plans. Without public support, accomplishments will fall short — with it, the management needed to ensure healthy and sustainable western forests can be successfully implemented.

Conclusion

Forests of the American West are iconic — a national treasure and a keystone of our cultural tradition. For millennia, they have provided human beings with life-giving resources, furnished opportunities for development, and been the means by which to live a desired lifestyle. They host a diversity of species, ecosystems, values, and benefits the likes of which are found no other place on Earth.

While these forest ecosystems are robust, complex, and resilient, they have been facing, and will continue to face, significant challenges. The people and communities that depend upon western forests face parallel challenges. Much work lies ahead for citizens, communities, resource professionals, and decision-makers to conserve, protect, and enhance our western forests. In the twenty-first century, the only approach that will succeed is a collaborative, partnership-based approach — one that engages, inspires, and involves all who desire to provide for the health and sustainability of these precious assets.

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More information on all state and Pacific Island Forest Action Plans can be found at **www.forestactionplans.org**.

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