



**Position Statement:
Western Forestry Leadership Coalition**

**A Framework for Forests and Climate Change:
Western Region Policy Themes, Principles and Key Approaches**

SUMMARY STATEMENT

The health and vitality of forests in the western United States constantly influence—and are being influenced by—climate due to the important function that forests perform in the carbon dioxide cycle in the atmosphere. The maturity, health, wildfire intervals and stewardship of forest resources determine whether western forests effectively store or release greenhouse gasses (GHG) that contribute to climate change. Western forests play a very beneficial role in climate change because via photosynthesis, trees continually absorb and store carbon dioxide from the atmosphere.

This Western Forestry Leadership Coalition (WFLC) position statement outlines central climate change policy themes for the forestry sector which are further described by a set of 10 principles and concludes with key approaches to develop forest climate change policies at the regional, state and more local levels across the west. This position statement provides a framework that builds upon the prior WFLC Policy Statement entitled “Climate Change and Western Forests,” dated 12/14/07 (http://www.wflcweb.org/pressandpolicy/policy_statements_resolutions.php).

These WFLC endorsed themes, principles and approaches will be important to policy makers and forest land managers as they work together to develop greenhouse gas inventory methodologies, adaptation strategies, mitigation projects, a regional carbon cap-and-trade program, and other climate change programs that will fully capture the benefits that forested landscapes of all types can provide.

BACKGROUND

Western forests – from the Douglas-fir and redwood forests of the Pacific Northwest – to the mixed-conifer and pine forests of the Intermountain, Columbia Basin, and Sierra Nevada Mountain regions – to the riparian forests of the Great Plains – are some of the most valuable and productive forests in the world. Western forests are also acting as net sinks for carbon; annually removing a net 74.0 million metric tons (60.3 to 88.0 at the 95% confidence level; estimates not including AK and HI) in all non-soil pools – trees, standing dead and down wood, understory, forest floor, and wood products¹. In any given year, forests in any state, including Alaska, may be a net source of carbon due to large-scale disturbances such as wildfire. Given their ability to remove and store carbon from the atmosphere, maintaining the area and performance of western forests as carbon sinks will not only be key to western regional efforts to reduce atmospheric carbon, but to any national and international efforts as well. While western forests need to be an important part of the solution to reducing atmospheric carbon they are also vulnerable to the risks of climate change.

These vulnerabilities arise from shifts in temperature, precipitation and runoff patterns and are already beginning to show themselves in the epidemic bark beetle outbreaks (nearly 7 million acres in 2005² in the west) and the severity and extent of wildfire (over 9.3 million acres burned in 2007³ nation-wide) throughout the western states and provinces. The success of climate policies for forests will depend both on how the policies improve the resistance and resiliency of forests to the risks of climate change and how the policies maintain and enhance the area and performance of western forests as sinks that remove and store carbon from the atmosphere.

¹ U.S. Agriculture and Forestry Greenhouse Gas Inventory: 1990-2005. Global Change Program Office, Office of the Chief Economist, U.S. Department of Agriculture. Technical Bulletin No. 1921. 161 pp. August, 2008. http://www.usda.gov/oce/global_change/AFGGInventory1990_2005.htm.

² Western Forestry Leadership Coalition. 2007. Western bark beetle assessment: a framework for cooperative forest stewardship. March 2007. 13 p.

³ National Interagency Fire Center (NIFC). 2007. Fire Information: Wildland Fire Statistics. NIFC website, http://www.nifc.gov/fire_info/fires_acres.htm

Through the Western Climate Initiative (WCI), the western region is moving forward with developing a carbon cap-and-trade program for reducing greenhouse gas emissions from human activities. It is important to note that of all the sectors in the initial scope for the WCI, only trees and forests represent a potential carbon sink. The WCI is investigating the inclusion of forestry projects and protocols as an offset component of the cap-and-trade program. In addition to working through/with WCI, the forest carbon working groups for Oregon, Washington, and California have been meeting to discuss the role of forests in a cap-and-trade program as well as coordinating and information sharing on this important issue. The WCI and state dialogues can and should help inform future policy discussions and potential federal legislation.

WESTERN REGION KEY POLICY THEMES – FORESTS AND CLIMATE CHANGE

WFLC asserts that the following policy themes are essential for consideration in the development of successful climate change policies across the west.

- **Mitigation:** Effects of climate change can be mitigated through reductions in forestland conversion; increased carbon sequestration and storage in forests and wood products; substituting wood products for non-renewable building materials and woody biomass for fossil fuels.
- **Adaptation:** Adaptation strategies are most effective when they pro-actively manage trees and forests to increase resistance and resilience, while reducing both the probability and the severity of catastrophic disturbances (wildfire, insects, pests) that have the potential to cause negative ecological, economic and social impacts.

WESTERN REGION PRINCIPLES – FORESTS AND CLIMATE CHANGE

The Western Forestry Leadership Coalition asserts that trees and forests are most effectively included in climate change policies when these policies:

Are Based on Best Available Science

- ❖ Ensure consideration of the best available science from peer reviewed sources on the underlying facts, processes, relationships, trends, risk and uncertainty regarding what is known about forests, carbon and climate change.
- ❖ Document differing viewpoints in the science and associated limitations on what is known about forests, carbon and climate change.
- ❖ Acknowledge the limits of the assumptions and scope of the scientific work being used to support a policy position, or to estimate its effect, and stay within them.
- ❖ Continue to test and validate the key science and data that policies are based on, or highly sensitive to regarding their anticipated effects, through coordinated and increased research and adaptive management.

Promote Forest Resiliency and Sustainability While Providing for Goods and Services

- ❖ Promote management actions that improve resiliency and sustainability of forest ecosystems while providing for the economic, environmental, and social goods and services expected by the public.
- ❖ Recognize that many forest landowners actively manage their forests sustainably. As a result, these forests have provided sinks for atmospheric carbon and are more resilient and adaptable to climate change threats.
- ❖ Promote active approaches to reducing the severity of impacts of forest fires by implementing large scale, long-term forest health and fuel reduction programs in areas of high severity fire risk.
- ❖ Reduce the risk of adverse environmental outcomes through activities that increase the resilience of ecological systems to climate change and maintain ecosystem services.
- ❖ Reduce stresses that exacerbate climate change impacts to forests (e.g. overstocking, fire, insects, disease, air pollution, development and forest conversion).
- ❖ Optimize ecosystem goods and services and preserve options for future forest owners and land managers.

Endorse Full-Carbon Accounting with Forest Offset Projects

- ❖ Recognize that trees and forests store carbon in many above and below ground pools, in both living and dead material and continue to store carbon in harvested wood products.

- ❖ When reporting the carbon emission mitigation or offset benefits from conducting the forest offset project or action, account for the greenhouse gas emissions from conducting the forest project.
- ❖ When conducting voluntary forest offset projects or actions, if practical, require net greenhouse gas emissions and storage reporting for all affected forestland controlled or owned by the reporting entity, either for mitigating or offsetting greenhouse gas emissions.
- ❖ Recognize and quantify the risk of reversal of carbon storage and provide adequate buffers (insurance) to possible future carbon project losses.
- ❖ When certifying project carbon, ensure that the certified carbon is additional, is appropriately quantified, accounts for leakage, and meets permanence requirements.

Support Market-Based Solutions

- ❖ Adopt an incentive-based framework through the development of carbon markets that provide the financial means and economic return to manage western forests as net sinks for atmospheric carbon and to ensure their resiliency to climate change threats.
- ❖ Adopt policies for establishing baseline and additionality that recognize and give credit to forest landowners that have been voluntarily managing their forests as net sinks for atmospheric carbon.
- ❖ Develop common protocols, accounting mechanisms, registries and other tools to facilitate the development of carbon markets and a common language of exchange between those supplying reductions in atmospheric carbon from forests and those seeking to use these benefits as mitigation or offsets for greenhouse gas emissions.
- ❖ Make the rules of eligibility and participation in carbon markets simple, understandable and verify that “real tons” are accounted for by transaction.

Prevent GHG Emissions by Increased Use of Forest Products, Woody Biomass, and Renewable Energy from Biomass

- ❖ Encourage the use of forest products from sustainably managed western forests as substitutes for more carbon intensive products like steel and cement.
- ❖ Encourage appropriately scaled renewable energy from woody biomass including heat, power and biofuels (such as cellulosic ethanol) from sustainably managed western forests as a substitute for fossil fuels.
- ❖ Structure and implement forest health and fuels reduction programs and projects on public, tribal and private lands to facilitate the beneficial use of biomass for production of energy and biofuels.
- ❖ Where appropriate, develop large scale, long-term projects and use forest stewardship contracts that can support use of forest fuels and wood waste for biomass energy.

Are Developed through Collaboration

- ❖ Use transparent and inclusive approaches to developing climate policies for western forests.
- ❖ Engage the public on the economic, environmental and social goods and services western trees and forests provide and the important role management of forests will play in ensuring their resiliency to climate change and their ability to continue to act as net sinks for carbon.
- ❖ Encourage collaboration and coordination between States and the regional level as climate change policies and processes are developed for western forests.

Pursue Innovative Activities and Partnerships

- ❖ Capitalize on the broad portfolio of forestry projects and actions that serve to both mitigate human sources of greenhouse gas emissions, and also adapt forests to climate change threats, and provide a range of options for forest landowners to participate.
- ❖ Promote forestry projects and actions that result in both mitigation of greenhouse gas emissions and forest adaptation to climate change threats.
- ❖ Recognize the contributions that our urban and community forests provide, not only in terms of carbon captured in plantings, but also the energy savings achieved in reduced heating and cooling needs when a tree is planted in the right location.
- ❖ Consider all forestlands – federal, tribal, state, local, urban and private - within the scope of climate policies for western forests; however, specific policy mechanisms need to recognize the unique roles, purposes and management objectives for the various land ownership types.

Are Cost-Effective and Practical

- ❖ Develop projects and actions to cost effectively provide the greatest desired mitigation or adaptation benefits; encourage projects and actions that incorporate proven technologies and that are easy to understand and implement.
- ❖ Avoid unnecessary or hidden costs and penalties from climate policy compliance especially those that disproportionately burden small landowners and small businesses.
- ❖ Make the rules of eligibility and participation in climate strategies straightforward and understandable.

Are Performance Driven

- ❖ Emphasize a clear performance standard for effective carbon offset policies for western forests.
- ❖ Ensure that the rules of eligibility and engagement with carbon markets, including measurement protocols, accounting mechanisms, registries and legal instruments, are simple and understandable.

Promote Learning and Innovation

- ❖ Encourage research and development that supports efficient harvesting and conversion of forest biomass to renewable energy with low carbon or carbon positive footprints.
- ❖ Improve methods to ensure integrity of forestry related greenhouse gas measurement, reporting and monitoring.
- ❖ Promote applied research to address gaps in understanding and data while also providing enhanced tools for decision support.

KEY APPROACHES TO ADDRESS CLIMATE CHANGE

These key forest and climate change approaches will be important as policy makers and forest land managers work together to develop greenhouse gas inventory methodologies, adaptation strategies, mitigation projects, a regional carbon cap-and-trade program, and other climate change programs.

Coordination of Greenhouse Gas Inventories

Greenhouse gas inventories attempt to characterize the flow of greenhouse gases into and out of the atmosphere from natural and human-induced sources. They are an important scientific method of measuring greenhouse gasses and assist with understanding the appropriate scope of cap and trade programs, economic incentives/disincentives and uncertainties that help prioritize research needs. Inventories are required for certain multi-government agreements, such as the Kyoto Protocol, and while many have been completed (i.e. California) improvements are continuing.

A common set of guidance and methodologies for including both greenhouse gas emissions from and sequestration in western forests needs to be included in greenhouse gas inventories. Currently, some states and provinces include removals from forests and forest fire emissions, and others do not. Other emissions from the forestry sector – such as those associated with manufacturing or transportation – are generally captured in current inventories for the transportation and industrial sectors, and therefore do not need additional guidance. The goal of including all aspects of the forestry sector in greenhouse gas inventories should be to provide background trends in the status of the region's forests as net sinks or sources of atmospheric carbon, as well as be inclusive of this sector's human-induced emissions from development, manufacturing, transportation and use/disposal of wood products. If all aspects of forestry are included in greenhouse gas inventories, then all aspects of other comparable sectors such as agriculture and range should also be included.

Forestry sector emission reduction (or sink enhancement) is still evolving and is very complex. Establishing goals is complicated because of the difficulty of separating human and natural influences in greenhouse gas emissions from sources such as wildfires. The large number and diversity of forest landowners also adds complexity.

Development of Adaptation Strategies

Adaptation consists of a set of actions that are taken to avoid or minimize impacts from climate change. Even with substantial reductions in greenhouse gas emissions many climate related impacts are likely. Adaptation strategies are needed to cope with predicted changes and to increase the resilience of human and natural systems. Some states and local government entities in the U.S. have started assessing their vulnerabilities to climate impacts and are developing

adaptation strategies, currently without any national guidance or directive. Countries that have adopted the Kyoto protocols tend to be further along in adaptation planning.

When developing adaptation strategies for western forests, policy-makers should consider how both managed and unmanaged forest systems will react to climate change over various time periods, and spatial scales. Healthy ecosystems are more resilient, better able to respond to and recover from disturbances, which may become more frequent and severe. Actively managing forests to increase their resistance and resilience to climate change threats while minimizing the amount of forest fragmentation and conversion will reduce the probability and severity of large catastrophic events (e.g. wildfire, insects, disease) that have the potential to cause negative ecological, social and economic impacts.

To address uncertainty, land managers can develop a general adaptation framework of science and policy for their area of interest that includes commitment to local management flexibility, and adaptive management policies to address unforeseen conditions from climate change. Proactive climate planning will reflect a range of sustainable management approaches. To maintain resilience, some ecosystems may require aggressive treatment; others little or no treatment; and others may require reduction of current stressors that exacerbate climate change impacts to forests (e.g. overstocking, drought, fire, insects, disease).

Forest management that encourages a naturally diverse species mix will partition the climate change risks across multiple species. Reforestation after wildfire may require different species than were present on the site pre-fire to better match site-type changes due to climate effects. Genetic diversity of planting stock may require different mixes than traditionally prescribed by seed zone guidelines. Actions may need to be taken to preserve genetic legacies represented by rare or isolated populations of plants.

Responses to climate change will need to reflect local and regional differences in climate, ecosystems, and the social and economic settings. It may be more effective to avoid a range of undesirable future conditions rather than targeting a single desired future condition. In light of climate change, it may be necessary to revisit current assumptions about genetic diversity guidelines, restoration treatments, best management practices, and regeneration practices.

Effective adaptation strategies will promote proactive approaches to improving forest health and reduce the severity of negative impacts from resulting disturbances. These strategies will include reducing the risk from uncharacteristically severe wildfires; reducing adverse impacts from invasive species, pests, and diseases; and restoring and maintaining healthy watersheds and diverse and connected habitats. Monitoring effectiveness of mitigation and adaptation activities will be essential to our success. Given the magnitude and importance of our information and communication needs, collaborative efforts at local, state and regional scales should be explored.

Development of Mitigation Strategies

Mitigation comprises a set of actions that when implemented will result in a reduction of greenhouse gas emissions through both avoided emissions and increased carbon sequestration. Mitigation strategies are needed to identify and prioritize cost effective actions that can be taken to reduce GHG emissions. A broad range of mitigation strategies are available to ensure that forests continue to operate as carbon sinks. In the absence of mandatory federal climate change targets, state and regional entities have started the mitigation planning and protocol development that is estimated to meet the desired greenhouse gas reduction targets. Internationally, mitigation has been implemented through cap and trade programs in Europe and Australia with countries that have adopted the Kyoto protocols.

A broad range of sustainable forest activities that can contribute to mitigating climate change impacts should be applied for western forests. This approach can increase the flexibility and options for achieving greenhouse gas reductions while increasing landowner participation across the forest sector.

Forests and forest management can provide cost-effective methods for sequestering carbon and reducing greenhouse gas emissions. Effectively designed mitigation strategies will encourage sustainable management of forests to produce forest products along with an array of ecosystem benefits and services. Activities that mitigate include increased carbon sequestration, increased use of renewable fuels that offset fossil fuels, and reduced emissions from large scale

events such as wildfire or insect outbreaks. The primary objective of any carbon mitigation or offset project will be to sequester carbon, but when developing mitigation projects for forests in the west or elsewhere, policy-makers should strive to optimize forest productivity and health, while balancing carbon sequestration with other ecosystem services. Adaptation and mitigation activities must complement each other. It will be important to assess potential tradeoffs between the two approaches and to seek strategies that achieve synergistic benefits.

Key to mitigation strategies is avoiding deforestation and conversion of forests. Forest conservation helps protect genetic diversity, provides refuge, and facilitates species migration. To this end, we encourage any mitigation strategy, and adaptation strategy for that matter, to provide incentives for private landowners for “keeping forests as forests” and creating new forested landscapes in urban and suburban communities as this will reduce forest conversion and fragmentation which are responsible for large amounts of carbon emissions.

Further, mitigation strategies can and should also reduce greenhouse gas emissions through energy conservation and efficiency improvements, and promote the appropriate substitution of renewable for non-renewable energy sources. Mitigation actions should strive to manage forests sustainably and use wood products to store carbon and as a substitute for other materials with greater life-cycle carbon emissions such as concrete or steel. It is important to recognize in the short-term, forest management activities that reduce risk may reduce carbon stocks below current levels, in order to realize long-term benefits from healthier forests and larger trees. It will be critical to work with communities and across sectors so that mitigation projects are sustainable when considering potential climate change scenarios. And lastly, climate change mitigation projects provide important opportunities for innovation and adoption of new technology, especially when sustainability considerations are used to select the technology and project's scale.

The Western Climate Initiative (WCI)

The Western Climate Initiative (WCI) is a collaboration of seven western U.S. states and four Canadian provinces to identify, evaluate, and implement collective and cooperative ways to reduce greenhouse gases in the region, focusing on a market-based cap-and-trade system (<http://www.westernclimateinitiative.org/>). Regional efforts such as WCI facilitate the implementation of state-level climate goals, provide a means to focus climate solutions to regional conditions and accelerate the development of national climate policy through experience and pre-existing infrastructure. WCI has completed design recommendations and is currently beginning work on implementation strategies.

The WCI is investigating the inclusion of forestry projects and protocols as an offset to a carbon cap-and-trade program. The WCI recognizes that forestlands are a key component to investigate further for inclusion in the WCI offset program; specifically in the areas of afforestation/reforestation, forest management, forest conservation, and forest products. The WCI offset program provides additional opportunities for private land ownership to participate in areas such as forest management that have not been available in other carbon cap-and-trade programs (e.g. Regional Greenhouse Gas Initiative). Forestlands can provide lower-cost carbon reduction opportunities to organizations in sectors that are covered by the cap. Not only can the measurement and performance of forestry-based emissions reductions be realized by such inclusion, it also provides incentives to forest landowners to avoid conversion of forestland to other uses while simultaneously encouraging carbon sequestration innovation in forest-carbon projects. Additional financial support and certainty of supply is needed to assist landowners and producers in developing markets that will facilitate managing forestlands sustainably for the full array of goods and services people need from forests such as wood and non-wood products, enhanced water quality, fish and wildlife habitat, recreation and aesthetics.

Connectivity of Programs

Program connectivity refers to the inter-connected programs and policies that collectively are affected by climate change. There are many co-benefits associated with forests and programmatic efforts are needed to ensure that policies and actions that are taken to maximize carbon storage also consider the broader range of benefits and environmental services that forests provide. Program connectivity has been recognized as a critical component for implementing climate adaptation strategies, but is still in early stages of development. Assessment of forest resources to meet federal Farm Bill requirements is likely to promote greater program connectivity.

When developing climate policies for western forests – especially with respect to guiding how to adapt the regions forests to climate change threats – policy-makers must consider the linkages to many current forestry issues such as

the management of federal forestlands, the economic viability of private forest ownership, maintaining the forestland base, wood products and biomass energy utilization infrastructure, clean water, threatened and endangered species, forest health, biodiversity, and community and resource risks from fire. Coordination and collaboration at local, state and regional scales should be explored. Further, effective climate policies for western forests will integrate the legal, institutional, economic, environmental, and social-political dynamics to ensure that the full range of climate related opportunities provided by the western forests are realized.

SUMMARY

WFLC believes that observing these policy themes, principles and approaches are fundamental to successfully developing forest climate change policies at the regional, state and local levels across the west. While written in a western context, many of the points discussed within this framework are relevant to other forest and climate policy dialogues and we hope it will find broad application. In effect, this second climate change position statement is part of an evolving national dialogue on how trees and forests fit into climate change solutions.

REFERENCES

Society of American Foresters. 2008. *Forest Management and Climate Change Position Statement*
http://www.safnet.org/policyandpress/psst/climate_change_expires12-8-2013.pdf

Society of American Foresters. 2008. *Forest Offset Projects in a Carbon Trading System Position Statement*.
http://www.safnet.org/policyandpress/psst/offset_projections_expires12-8-2013.pdf

U.S. Forest Service. 2008. Forest Service Strategy Strategic Framework for Responding to Climate Change.
<http://www.fs.fed.us/climatechange/documents/strategic-framework-climate-change-1-0.pdf>

Malmsheimer, Robert W. et al. 2008. *Forest Management Solutions for Mitigating Climate Change in the United States*. Journal of Forestry, 106(3), pp. 115-118(4)

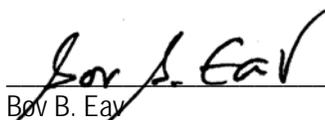
Joyce, L.A., G.M. Blate, J.S. Littell, S.G. McNulty, C.I. Millar, S.C. Moser, R.P. Neilson, K. O'Halloran, and D.L. Peterson, 2008: National Forests. In: *Preliminary review of adaptation options for climate-sensitive ecosystems and resources*. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research [Julius, S.H., J.M. West (eds.), J.S. Baron, B. Griffith, L.A. Joyce, P. Kareiva, B.D. Keller, M.A. Palmer, C.H. Peterson, and J.M. Scott (Authors)]. SAP 4.4.U.S. Environmental Protection Agency, Washington, DC, USA, pp. 3-1 to 3-127.



Pete Anderson
 Nevada State Forester
 COUNCIL OF WESTERN STATE FORESTERS CHAIR



Rick D. Cables
 USFS Rocky Mountain Region
 REGIONAL FORESTER LEAD



Bob B. Eay
 USFS Pacific Northwest Research Station
 RESEARCH STATION DIRECTOR LEAD

Date Signed: February 18, 2009

Expiration Date: Two years from signing