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Restoring and Maintaining Resilient Landscapes via Active Vegetation Management at Large Scales Helps Create Fire-Adapted Communities and Improve Responses to Wildfires

A Regional Position of the Society of American Foresters

Adopted on August 3, 2011, by the Executive Committee of the Inland Empire Society of American Foresters (representing professional foresters in northern Idaho and eastern Washington state) and on August 2, 2011, by the Executive Committee of the Intermountain Society of American Foresters (representing professional foresters in southern Idaho, Nevada, Utah, and western Wyoming). This statement was approved by the Forest Policy Department, Society of American Foresters, Bethesda, Maryland, and will expire on August 2, 2016, unless after review the respective SAF Executive Committees decide otherwise.

Position

The Society of American Foresters (SAF) advocates actions and use of appropriate tools that will a) restore and maintain fire-dependent ecosystems so they provide sustainable environmental, social and economic benefits, and b) reduce the risk of wildfire to communities and the environment by treating hazardous fuels (see SAF 2008). This Position Statement emphasizes the necessity for vegetation management accomplishments at large scales in order to improve conditions on western forests and rangelands.

The SAF's Inland Empire and Intermountain Societies support the ongoing collaborative efforts between all levels of government to involve affected stakeholders in the development of a National Cohesive Wildland Fire Management Strategy for the nation's forests and rangelands (see USDI/USDA 2011a,b,c). This Position Statement was prepared to provide formal written stakeholder comments for the Western Region Strategy currently being developed for the National Cohesive Strategy.

The SAF recommends that the following five points be explicitly considered in the Western Region Strategy. Supporting reasons are provided in the **Rationale** section:

1) Strengthen efforts to include stakeholder perspectives in the strategy,
2) Emphasize restoration of forests and rangelands at large landscape scales (i.e., 50,000 acre minimum), with a priority focus on the "middle ground" between undeveloped wildlands and urban areas (i.e., landscapes that have already been developed for human use),
3) Emphasize active vegetation management with benefits accruing to biophysical ecosystems and the socioeconomic systems that depend on them,
4) Emphasize on-the-ground treatment actions instead of time-consuming and expensive planning processes, and
5) Provide adequate funding for implementing large-scale vegetation treatments.

The SAF supports the three goals of the National Cohesive Strategy as described in a handout for the Western Region Strategy focus session in Boise, Idaho, June 29, 2011:

a) Restore and Maintain Resilient Landscapes—Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.
b) Create Fire-Adapted Communities—Human populations and infrastructure can withstand a wildfire without loss of life and property.
c) Respond to Wildfires—All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

The SAF strongly believes that success in attaining the first of these three goals is particularly important because it will make the other two goals easier to accomplish. Therefore the SAF advocates restoration and maintenance of forest and rangeland landscapes at large scales so they are resilient to wildfires while providing an array of benefits for people, and that the landscape restoration goal should receive priority emphasis in the Western Region Strategy.

Issue

Fire hazards can be reduced by fuel treatments aimed at restoring and maintaining resilient conditions* to forest and rangeland ecosystems. According to the National Cohesive Strategy science team, restoring historic levels of burning may not be socially appropriate, although western public lands generally have management objectives consistent with ecosystem sustainability for which the historical conditions are a relevant comparison (Lee et al. 2010). The scale of the problem is large, with 300 million acres of western forests in which fuels have accumulated to the point where wildfires can burn across larger areas with more severe effects than ever before (Covington, interviewed by Stevens 2011). Fuel treatment projects using a combination of mechanical treatments and prescribed fire to actively manage vegetation can reduce fire hazards, but restoration-based treatments are not being planned and implemented at the large scales necessary to change the situation.

Background

The recent history of wildfire management policy points to a number of problems that are documented in the SAF's Position Statement on "Wildland Fire Management" that also includes eight recommendations for improving the situation (SAF 2008; see also USDI/USDA 2011b,c; WGA-FHAC 2010). One of the SAF's recommendations called for policy changes leading to new federal funding mechanisms for wildfire suppression that recognize the overwhelming influence of relatively few large fires on overall suppression expenditures, as well as the inability of many public agencies to perform urgent hazardous fuel reduction projects, protect communities, and accomplish other needed resource management projects because budgeted funds have been diverted to wildfire suppression.

* Resilient forests can return to a desired condition after disturbance, such as wildfire, either naturally or with management assistance. Providing a variety of ecosystem services, including timber products, is one of several desired conditions (adapted from Stephens 2011, see p. 4 herein).

To address these issues the Federal Land Assistance, Management and Enhancement Act of 2009 (FLAME Act) called for the development of a National Cohesive Wildland Fire Management Strategy. The National Cohesive Strategy recognizes the need for assessments and strategies tailored to different regions of the country (USDI/USDA 2011c). This Position Statement addresses the strategy for forests and rangelands in the western states, especially the federal public lands.

Rationale

The following sections provide the rationale for including the five recommendations in the **Position** section above, all of which relate to restoration-based hazardous fuel reduction.

1) Strengthen efforts to include stakeholder perspectives in the strategy. The SAF applauds current efforts to develop the National Cohesive Wildland Fire Management Strategy by including input from stakeholders. This advances learning during the past decade from implementing the National Fire Plan that collaboration with all levels of government and all affected interests is essential for effective wildland fire management, and especially for reducing hazardous fuels.

   However, there are concerns that more could be done. For example, the SAF Position Statement on Wildland Fire Management recommended as the third of eight key points that "When community wildfire protection plans (CWPPs) identify the need for hazard reduction projects on federal lands, the SAF recommends that federal agencies work closely with state and local governments, local collaborative organizations and communities to implement these projects" (SAF 2008). CWPPs provide an effective basis for guiding land and resource management activities that can significantly reduce wildfire risks to communities. Projects stemming from CWPPs are meant to help prioritize wildfire mitigation approaches in each locale, including input to federal land management (Newman 2004, Steelman and Burke 2007), but such projects are not being implemented on the ground in meaningful numbers. CWPPs are the most useful part of the Healthy Forests Restoration Act of 2003 from the state forestry agency perspective. CWPPs should be linked to federal land management project planning through a collaborative process with communities, and federal agencies should provide direction to line workers to put a priority on projects identified in CWPPs (Jensen 2006).

   The Western Governors' Association urges that "the Secretary of Agriculture and Interior working with other federal, state and non-governmental organization partners, should convene a task force to identify best practices for large-scale restoration and provide assistance to collaborative groups in assessment and planning efforts" (WGA 2011). The need for effective collaboration is tied closely with determining the scale of vegetation management activities necessary to modify wildfire behavior, identifying locations and strategic priorities for such activities, and supporting landscape-scale projects recommended by local collaborative groups of stakeholders. For example, the Idaho Forest Restoration Partnership (IFRP 2011) recognizes eight collaborative organizations working on federal land management issues in the state and was formed to strengthen and provide support for such efforts.

2) Emphasize restoration of forests and rangelands at large landscape scales,* with a priority focus on the "middle ground" between wild and urban landscapes. This includes vast areas that are accessible from existing roads where timber has been harvested in the past.

This is another way of stating the first goal of the National Cohesive Strategy, which also includes the statement that "landscapes are resilient to fire-related disturbances in accordance with management objectives" (see p. 2 herein). Those objectives are desired conditions that should be determined by land managers working collaboratively with stakeholders.

"Resilience" needs to be defined in a meaningful way so that desired conditions can be stated as management objectives. One such definition offered by Professor Scott Stephens (2011), University of California-Berkeley, holds that "Resilient forests not only accommodate gradual changes related to climate but return toward a prior condition after disturbance either naturally or with management assistance. Forests that can maintain the ability to regenerate, evolve, and provide ecosystem services to current and future conditions are desirable." Stephens added that a high amount of spatial variability is desirable, as this was probably the pre-historic landscape, and that we can live with some areas that have high fuel hazards. In contrast to pre-historic conditions are large contiguous forested areas with high horizontal continuity and fire hazards. These forests are very susceptible to severe disturbances. Management methods that create homogeneity should be avoided, and we should avoid creating "average" stand conditions replicated over large spatial scales (Stephens 2011).

During the Western Region Strategy focus session for stakeholder input in Boise, Idaho, on June 29, 2011, moderator Jack Troyer, retired Regional Forester for the U.S. Forest Service Intermountain Region R-4, said that there are vast areas of unhealthy forests in the Interior West, and that we know what to do about the situation. As he opened the dialogue session Troyer asked, how can we do more? The SAF agrees with the way Troyer framed the discussion, and prepared this Position Statement to respond to his question, how can more be done to improve the forest health situation?

It is worth noting that the Western Governors' Association policy resolution (WGA 2011) states that not enough is being done:

> "Although much has been accomplished related to fire suppression ... the need to address forest restoration is equally critical. This is especially so given current small-scale treatment sizes, slow rates of restoration treatments, and typical planning and implementation processes. Although some forest restoration work is ongoing, planning and implementation should occur at a scale commensurate with the scale at which dominant disturbances (i.e., unnaturally severe fire) are occurring. At these scales, restoration can and should provide predictable supplies of forest products, including small diameter timber and woody biomass. These predictable supplies are necessary to build or maintain the infrastructure and industry needed to implement forest restoration treatments in a cost-effective manner" (WGA 2011).

* Consistent with the Collaborative Forest Landscape Restoration Program (CFLRP) administered by the U.S. Department of Agriculture, a large-scale landscape is 50,000 acres at minimum.

Evidence that not enough is being done can be gleaned from the Coordinated Resource Offering Protocol (CROP) projects described on the www.forestandrangleands.gov website (see USDI/USDA 2011d). This tool could alert industry firms to planned removals of woody biomass non-merchantable material as well as sawtimber. A CROP project identifies by species and size the quantity of vegetation managers in state and federal agencies plan to remove during the next five years, if all planned projects were to move successfully through the planning process and if they are all funded.

The results of CROP project assessments in Idaho are likely typical of the rest of the western states. Idaho assessments were completed in 2010, with almost total coverage of the state. If all the vegetation removal projects planned on National Forests in Idaho over the next five years are accomplished, managers will have removed the equivalent of five percent of the new increment of forest growth during those five years.* The other 95 percent would be added to the inventory of forest growing stock on the land.†

If the over-accumulation of vegetation is a problem in Idaho's National Forests, then plans for removal of vegetation in the near future are not only inadequate to improve the problem, but additional accumulations of vegetation will make it worse. Trees compete with each other for nutrients, moisture, and sunlight. More trees mean more competition for whatever limits tree growth, and thus more dead trees on the site. Forest inventory data show that mortality in federal forests throughout the Interior West is higher than at any time since 1952, when such measurements began. In Idaho and Montana today there is more than twice as much dead standing timber as there was in 1997.

3) Emphasize active vegetation management to provide multiple benefits to biophysical ecosystems and the socioeconomic systems that depend on them.

In addition to attaining resilient ecosystem conditions, active vegetation management provides employment in timber harvesting and wood products manufacturing, with woody biomass residuals available as a renewable energy feedstock. A Western Governors' Association (WGA 2011) policy resolution states that "restoration can and should provide predictable supplies of forest products, including small diameter timber and woody biomass. [Predictability] is necessary to build or maintain the infrastructure and industry needed to implement forest restoration treatments in a cost-effective manner."

Furthermore, the Governors request that "federal agencies should investigate the needs of individual mills and restoration contractors and develop an efficient outreach system to address those needs. Efforts should be made to modify existing grant programs and create new programs that will support the critical wood processing infrastructure that is necessary for forest health

* Forest growth projections are for gross annual growth on all National Forest System lands in Idaho and based on Forest Inventory and Analysis data collected, analyzed and published by the U.S. Forest Service for 2006. These data were compiled and analyzed by Jay O'Laughlin, Professor of Forestry and Policy Sciences, College of Natural Resources, University of Idaho.

† CROP assessment results for Montana as compared to the annual growth increment are similar to results for Idaho.

restoration treatments to be economically viable." In addition the Governors have directed WGA staff to work with the states to determine the economic necessities for wood product mills and other wood-using industries to be economically viable, and to transmit this information to federal agencies (WGA 2011).

4) Emphasize on-the-ground treatment actions instead of lengthy and expensive planning processes.

   The WGA-FHAC (2010) workshop report on large-scale forest restoration treatments identifies numerous obstacles, including implementation of the National Environmental Policy Act (NEPA) as a hindrance. Issues with NEPA are the lack of clear direction and agency assumptions that collaboration must be narrow and limited once project planning enters a formal NEPA process. The WGA (2011) recognizes that large-scale restoration efforts would benefit by improved federal agency guidance and consistency of collaborative stakeholder involvement throughout NEPA implementation.

   Furthermore, the WGA policy resolution on large-scale forest restoration says federal agencies should ensure that their Land and Resource Management Plans ("Forest Plans") and Fire Management Plans coordinate with and incorporate the plans and policies of state and local governments, and consider the plans of regional collaborative groups which include state and local governments, with respect to larger-scale restoration efforts and community wildfire protection (WGA 2011).

5) Provide adequate funding for implementing landscape-scale vegetation treatments.

   The Western Governors' Association "supports federal agencies making significant investments in large-scale restoration treatments by realigning their existing resources to achieve maximum impact on forest health" (WGA 2011) because such projects "will generate tremendous environmental and social benefits, create much-needed jobs and revenue for rural economies, and save hundreds of millions of dollars that would otherwise be directed to wildfire suppression efforts" (WGA-FHAC 2010).

   In western forests, some type of mechanical thinning will likely be required on up to 90 percent of overstocked stands, as treatment using prescribed fire alone is too risky (Nicholls et al. 2008). Costs of restoration projects present a barrier, as the value of small trees rarely pays the costs of harvesting, collecting, and transporting them. However, if the economic benefits from removing small trees exceeds the costs, then there is a rationale for subsidizing their removal. The subsidy can take two forms: either a cash payment from the public treasury, or the removal of larger sawtimber-sized trees along with the small trees.

   The benefit values resulting from improving conditions in overstocked forests, such as clean air and water, are generally believed to exceed the cost of treatment (BDRB 2008). Markets do not compensate owners for these ecosystem service benefits. In addition to these uncompensated benefits are the avoided costs of wildfire suppression and post-wildfire fire site rehabilitation attained from restoration activities designed to modify fire behavior. Research has shown that avoided cost benefits can exceed fuel treatment project costs. For example, on two national forests in the Pacific Northwest the estimated net benefits from fuel treatments ranged between

$600 and $1,400 per acre, with additional benefits from increased employment opportunities and improved energy diversity and security that were not quantified (Mason et al. 2006).

The bottom line from active vegetation management can be called a "triple win": a) restoring forest health, fire resiliency and wildlife habitat; b) providing renewable energy feedstocks, and c) revitalizing rural economies by providing jobs in the woods and in the mills. An additional benefit is the enhanced ability of forests to capture and store (i.e., "sequester") large amounts of carbon in live trees. The uptake rate for atmospheric carbon is greater for young forests than old; but old forests store more carbon. Forest carbon studies sometimes do not include the carbon in manufactured wood products in the analysis and are therefore flawed.

Conclusion

The SAF recognizes the enormous scale of the problem of managing western wildfires and believes that collaborating with stakeholders is the best way to begin improving the situation. Adequate budget resources and improved planning processes are needed to put projects on the ground. SAF members know what needs to be done, and stand ready to help do more of it.

Serving as concluding statements are some brief quotations from Harris Sherman, undersecretary for Natural Resources and the Environment in the U.S. Department of Agriculture, during his comments to the Western Governors' Association at the WGA's 2011 annual meeting. Sherman's comments tie together several of the key points in this Position Statement. He said, "We need to do these things on a landscape-scale basis. Random projects are not enough. We just have to deal with this on a larger scale" (Reese 2011).

According to Sherman, expediting the environmental review process for restoration and fuel treatments would also help. He added that to meet National Environmental Policy Act (NEPA) requirements, the Forest Service spends about $350 million a year on environmental impact studies. Sherman said, "It would be great to spend more of that money on the ground." To that end, he said the Forest Service is working with the Office of Management and Budget to figure out ways to streamline the NEPA process (Reese 2011). We say the sooner, the better.

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