Don’t Overlook Overstocking

“Managing Forests because Carbon Matters,” the recent SAF Task Force Report (October/November 2011 Supplement), has correctly indicated that wildfire and bark beetle outbreaks are the primary disturbance factors in western forests that convert these forests from carbon sinks into carbon sources, but it failed to describe the overstocking that has been primarily responsible for these wildfire and bark beetle outbreaks in western forests.

This overstocking and reasons for it are described in a US Forest Service Pacific Northwest Research Station web page as follows: “A century of ardent fire suppression and declines in timber harvests on federal land over the past 20 years have left many western forests over-stocked with small trees competing for water. Add drought to the mix and the trees become even more vulnerable to insect outbreak. Forests of stressed trees surrounded by heavy fuel loads are vulnerable to wildfires that are hotter and larger than would have burned historically” (www.fs.fed.us/pnw/research/fire/fuel-treatments.shtml).

Climate change will bring disturbances that affect tree mortality and forest regeneration according to this SAF Task Force Report, but recent climate change is reflected in the National Oceanic and Atmospheric Administration (NOAA) National Climatic Data Center reports indicating that the annual temperatures across the contiguous United States have actually been trending downward at a rate of 0.95°F per decade during 13 years from 1998 to 2010 (www.ncdc.noaa.gov oa/climate/research/cag3/cag3.HTML).

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Some professors believe that instead of using traditional seed zones, forest productivity in the year 2050 will be enhanced by planting genotypes farther north (or higher in altitude). “The key, they suggest, is matching seed sources and silvicultural methods to future rather than historical climatic conditions (Lindner and Karjalainen 2007, Nabi et al. 2007).” Although both citations (page S22) discuss changes in rotation length, neither mentions “seed sources” nor moving genotypes north. The lack of a “matching seed source” reference makes me wonder. Who thinks they can predict future freeze events and therefore would be willing to recommend planting genetically improved loblolly pine in New York next year?

I am pleased the task force made correct statements about the albedo effect. The effect of afforestation on the albedo in the United States “is measurable.” In contrast, I say we can’t measure the effect of carbon sequestration on global temperatures. The effect of removing 10 Pg of carbon from the atmosphere can only be guessed at (by using models that may have incorrect feedbacks). I totally agree with the statement on page S22 that “Focusing on only one or two of these fluxes [carbon, water, and energy] as guidance for forest climate policy may give a biased perspective.”

David South
Pickens, SC

Metric, Biochar, Seed Source, and Albedo Matters

I have a few comments regarding the SAF task force report, “Managing Forests because Carbon Matters.” Unfortunately, mixing English and metric units can cause errors of the type found on page S30. The 17.2 million Btu/oven-dry (od) tonne value is actually for a short ton and therefore is about 9% too low. The correct high heating value (HHV) is 20 Gj/odMg (±2.3 Gj). I recommend future task force reports use only metric units. In 1927, Philip Wakeley (JOF 25:966) made a similar request but his request was to no avail. I also doubt the claim that 2.1 quadrillion Btu of energy (low heating value) requires only 111 million odMg of wood. This low amount would occur only if the conversion efficiency for all wood-burning facilities is 100%. An optimistic 50% conversion efficiency would require 222 million odMg. A third statement on page S10 is incorrect since biochar can last thousands of years in the upper soil profile. I was surprised the report did not even mention biochar as a way to sequester carbon.

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David South
Pickens, SC
the US Forest Service. We know they value the work our member companies do, and we know that without us, there is no way to effectively manage the national forests. We hope Chief Tidwell will continue his commitment to management in a more public fashion in the future.

Bill Imbergamo
Vienna, VA

Moving Toward a Restoration Economy

The discussion article by Tidwell and Brown in the October/November issue seemed too global and may have missed the intended mark. Taking Idaho as an example, the US Forest Service owns 23% of the timberland. The total growing stock volume is 36.7 billion ft³, growth is 994 million ft³, mortality is 383 million ft³, and removals are 246 million ft³. This leaves an annual wood increment (growth–removals) of 748 million ft³. This overaccumulation of vegetation has led to an increasing number of large, intense, catastrophically destructive, and expensive fires. I believe the acres burned in 2011 will approach 9 million ac at a taxpayer-funded cost of attempted suppression in excess of $1.5 billion. So the bottom line is that we need management, harvest, and a healthy installed operating infrastructure to capitalize on this federal asset much like state and private interests are. A sustainable forest management strategy aimed at maintaining or increasing carbon stocks while producing an annual sustained yield of timber, pulp products, and energy from public lands is long overdue. Restoration is part of the program, but the US Forest Service should promptly move to active management of a selected suitable base and increase its timber outputs from 3 billion bd ft in 2012 to 6 billion bd ft by 2015 and beyond. This is less than 30% of the annual net growth on national forestlands and will provide lots of jobs as well as protect the other valued multiple uses the US Forest Service is responsible for.

Bob Boeh
Sandpoint, ID

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