

Wildfire Impacts on Forest Values Reach Far and Wide

CARBON COULD SHIFT VALUE PROPOSITION AND FOREST MANAGEMENT FOCUS

Perhaps the intersection of carbon emissions and wildfire will cause us to invest in our forests.

By Ken Baerenklau, Ph.D. and Jose Sanchez

We live amid forests that have sustained local inhabitants for thousands of years, providing food, shelter and water for generations.

But today, California's population is nearing 40 million, we face water and energy shortages, and for every tree growing in Southern California forests, three are dying. We react to these problems, fighting severe wildfire and channeling mudslides around homes every year, rather than proactively addressing the sources of these risks.

Wildfire is the leading source of greenhouse gas emissions in California, averaging more than 500,000 acres burned each year. Wildfires between 2001 and 2008 burned 5 million acres and released the equivalent emissions of 30 million cars on the road for a year. Perhaps the intersection of carbon emissions and wildfire will cause us to rethink our natural resources and whether it is time to invest in our forests.

If increasing atmospheric-carbon leads to rising sea levels, extended drought and other climatic changes, we will incur potentially large costs of adapting to the new climate regime.

There may be great benefit in avoiding that outcome, but then we must pay the significant costs of reducing emissions. Forests and how we manage them are at the heart of these climate-related alternatives, and we are obliged to weigh costs and benefits in determining how we utilize our natural resources.

California taxpayers currently spend more than \$1 billion annually to fight wildfire, a cost that has been rising in part due to increasing wildfire severity. Sustainable forest management reduces the risk of severe wildfires and also removes carbon dioxide from the atmosphere, safely storing it in vegetation and wood products. The California Air Resources Board found that of the 165 business sectors in the state, only the forestry sector is a net sequester of carbon. California's forestlands could conceivably sequester five times more carbon than they do today, but hitting that target would be expensive.

Value added, not realized

The benefits we derive from healthy forests include wood products, recreation, open space, wildlife habitat, erosion control, clean air, clean water (roughly 75 percent of California's drinking water originates in forested watersheds) and carbon sequestration. The same sustainable forestry that reduces wildfire severity and sequesters carbon also enhances these services and protects our communities.



>> Severe wildfire can degrade watershed health and expose soils to mass erosion.



Can we put a dollar figure on the carbon, clean water, recreation, biodiversity and other values associated with reducing forest fuels? If we could get those returns at a fraction of their value would we take advantage of the opportunity?

Economic values can be estimated for forest services and cost-benefit analysis can be used by forest managers to make informed decisions about our natural resources. For example, protecting wildlife habitat has been shown to have substantial economic value: in the Exxon Valdez case the court ordered a \$1 billion payment for damages to the Prince William Sound ecosystem solely on the basis of its “non-use” value. Recreation, open space, clean air and water also have been monetized by economists.

The aggregate value of managing forests to reduce fuels appears to be considerable but unfortunately generates no substantial revenue stream for the landowner. To make matters worse, rather than encouraging sustainable management and growth in the forest sector, the state’s forestry infrastructure is in decline. This keeps fuel reduction costs and severe wildfire-risks high.

New markets and opportunities

Carbon markets have the potential to generate new revenue. Allowing forest landowners to earn payments for sequestering carbon would provide a new financial incentive to pursue alternative management strategies. However,

« Forest management provides recreation, wildlife habitat and other values that yield no significant financial dividends.

emerging carbon markets face serious hurdles and these markets alone won’t fund an appropriate level of fuel reduction because they still don’t account for the value of non-carbon forest services.

Our forests present a “pay me now or pay me later” scenario much like owning a car: you can postpone regular maintenance and save money now, but your overall costs will be higher if and when the car eventually breaks down. Policymakers have various means at their disposal to encourage sustainable natural resource management and must find ways to stretch fuel-treatment dollars and turn forest values into real revenue streams for forest managers. Options such as harvesting a few merchantable trees during thinning operations to fund additional fuel-reduction efforts and extending the Biomass Crop Assistance Program also could offer immediate and long-term benefits. Upfront forest management costs should be weighed in the context of the multi-faceted values such investment would return, with carbon figuring prominently in the evaluation given its climate implications.

The solution lies in leaders leading. California’s elected officials must evaluate the tradeoffs between different management options and make decisions that provide the greatest social value, even if the returns will not be realized in one election cycle.

The question remains, will we pay for regular maintenance now or bear the cost of a major breakdown in our forest systems later? Now is the time to invest in forest management. ■



California’s forestlands could sequester five times more carbon, but hitting that target would be expensive.

Policymakers must find ways to turn forest values into real revenue streams.

« Forest management conserves water resources, protects aquatic species habitat and can lower the cost of providing clean drinking water.