

The Weeks Act centennial gives the Forest Service an opportunity to reframe the story of conservation. For the story to resonate, it needs to square with the facts. Unfortunately, it not always has; supporters of the Weeks Act in 1911 overstated some fears and oversold some hopes. Nevertheless, the act set the stage for restoring forests in the East and for cooperative forestry and fire protection nationwide, a tremendous accomplishment.

THE WEEKS ACT

A LEGACY OF PARTNERSHIPS

One rationale for the system of federal forest reserves that began in 1891 was fear of a timber famine. At the time, deforestation was rampant in the eastern United States (Smith et al. 2004), and forests were a vital national resource. More than 60 percent of Americans still lived in rural

areas, where they depended on forests for at least part of their livelihoods. Until the late nineteenth century, wood provided almost all of the energy consumed in the United States (MacCleery 1992). Forests also played a huge role in farming, ranching, mining, transportation, shipbuilding, manufacturing, and construction. Americans saw this resource disappearing from their landscapes, and they got scared. “If the present rate of forest destruction is allowed to continue,” President Theodore Roosevelt warned the American Forest Congress in 1905, “a timber famine is obviously inevitable” (NYT 1905).

However, America’s forest resources turned out to be remarkably resilient (MacCleery 1992). Since 1907, deforestation in some areas has been largely offset by reforestation in others (Smith et al. 2004), and American forests have remained highly productive: today, with less than eight percent of the world’s forests, the United States is by far the largest wood-producing nation in the world (FAO 2005). Per capita, however, Americans use three times more than the global average (Strigel and Meine 2001), and they rely increasingly on imports (Haynes et al. 2007). But wood shortages are not on the horizon—and never really have been.

Another rationale for forest protection at the turn of the twentieth century was the prevention of catastrophic floods. The early conservationists were right—deforestation does contribute to floods and erosion (Marsh 1864; Pinchot 1947). But it does not necessarily follow that a well-forested watershed never floods.

Since 1907, the Northeast and Upper Midwest have recovered a lot of forest—forestland across these regions has grown by nearly 19 percent (Smith et al. 2004). Still, heavy precipitation in the winter and spring of 2011 contributed to near-record flooding in the Ohio and Mississippi valleys, with water spreading across millions of acres of farmland and through parts of Cairo, Memphis, Vicksburg, and other towns. And rain from a hurricane in August 2011 devastated New England, shattering centuries-old flood records.

A third promise was fire control. The Big Burn of 1910 shocked the nation (Pyne 2001). Fires swept across roughly 3 million acres in the Northern Rockies, and Forest Service firefighters were overwhelmed. Scores of firefighters died that August, and their heroism and sacrifice became legend, creating tremendous goodwill for the Forest Service (Egan 2009). After 1910, Forest Service budgets shot up, the Weeks Act finally passed, the National Forest System eventually grew by 25 million acres in the East, and working with the states and other partners, the Forest Service developed the systems of cooperative forestry and cooperative fire protection we know today.

Fire control was based on the notion that fire can and should be driven from the woods (Egan 2009; Pyne 1982). For decades, the United States poured enormous resources into the war on fire, building a system of wildland fire suppression second to none. Today, the Incident Command System is emulated worldwide for its effectiveness in safely managing all kinds of incidents.

BY JOEL HOLTROP



In this undated photograph, a cutover, burned-over landscape with a lone surviving pine. Early conservationists used such images to help make the case for sustainable forestry.

The Forest Service suppresses 98 percent of the fires it fights at very small sizes.

Yet America's fire seasons have been growing in size and severity, partly because of fuel buildups caused by decades of fire exclusion. In 2002, 397 million acres in all ownerships nationwide were at moderate to high risk from uncharacteristically severe wildfires (Schmidt et al. 2002). From 2000 to 2008, at least 10 states had megafires of record-breaking size; in 2011, the Wallow Fire, at more than half a million acres, broke the record in Arizona set just nine years earlier. From 2000 to 2009, roughly 28,000 houses and other buildings burned in wildfires, partly because homes and communities have been spreading into fire-prone forests. Across the nation, almost 70,000 communities are at risk from wildfires, and fewer than 10 percent have a community wildfire protection plan.

INVESTING IN AMERICA'S GREEN INFRASTRUCTURE

The story of conservation has changed since 1911. It is no longer a story of protecting timber supplies while trying to exclude fires and floods. We now know that fires, floods, and other disturbances play essential ecological roles in healthy ecosystems, and we are learning to live with them. Today, conservation is a story of investing in America's green infrastructure for all the benefits that Americans get from healthy, resilient forest ecosystems: clean air and water, habitat for fish and wildlife, opportunities for outdoor recreation, and more.

The benefits are social and economic as well as ecological. A century ago, opponents of conservation challenged the value of federal spending, as if every government dollar spent were a taxpayer dollar wasted. We now know that congressional allocations on behalf of conservation have payoffs for generations to come. The returns on investment include generating economic activity, especially in rural communities. For example, spending by visitors

to the national forests and grasslands contributes more than \$14 billion annually to the gross domestic product and sustains more than 224,000 jobs (U.S. Forest Service 2010). By comparison, the total Forest Service discretionary budget is about \$5 billion per year. Counting timber, grazing, mining, and other economic activities, the returns are even higher: according to one estimate for 2004, all economic activities combined contributed more than \$19 billion to the nation's gross domestic product (Arnold 2005).

And those are just the returns on services with marketplace value. Americans also get many other benefits from their national forests and grasslands. Ecosystem services are vital to the health and well-being of communities, both rural and urban, even if their value is not recognized on the marketplace. Eco-

system services from forests include supporting services, such as soil formation and primary production; provisioning services, such as water delivery and wild foods; regulating services, such as pollination and carbon sequestration; and cultural services, such as aesthetic enjoyment and spiritual renewal (MEA 2005). America's public lands are a form of natural capital, and part of the Forest Service's job is to measure the stocks and flows of the ecosystem services they provide to make sure that the people who rely on these services know their value and the cost of losing them.

National forest managers are currently working with Forest Service researchers to quantify the value of ecosystem services from the national forests (Smith et al. [in print]). For example, more than 60 million Americans get their water from national forests, and the annual value of that water has been estimated at more than \$7.2 billion for both in-stream and off-stream uses (U.S. Forest Service 2009). The Forest Service uses congressional allocations, partner contributions, and (to a far lesser extent) proceeds from fees and sales to invest in the natural capital needed to furnish a full range of ecosystem services—clean water, biodiversity, erosion control, carbon sequestration and storage, and more. In so doing, the agency plays the traditional government role of delivering public goods from public lands. That, too, is part of the story of conservation: the national forests and grasslands represent a national investment in green infrastructure, with benefits that dwarf the costs.

INVESTING IN PARTNERSHIPS

However, America's forested landscapes are under siege, which presents a tangle of challenges:

- Climate change is contributing to regional drought (Backlund et al. 2008; Gamble et al. 2008; Karl et al. 2009). In 2011, heavy winter snowfall and wet spring weather soaked many northern states while drought persisted across the southern states. Weather extremes—hot and cold, wet and dry—are consistent

with climate change, and they are likely to continue. Can the United States muster the will for an effective national response to climate change?

- In tandem with drought, climate change has contributed to rising fire activity (Gamble et al. 2008; Karl et al. 2009; Ryan and Archer 2008; Westerling et al. 2006). Climate change has also allowed bark beetles to multiply and spread, killing pine and other forest species on 41 million acres across the West (Gibson et al. 2008; Peña 2011), an area almost the size of Wisconsin. Can the nation react quickly enough to restore its dead and dying forests and to reduce the risk of uncharacteristically severe fires?
- Nonnative insects and diseases are threatening major forest trees, ranging from oak, ash, walnut, and eastern hemlock to western white pine and high-elevation whitebark pine. More than 100 million acres of rangeland has been degraded by invasive weeds, such as cheatgrass. Can the United States muster the resources needed to protect threatened ecosystems and to restore systems that have been lost?
- As the U.S. population grows, land-use conversion is threatening private forests, which make up 56 percent of America's forestland and 83 percent of forestland in the East (Smith et al. 2004). From 2000 to 2030, substantial increases in housing density are predicted on about 57 million acres of forestland (Stein et al. 2009), an area almost twice the size of Pennsylvania. How can private forest landowners be motivated to conserve their lands at a time of expanding development and rising real estate values?
- Food and energy prices are rising around the world, and biofuels are increasingly feasible as an energy source. How does the United States coordinate its forest, food, and energy policies to keep productive forestland from being converted to agriculture?

Those are enormous challenges. They are as great as any challenges the Forest Service has ever faced, and they cannot be met through protected-area management alone. The challenges cross borders and boundaries, affecting all ownerships across entire landscapes. But if people can come together to collaborate across ownerships, then the nation can fully tap its resources of knowledge, energy, and ideas. Then Americans will be able to address shared issues and concerns and pursue common goals.

Accordingly, the Forest Service is taking an all-lands approach to meeting the conservation challenges of the future. That includes reaching out to urban Americans, who make up 80 percent of the population. Forests do not end where cities begin; forests reach from remote wilderness areas and across the farmer's back 40 to shady neighborhood streets and parks. Urban and community forests alone cover 100 million acres, an area the size of California, and are a vital resource for all Americans. An all-lands, all-hands approach to conservation means broadening the circle of conservation to include Americans at every scale, from every community, from every background, from every walk of life.

COLLABORATION IS CRUCIAL

Passage of the Weeks Act was an uphill battle. In the nineteenth century, America's natural riches were widely abused, and the abuses were widely tolerated. But conservationists persevered and in the end succeeded. Through the Weeks Act and later measures, the Forest Service and its partners obtained a variety of tools for conservation, including additions to protected areas, support for conservation easements, the ability to lend various kinds of

technical and financial assistance, and robust programs for cooperative fire protection.

For fiscal year 2012, proposed budget cuts, if enacted by Congress, would limit the availability of these tools. But the Weeks Act teaches perseverance. At the Forest Service, our goal is to engage all Americans in the story of conservation by showing the economic benefits and other values they get from America's forests and grasslands, the interconnections among the lands and waters that sustain us all, the growing risks to the continued delivery of ecosystem services, and the promise of working together across landscapes to reach shared goals.

Through its provisions for restoring forested landscapes in the East and for cooperative forestry and fire protection, the Weeks Act laid a lasting foundation for partnerships and collaboration. Today, conservation means exploring ways of capitalizing on that foundation for an all-lands approach—for engaging communities of all kinds in restoring healthy, resilient ecosystems across borders and boundaries, on a landscape scale, for the benefit of generations to come. □

Joel Holtrop recently retired as Deputy Chief for National Forest System, USDA Forest Service. This paper is based on a presentation he gave on June 7, 2011, at the Weeks Act Symposium sponsored by the Pinchot Institute and the School of Forestry and Environmental Studies at Yale University, New Haven, Connecticut.

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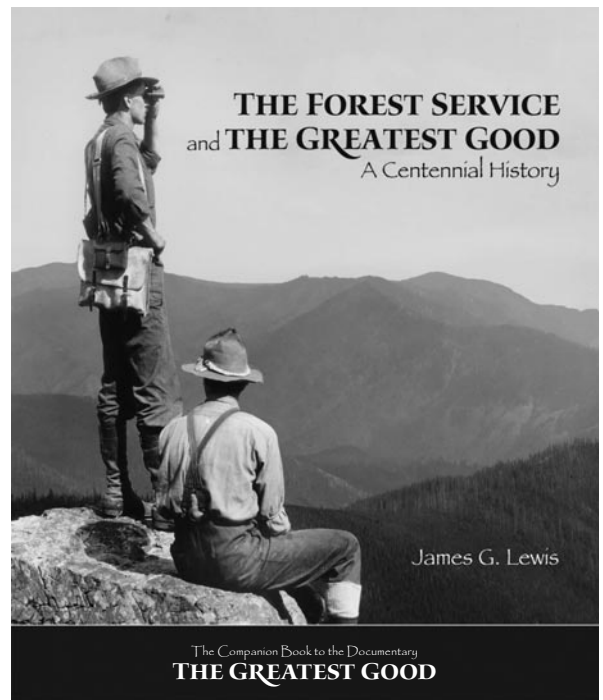
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