A photograph of a forest fire with a semi-transparent text overlay. The background shows a line of trees with bright orange and yellow flames at their base, set against a dark, smoky sky. The foreground is a field of dry, brownish ground with some sparse green vegetation. The text is white and centered in the upper half of the image.

THE RESTORING HEALTHY FORESTS FOR HEALTHY COMMUNITIES ACT: PROGRAM DESIGN AND IMPLEMENTATION

Program Design for the Restoring Healthy Forests for Healthy Communities Act of 2013

Columbia University, School of International and Public Affairs
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FINAL REPORT

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Cover Photo

United States Bureau of Land Management. "Barry Point Fire 05" Wikimedia Commons. Wikimedia Commons, 15 Aug. 2012. Web. 3 Feb. 2015

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US Forest Service. "Forest Fire 5." Wikimedia Commons. Wikimedia Commons, 20 Feb. 2005. Web. 13 Aug. 2014.

EXECUTIVE SUMMARY

The United States Forest Service's historic policy of immediately extinguishing forest fires has produced an excess of hazardous fuels throughout the National Forest System. Over a century of accumulation of these forest materials translates into an enormous amount of fuel available for wildfire. In addition, a combination of changing economic conditions and endangered species management forced declines in timber harvests in some of the NFS's most productive forestlands. Together, the recent trends of catastrophic wildfires and declining timber harvests throughout the NFS have resulted in environmental degradation and crippling financial situations in many of America's rural communities.

These two issues produce a multitude of complex economic, public health, and environmental consequences across the United States. In response to these issues, Representative Doc Hastings introduced House Bill 1526, the Restoring Healthy Forests for Healthy Communities Act, in September 2013. This proposed legislation aims to address two distinct issues affecting states and counties with large areas of National Forest land. The bill first responds to recent reductions in local counties' income from the federal government through a proposal to increase annual timber harvests and return 25% of the revenues from timber sales to the local counties. Secondly, state governors would gain the opportunity to compel management of federal forestland to promote forest health in areas at high risk of catastrophic wildfires or bark beetle infestation.

This report provides an analysis of a hypothetical implementation of Titles I and II of the Restoring Healthy Forests for Healthy Communities Act. Title I focuses on the need to increase timber harvests by mandating the harvest of at least 50% of the sustainable yield from specified areas within each unit of the National Forest System. Our program design entails the creation of Resource Advisory Committees composed of representatives from the United States Forest Service, the scientific community, and the timber industry. These committees will assist in the determination of revenue areas and annual volume requirements for each unit based on its estimated sustainable yield. Calculations based on existing Forest Service estimates of sustainable yield suggest that implementation of Title I will require the hire of approximately 7,800 new employees in Forest Management and Wildland Fire Management Staff positions to manage the increased timber harvest.

Title II seeks to reduce the risk of catastrophic wildfires by allowing state governors and the Secretary of Agriculture to implement hazardous fuel reduction projects in vulnerable forests. To assist the Secretary and governors, each of the nine regions of the National Forest System will establish a seven-member Forest Risk Management Committee composed of members of invested parties. Upon the request of the Secretary or any governor, the committee will consult on the design and implementation of hazardous fuel reduction projects. Because the number and scope of these projects depends on decisions by the Secretary or governors, the primary staffing and budgetary impacts have not been estimated, although the Regional Foresters within the Forest Service are expected to take on additional responsibilities to facilitate

the Forest Risk Management Committees.

We also discuss the bill's legislative history and associated controversies and develop a potential staffing plan, budget, and master calendar. The projections for staff and budget increases required rough estimates because timber harvests have remained at low levels since the early 1990s, complicating efforts to predict appropriate future levels. We include methods for measuring the program's success to ensure proper tracking of goals and metrics while still offering flexibility in the face of unforeseen changes.

In addition to improving local forest health and increasing timber harvests, the Restoring Healthy Forests for Healthy Communities Act also aims to grant previously unprecedented decision making authority over federal lands to state governors. This would introduce constitutional ambiguity that would very likely result in judicial review. However, the bill also mandates that the courts may not issue any orders or injunctions preventing future development of timber harvesting projects even if those individuals involved violated any procedural requirements. Furthermore, all proposed projects are excluded from requirements under the National Environmental Policy Act so long as the projects cover areas less than 10,000 acres or are designed to reduce hazardous fuels or improve forest health. These controversial restrictions would likely face challenges in the courts upon the bill's implementation.

Through the effective implementation of the first two titles of the Restoring Healthy Forests for Healthy Communities Act, the frequency and extent of catastrophic wildfires would likely decrease and counties with a large portion of National Forest System land will experience increased timber payments and a boost in their local economies. This bill has the potential to institute broad changes in the economic, public health, and environmental realms.



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ACRONYMS AND ABBREVIATIONS

FRRA: Forest Reserve Revenue Area

FRMC: Forest Risk Management Committee

MBF: Thousand Board Feet

MMBF: Million Board Feet

NEPA: National Environmental Policy Act of 1970

NFS: National Forest System

RAC: Resource Advisory Committee

USDA: United States Department of Agriculture

Forest Service: United States Department of Agriculture Forest Service

INTRODUCTION

The United States Department of Agriculture Forest Service (hereafter, Forest Service) reports that between 65 and 82 million acres of National Forest System (NFS) lands are at high risk of wildfires. The Forest Service harvested timber from only 200,000 acres in 2012, while 9.3 million acres burned that same year (Committee on Natural Resources, 2014). Bark beetle infestations, rapidly spreading throughout the western United States due to heightened temperatures caused by climate change, exacerbate wildfire risk and contribute to further forest degradation (Bentz et al., 2010). Without immediate, comprehensive action, federal forestlands will decline in quality due to bark beetle infestations and will burn extensively due to frequent drought and the accumulation of hazardous fuels. Healthy forests are becoming increasingly important as a mechanism to prevent the exacerbation of climate change due to their carbon storage capabilities. Because the Department of Agriculture oversees the NFS, handling the issue of catastrophic wildfires in America's national forests requires a federally mandated sustainable forest management policy.

The combination of the economic downturn of the 1990s and the establishment of the Northwest Forest Plan designed to protect the habitat of the endangered northern spotted owl contributed to a decrease in timber harvests throughout national forests by 80% over the past 30 years (Raettig and Christensen, 1999; Committee on Natural Resources, 2014). These factors resulted in a loss of nearly 14,000 jobs, or 20% of all positions in the timber industry in Oregon, Washington, and California, negatively impacting the economies of many local communities (Committee on Natural Resources, 2014). In response, the federal government passed the Secure Rural Schools and Community Self-Determination Act of 2000, which offset declines from timber payments to rural communities with other direct payments. Because these rural communities contain large swaths of federal forestland, they receive no taxes to support the municipal government and must instead rely on the federal government for support. This Act, renewed several times and most recently in 2013, has steadily reduced federal payments to these rural communities, leaving Congress with the need to find a more permanent solution to the economic problems facing these rural areas (Hoover, 2013).

The Restoring Healthy Forests for Healthy Communities Act, introduced in September of 2013, intends to "restore employment and educational opportunities in, and improve the economic stability of, counties containing NFS land, while also reducing Forest Service management costs, by ensuring that such counties have a dependable source of revenue" (H.R. 1526, 2013). Its sponsor, Representative Doc Hastings, represents several rural counties in Washington, where recent forest fires and decreasing timber revenues have plagued his constituents. For example, the recent Carlton Complex fire in Okanogan County, Washington, began in August 2014 and burned over 350,000 acres, destroying 300 buildings from Representative Hastings' district (Central Washington Fire Recovery, 2014). The bill has also received support from legislators in other similarly affected districts.

The Restoring Healthy Forests for Healthy Communities Act aims to tackle these two distinct challenges facing states and counties with large areas of National Forest land. Title I, "Restoring the Commitment to Rural Counties and Schools," intends to

reestablish the economic stability of counties containing federally-owned NFS land by harvesting timber through sustainable forest management practices. Each unit of the NFS must, if possible, designate a Forest Reserve Revenue Area (FRRA), an area in which at least 50% of the sustainable yield must be harvested annually. This would result in significant increases in annual timber harvests, where 25% of the revenues from federal timber sales and leases will be paid to local counties (H.R. 1526, 2013).

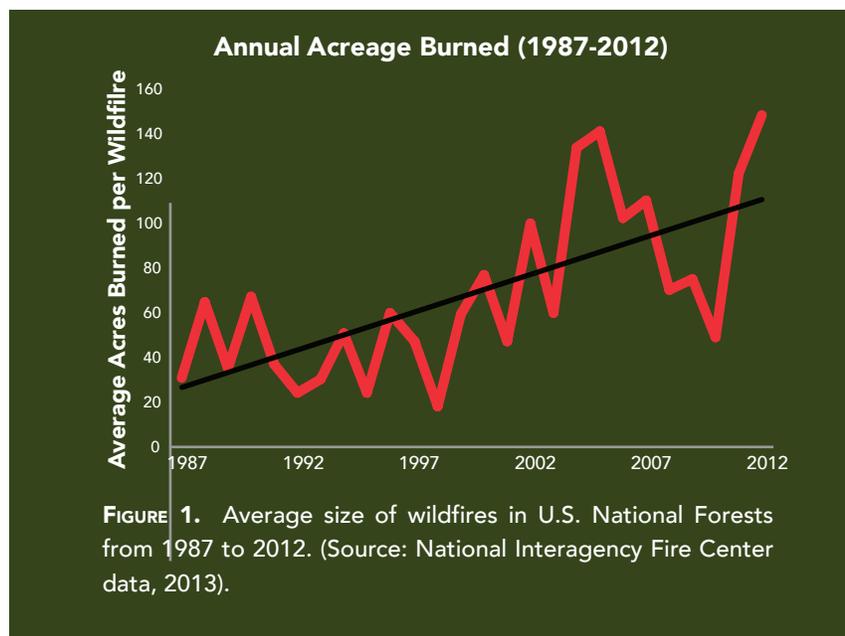
Title II, "Healthy Forest Management and Catastrophic Wildfire Prevention," develops policy to reduce the potential for wildfires on high-risk federal lands to protect communities and forest habitats, improve aquatic conditions, and restore landscapes through the restoration of forest ecosystems. The Secretary of Agriculture or of the Interior and state governors would gain the authority to require the implementation of forest health projects in at-risk forests and high-risk areas, respectively, and would diminish the risk of catastrophic wildfire while improving forest health conditions (H.R. 1526, 2013).

While Title I mandates several required activities and provides a strict timeline, Title II allows the Secretary and governors more discretion in its implementation. To reflect these differences, the design of the program proposed here includes the formation of two committees to assist in achieving the goals of the bill. Given Title I's deadlines, a Resource Advisory Committee (RAC) will be established in each of the 155 units of the NFS to expedite the establishment of annual volume requirements based on the forest unit's estimated sustainable yield. In comparison, any projects planned under Title II are entirely discretionary; if the Secretary or governors decide to institute a hazardous fuel reduction project, then a Forest Risk Management Committee (FRMC) will support any potential federal or state actions. This report further breaks down Titles I and II with distinct budgets, staffing plans, performance management systems, and master calendars.

BACKGROUND

CATASTROPHIC WILDFIRES

Although the number of wildfires in the United States has remained roughly constant over the past 25 years, the average number of acres burned in a single wildfire has increased substantially (Figure 1). A combination of vegetation overgrowth in federal forestland and the dry and warm conditions exacerbated by climate change has produced this recent rise in acreage burned (National Interagency Fire Center, "Total Wildland Fires and Acres", n.d.).



Strict wildfire suppression by the Forest Service began in 1910 after three million acres burned throughout Montana, Idaho, and Washington in only two days. Over 50 years of pursuing this policy in the United States led to the accumulation of hazardous fuel loads in dense forests that would otherwise have been eliminated through natural fire (The Forest History Society, 2013). These hazardous fuels include any type of flammable vegetation, either living or dead, including bushes, branches, trees, or other plant materials (Allen et al., 2002). Wildfires typically cease burning when they encounter a natural fire barrier and exhaust their fuel source; however, overgrowth in forests has reduced the extent of natural fire barriers, allowing conflagrations to burn over larger areas and reach abnormally high temperatures (MacDonald, 2010). Even natural barriers like bodies of water cannot prevent the spread of large wildfires; fires “jump” between canopies through wind-carried embers and ignite other trees from above (Allen et al., 2002).

In addition to overgrowth, the effects of climate change have exacerbated the conditions favorable to wildfires (Climate Change and Wildfire, 2012). Rising temperatures increase rates of evapotranspiration, or the movement of water from plant surfaces and soil into the atmosphere, and thus decrease available surface moisture. The resulting drier brush burns more readily and rapidly once ignited, with the result of catastrophic wildfires in the drought-stricken Western United States. Changes in precipitation patterns exacerbate conditions in these areas, where shifts toward warmer temperatures in the spring and summer have produced declines in average annual rainfall. In addition, the progressively early onset of warm weather in the spring affects the timing of snowmelt, which in turn can increase late-summer drought and the incidence of catastrophic wildfires (Westerling et al., 2006). A consideration of fires greater than 1,000 acres on federal forestland between 1972 and 2003 reveals that the most extensive and destructive occurred in years with early snowmelt. In comparison, fires in years with late snowmelt were few in number and extremely minor (Preisler and Westerling, 2007).

Forest fires contribute to climate change, which in turn aggravates the circumstances leading to forest fires. Living vegetation serves as a crucial sink for carbon dioxide, removing the gas and its heat-trapping potential from the atmosphere. Carbon uptake through sequestration in the planet’s forests average between 0.3 to 1.3 petagrams per year (Lorenz and Lal, 2010). In comparison, estimates of carbon emissions from wildfires are approximately 2.0 petagrams per year, a third of total global carbon emissions (Liu et al., 2014). Wildfires not only emit additional carbon dioxide, but they also simultaneously reduce the environment’s ability to sequester this gas from the atmosphere.

DECLINING TIMBER HARVESTS

A 1908 law required the Forest Service to provide 25% of timber harvest revenues to rural schools and counties that contain National Forest land, ensuring a continuous stream of funding in counties with small populations and limited tax bases. As the federal government does not pay local taxes, sharing timber harvest revenues provides critical funding for public education and other services and the maintenance of roads and other infrastructure (Restoring Healthy Forests for Healthy Communities, n.d.). These payments declined dramatically in the 1990s when timber harvests dropped

substantially on National Forest land. Economic conditions, combined with the efforts to protect habitat for endangered species, forced this drastic decline. Timber harvests in 1987, a peak year in the United States, reached over 12 million acres, but fell to around 2 million acres by 2000 (Fretwell, 2014). Annual timber harvests from federal lands have remained at this level since the turn of the century. The total value of timber harvested from federal lands followed a similar decline (Figure 2).

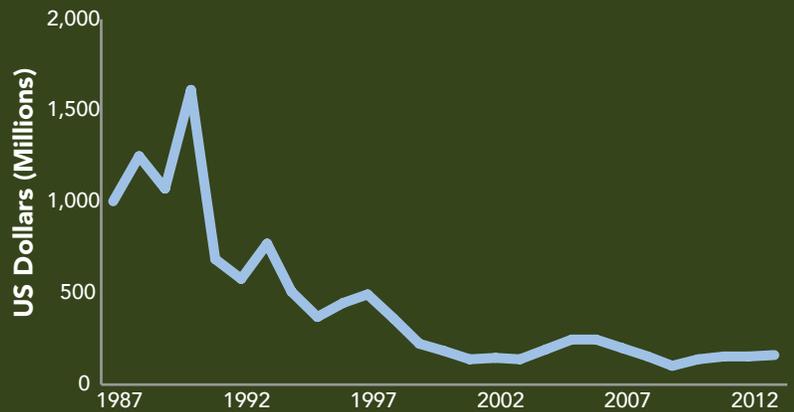


FIGURE 2. The value of timber harvested from NFS land from 1987 to 2013. (Source: U.S. Forest Service, 2013.)

Although the United States currently harvests approximately 25% of the world’s timber for industrial purposes, concerns over the population of the northern spotted owl prompted extensive timber harvest reductions in the Pacific Northwest (“U.S. Forest Facts and Historical Trends,” 2001). The listing of the owl on the list of endangered species in 1990 forced these declines throughout some of America’s most productive forestlands (Figure 3). A recent reevaluation by the U.S. Fish and Wildlife Service reported that the spotted owl should continue to be protected by federal legislation (“Endangered and Threatened,” 2012).

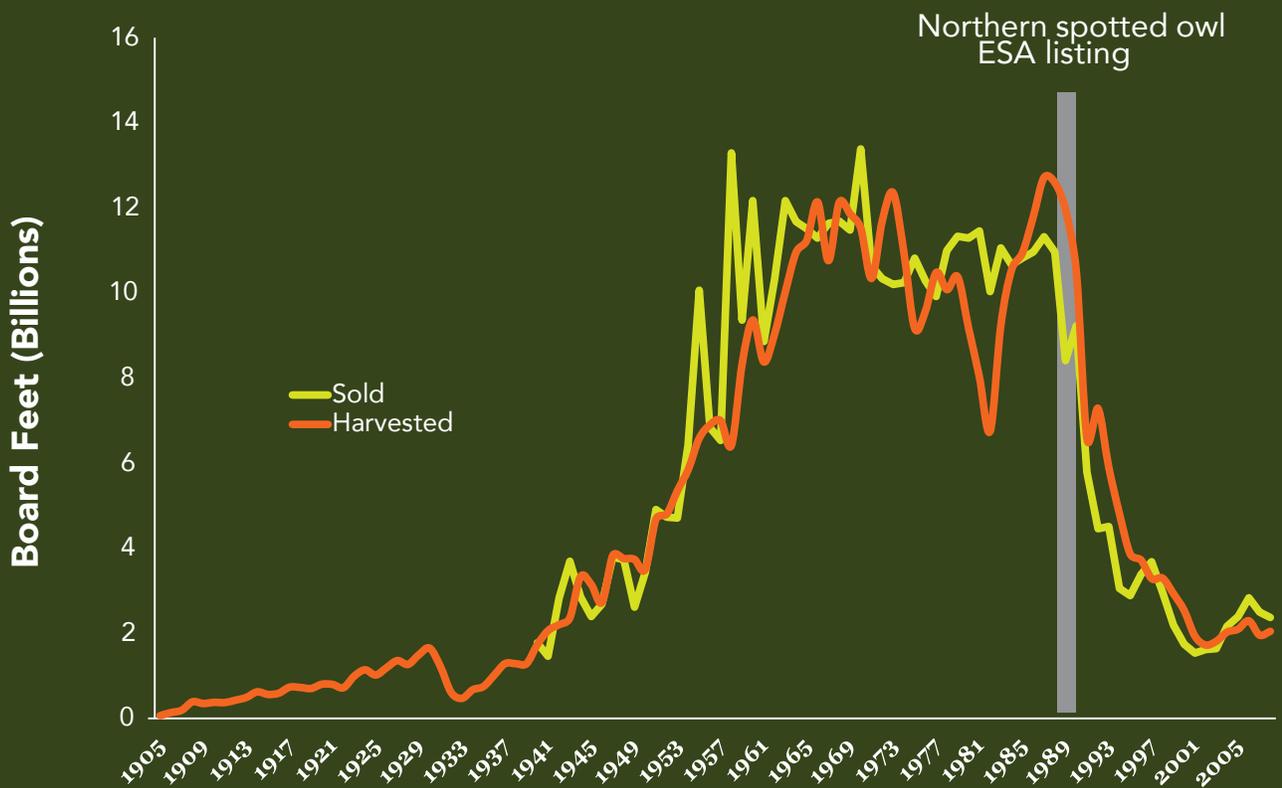


FIGURE 2. The timber sold and harvested in U.S. national forests between 1905 and 2010. Includes the addition of the northern spotted owl on the list of endangered species in 1990. (Adapted from EcoWest, 2013).

The Restoring Healthy Forests for Healthy Communities Act aims to return timber harvests to pre-1990 level in a sustainable manner. The annual maximum sustainable yield of timber constitutes the amount of timber that can be harvested yearly from a particular population without negatively impacting the population's long-term stability (Shifley, 2007). The most common sustainable harvesting practice involves removing older, lower-quality trees from the population to allow younger, healthier trees to grow more quickly. An alternative option clears all vegetation in an area through a silvicultural clearcut before planting new trees and waiting for those trees to grow to a marketable size (Virginia Polytechnic Institute and State University, n.d.).

LEGISLATIVE HISTORY

Representative Doc Hastings, the Republican Chairman of the Committee on Natural Resources and the sponsor of this bill, consolidated several proposed pieces of legislation to produce the Restoring Healthy Forests for Healthy Communities Act. These other bills included both H.R. 818 (Healthy Forest Management and Fire Prevention Act) and H.R. 1294 (Self-sufficient Community Lands Act) ("Oppose H.R. 1526", 2013). In this fusion of proposed legislation, Representative Hasting seeks to address two policy issues of particular importance to his own constituents in rural Washington: local economic problems and catastrophic wildfires.

Rural communities have received regular, but declining, payments from the federal government since 2000 due to consistent renewals of the Secure Rural Schools and Community Self-Determination Act of 2000. The federal government owns, but does not pay taxes on, large areas of forestland in many western states, preventing private economic development on that land. The Restoring Healthy Forests for Healthy Communities Act would address some of these counties' financial needs by increasing timber harvests in these forests to at least 50% of their sustained annual yield and requiring 25% of the revenues from these timber sales to return to their counties of origin. Increased timber yields would also boost local economies through the addition of 68,000 direct and 140,000 indirect jobs (Committee on Natural Resources, 2014).

The proposed Act claims that states manage forests more effectively than the federal government and concludes that states should therefore receive more management power in the NFS. Over the past several decades, states have harvested more timber and collected more revenue than the federal government despite relying on a much smaller area of forestland. (Committee on Natural Resources, 2014). The growing incidence of destructive wildfires has forced the Forest Service to transfer funds formerly dedicated to forest restoration projects to fire suppression, thus reducing the Forest Service's efforts to prevent future fires (Healy, 2013). In contrast, state governments can spend more money on forest management with the dual effect of decreasing the likelihood of catastrophic wildfires and harvesting more timber for sales (House Subcommittee on Public Lands and Environmental Regulation, 2013).

RELATED LEGISLATION

The Restoring Healthy Forests for Healthy Communities Act would compromise several of the environmental protections established by the National Environmental Policy Act

of 1970 (NEPA). Projects in FRRAs, the areas of a national forest designated for timber harvesting, would not need to satisfy traditional NEPA requirements like providing for public input, completing environmental assessments, and proposing project alternatives (Kootenai Environmental Alliance, 2013). In addition, the bill would exclude any projects responding to a catastrophic event, reducing hazardous fuels or restoring forest health, or occurring on fewer than 10,000 acres from the NEPA requirement for an environmental assessment. Given the potentially wide scope of these exclusions, almost any project could be designated as meeting one of these criteria and would therefore become exempt from any assessment obligation under NEPA. Those projects not excluded would be limited to a 100-page environmental assessment report that must be submitted within 180 days of the project proposal. Furthermore, courts may not issue restraining orders or injunctions against projects under allegations of procedural violations in selecting, planning, or analyzing the project (H.R. 1526, 2013).

The proposed bill also affects the protections granted by the Endangered Species Act of 1973. Even if a project would actually negatively impact an endangered or threatened species, the Secretary of Agriculture must produce a written declaration that the project would not jeopardize the species. The Fish and Wildlife Service or the National Marine Fisheries Service then have thirty days in which the agencies can provide a written response challenging the Secretary of Agriculture's assertion. If the Forest Service's determination is deemed incorrect, then the wildlife agencies must offer recommendations within ninety days that would allow the timber harvest projects to continue without harming the endangered species. The short timeline allowed for the wildlife agencies to respond to the Forest Service's planned projects, particularly because the Secretary of Agriculture must declare every project harmless to endangered species regardless of its actual consequences, may place threatened species in further danger (H.R. 1526, 2013).

ISSUES AND POLITICAL BACKGROUND

The political tension surrounding the proposed Restoring Healthy Forests for Healthy Communities Act stems from a variety of factors including forced timber quotas, conflict with current environmental legislation, judicial review issues, and state influence in federal land management.

Title I of the bill mandates the determination and harvesting of an annual volume requirement that constitutes at least 50% of the sustained yield for each of the 155 units of the NFS (H.R. 1526, 2013). Sustained yields represent the amount of timber that can be extracted annually and indefinitely without a reduction in either the quantity or quality of the timber. Conservative estimates can reduce the risk of estimating yields improperly, which can produce declines in forest health over time. However, timber quotas will force the Forest Service to cut a fixed amount of timber every year without regard to the impact of potential local natural disasters such as wildfires, droughts, or pest infestations (Shifley, 2007).

In addition, the bill would override both traditional judicial review practices and the necessity of environmental impact assessments according to NEPA. The implementation of any timber harvesting or hazardous fuel reduction project will prove extremely difficult to terminate once the project is planned. Any plaintiff must also post

an up-front bond paying for all anticipated defense costs, effectively limiting most judicial review. The bill has deemed the development of alternative options as typically required under NEPA unnecessary, further complicating any efforts by the public to influence these projects (H.R. 1526, 2013).

Finally, in a radical departure from historic management of public forests, the bill would allow state involvement in the management of federal forestlands. The Restoring Healthy Forests for Healthy Communities Act is consistent with longstanding Republican policy of devolving federal powers to the state level. However, its passage could encourage the introduction of a barrage of similar bills intended to subvert federal control, prompting substantial concerns from a variety of interested parties (Executive Office of the President, 2013).

OPPOSITION AND SUPPORT

Supporters of H.R. 1526

The bill passed in the Republican-controlled House of Representatives, primarily along party lines, although 17 Democrats also voted in favor of the bill (Office of the Clerk, 2013). Many counties and municipalities back the bill, along with several organizations related to land management or the timber industry, such as the American Forest and Paper Organization and the National Cattlemen's Beef Association, who serve to gain from its passage. Because the bill would raise revenues for rural counties and spur development of the logging industry, supporters claim that transferring management responsibilities to the states would prove most effective in reducing both economic and environmental concerns (Committee on Natural Resources, 2014).

Opponents of H.R. 1526

Although the Senate has not voted on the bill, the White House has already issued a statement that President Obama will veto the bill if it reaches his desk because it threatens to undermine significant existing environmental legislation and subverts federal management of federally-owned lands (Executive Office of the President, 2013). Additionally, a coalition of environmental groups including the Sierra Club, Earthjustice, and the Wilderness Society oppose the bill, primarily due to its limits on judicial rulings and reduction of environmental oversight by exempting portions from NEPA's standard requirements (Albersworth, et al., 2013). Furthermore, difficulties in calculating a sustained yield or determining forest health metrics may actually degrade the environment by negatively affecting local wildlife and air and water quality (Albersworth, et al., 2013).

UNRESOLVED ISSUES AND CHALLENGES

When designing program options for the Restoring Healthy Forests for Healthy Communities Act, policymakers must clearly distinguish the institutional authority of the federal and state governments. Under the provisions of the Act, state governors and the Secretary of Agriculture can implement hazardous fuel reduction projects in high-risk areas and at-risk forests, respectively. The precise activities that these policymakers can

authorize for each of these types of regions must be clarified to ensure the bill's effective implementation. In addition, policymakers must define an assortment of terms, including "sustainable yield," "at-risk forest," "high-risk area," "catastrophic event," and "bark beetle epidemic," as well as determine how and how often to measure these terms. Precise, measurable definitions of these terms will prove necessary for the bill's implementation because the Secretary of Agriculture or governors will be able to institute projects based on whether conditions in federal forestlands match the designated definitions. For example, the bill declares that "catastrophic event" indicates any event including fire, insect infestation, destructive disease, weather condition, or natural disaster that "may cause or has caused substantial damage to National Forest System land or natural resources on National Forest System land" (H.R. 1526, 2013). A loose definition of "substantial damage" would thus allow for more intervention on the part of state or federal agencies than a strict definition.

The Secretary of Agriculture's ability to override the restrictions currently in place due to the Endangered Species Act may also prove to be a challenge to the bill's implementation. Title I of the bill mandates the determination of an annual volume requirement within ninety days for all 155 units of the NFS. Once determined, timber harvesting will begin as soon as possible. Upon the commencement of these harvesting projects, the Fish and Wildlife Service or the National Marine Fisheries Service have only ninety days to respond to concerns that endangered species may be jeopardized by the harvesting projects (H.R. 1526, 2013).

Furthermore, the legislation claims that the implementation of grazing, thinning, and harvesting practices would decrease the risk of catastrophic wildfires by reducing potential fuel loads. However, all of these practices can also have negative effects on forest health if not properly managed. Moderate grazing effectively lowers the probability of catastrophic wildfires, but overgrazing can expose soil to rainfall, increase soil erosion, and degrade local water sources (Davies et al., 2010; Hoorman and McCutcheon, 2005). Rapidly developing crown fires can still spread easily if forest managers do not remove thinned branches from the forest floor ("Effects of Thinning," 1999). Thinning can also harm trees, reducing their ability to fend off disease and pests such as bark beetles, potentially further contributing to the spread of wildfires (Agee and Skinner, 2005). Timber harvesting can produce fuelbreaks, or areas with few hazardous fuels to halt wildfires, but the heavy machinery required to harvest increases erosion rates and disrupts local ecosystems (Agee et al., 2000; Sierra Forest Legacy, 2012). Therefore, grazing, thinning, and timber harvesting are viable options to reduce the risk of catastrophic wildfires, but they must be properly managed to prevent forest degradation.

PROGRAM DESIGN

In order to successfully implement the proposed Restoring Healthy Forests for Healthy Communities Act, a program design needs to be established such that proper administration and management of the legislation's requirements will be realized. While the first title of the bill has more economic goals, its underlying program design is to increase timber sales contracts in order to generate revenues for local counties containing NFS land. The second title, which does not use language that mandates

certain actions but rather permits specific authorities, has objectives to improve the health of forestlands through the implementation of hazardous fuel reduction projects. This will be done by the state and federal designations of at-risk forests or high-risk areas, resulting in grazing, timber harvesting, and timber thinning activities.

TITLE I: RESTORING THE COMMITMENT TO RURAL COUNTIES AND SCHOOLS

Purpose

Title I aims to improve the economic conditions of counties containing federally-owned NFS land by harvesting timber through sustainable forest management practices. This could simultaneously protect forest resources and potentially reduce Forest Service management costs.

Legislative Structure

The proposed legislation mandates that the Secretary of Agriculture perform various activities in order to provide a dependable source of payments derived from timber sales to local counties containing NFS land. At least one FRRRA must be established within each unit of the NFS no later than 60 days after the enactment of the bill. In addition, an annual volume requirement establishing the minimum amount of timber to be harvested from each FRRRA must be determined no later than 30 days after the establishment of the FRRRA. Finally, the Secretary of Agriculture must manage the FRRRA in the manner necessary to achieve the annual volume requirement (H.R. 1526, 2013).

Program Design

A RAC shall be formed within each unit of the NFS to assist the Secretary of Agriculture in the performance of the activities mandated by the proposed legislation. The Chief of the Forest Service will advise the Forest Supervisors, who work at the forest-unit level of the Forest Service, to commence the selection of the RAC at the date of the legislation's enactment. Each RAC will include three members: the Forest Supervisor, a forest scientist, and an industry representative. The latter two posts shall be served on a pro-bono basis, and criteria for these positions are as follows:

Forest Supervisor: As a Forest Service employee, this position oversees the duties of District Rangers who will assist in the establishment of FRRAs and calculation of annual volume requirements in each unit of the NFS.

Forest scientist: Representative of the science community who, at a minimum, holds a Doctor of Philosophy degree in wildlife biology, forestry, ecology, or related field and has published peer-reviewed academic articles in the representative's field of expertise.

Industry representative: Forestry and/or wood products member who represents the commercial timber, wood products, or milling industries and who represents a company based in or near the NFS unit.

Because the NFS currently has 155 units, 155 RACs will be formed within 15 days of the enactment of the proposed legislation. A 15-day public comment period will open following the formation of each RAC, during which concerned citizens and other

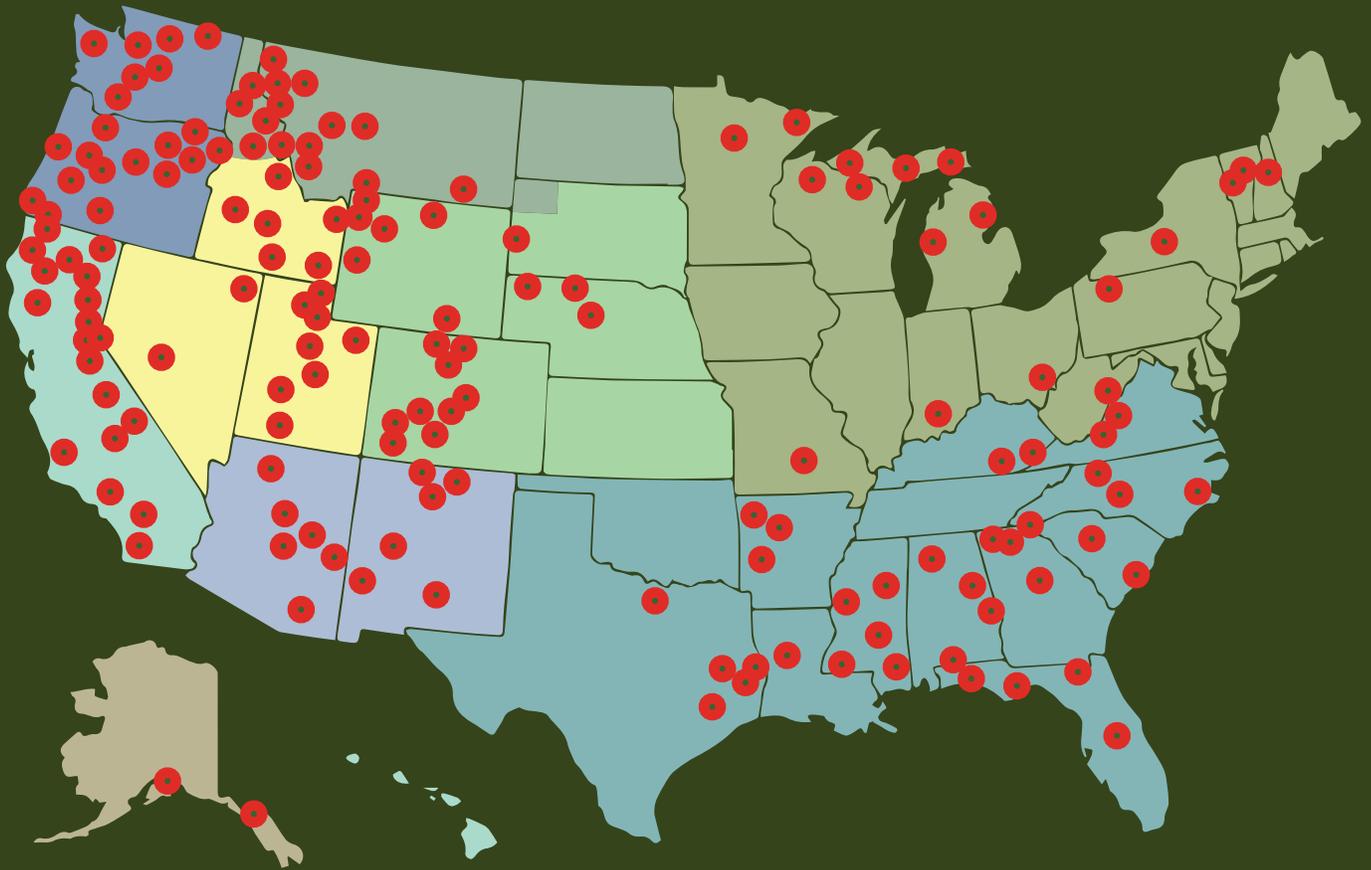


FIGURE 4. A map of each of the 155 units of the NFS. Each of these red dots represents a unit for which a RAC will be formed. The shading in the map reflects the nine regions of the NFS. Average size of wildfires in U.S. National Forests from 1987 to 2012. (Source: National Interagency Fire Center data, 2013).

interested parties will be allowed to comment on forest management issues on the national forest lands, including the boundaries of the FRRAs and the size of the annual volume requirement.

Within 60 days of the bill's enactment, each RAC must establish an FRRAs for each unit of the NFS (Figure 4). In order to determine both the boundaries of the FRRAs as well as the sustainable yield, the RAC will rely on information from District Rangers and Forest Technicians regarding multiple forest features, including forest population demographics, timber productivity, and density. In addition, the forest scientist in each RAC will be expected to provide commentary and further recommendations on any pertinent ecological or biological issues. The timber industry representative must similarly provide an assessment of the economic potential of the forest unit based on market expertise. These recommendations must be received within this initial 90-day period, as the Secretary of Agriculture and the administrators of the Forest Service will depend on the RACs for organization, communication, and collaboration among various parties to ensure the establishment of FRRAs and the proper calculation of their annual volume requirements. Once determined, the Regional Foresters will review each RAC's work before its approval by the Chief of the Forest Service and, in turn, the Secretary of Agriculture.

The final mandate of Title I requires management of the FRRAs to achieve their annual volume requirements. Timber leases are expected to rise as timber harvesting increases throughout the national forests, and after a five-year period, RACs will perform analyses to determine if the original volume requirement is appropriate in terms of forest health, ecological sustainability, and timber harvest capacity. The sustainable yield of each individual forest can be modified to better meet these goals, although the legislation states that the boundaries established by the original FRRAs cannot be reduced.

STAFFING PLAN

The Forest Service is a federal agency that manages public lands in national forests and grasslands, as well as other congressionally designated areas. The mission of the Forest Service is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations ("About the Agency," n.d.).

The actions mandated by the Restoring Healthy Forests for Healthy Communities Act are consistent with traditional Forest Service operations; therefore no high-level staff augmentation or reorganization efforts are foreseen as necessary. Rather, there will be a significant augmentation of staffing levels at the regional and local levels throughout

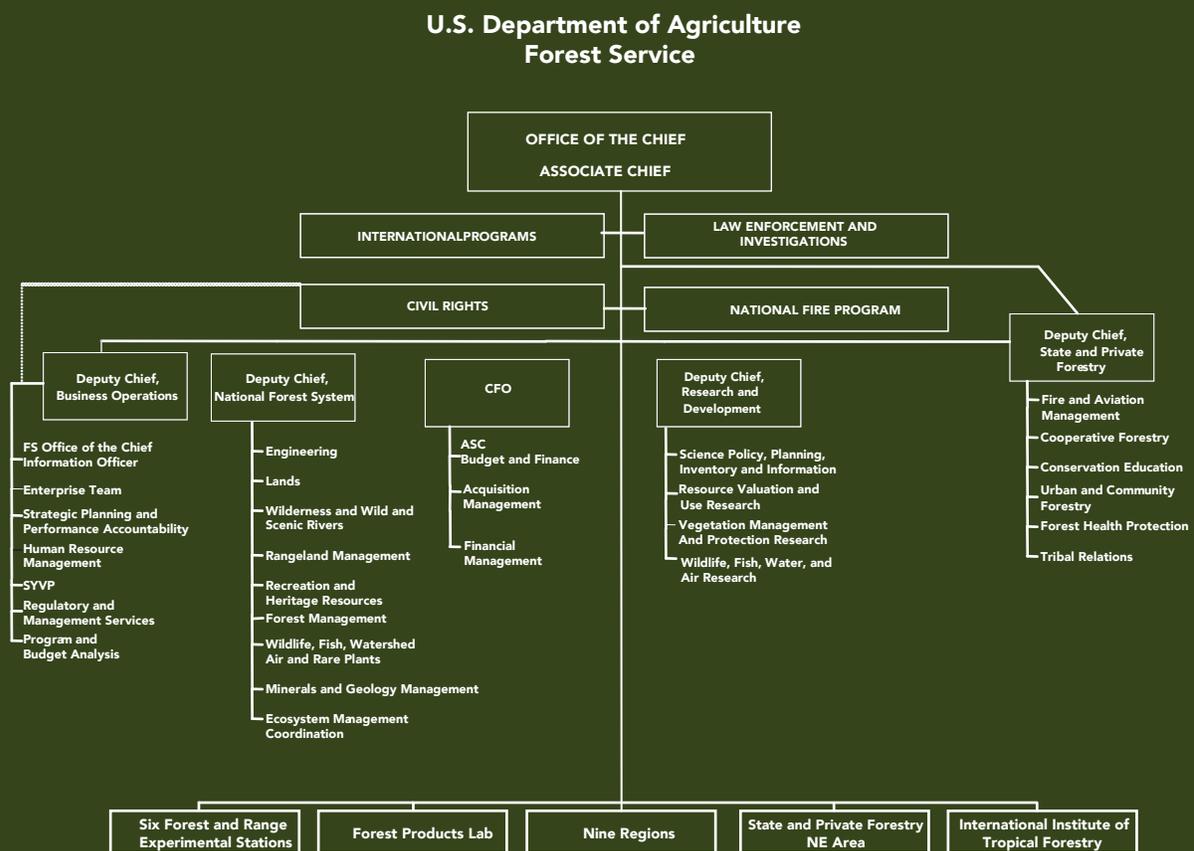


FIGURE 6. The organizational chart of the Forest Service, with the nine regions of the NFS falling under the responsibility of the Office of the Chief of the Forest Service. (Source: "USDA Forest Service Organization Chart." Chart. USDA Forest Service. USDA Forest Service, n.d. Web. 20 Nov. 2014.).

the U.S. to accommodate the increase in timber harvests.

Under the Restoring Healthy Forests for Healthy Communities Act, projected timber harvests will more than double from present levels in order to meet the mandated 50% of the maximum sustained yield (National Forest Service, 2013). In 2013, approximately 2,400 million board feet (MMBF) were harvested from timber leases throughout the NFS. This number is expected to rise to about 6,300 MMBF upon the bill's implementation, based on an existing analysis of the maximum sustainable yield throughout the System (National Forest Service, 2013). The NFS must hire additional forest management staff (primarily forest technicians) and wildland fire management staff to accommodate the extra administrative tasks associated with timber harvests. However, given the uncertainty of the exact expansion of timber lease sales, it is difficult for Forest Service employees to determine what additional staffing levels would prove necessary. Using a conservative estimate given projections made for possible expansion scenarios by Allen Hahn, current employee of the Forest Service, forest management staff and wildland fire management will likely increase by 50%, although this percentage may vary between regions or units of the NFS. Furthermore, Hahn notes that there is no direct correlation between people and output, further complicating efforts to determine future staffing levels (Hahn personal comment, 2014). Although most of the labor required to harvest timber will be provided by the lease holders, additional employees within the Forest Service will be required to manage the timber lease contracts and provide other forest and fire management activities.

The proposed program design for the bill relies on increases in Forest Service staff serving in various units of the NFS, State and Private Forestry, and the nine Forest System Regions around the country. These units collectively accounted for 47% of full-time Forest Service employees in fiscal year 2013 ("Fiscal Year 2015 Budget Justification," 2014). The design presented here anticipates staffing levels changing most in forest management operations with regard to timber contracts, as well as for hazardous fuel reduction projects, which are discussed further in the staffing outline for Title II. Forest management operations have evolved and expanded over the past several decades to include forest landscape restoration, land management planning, inventory and monitoring, and wildlife and fisheries habitat management ("What We Do," n.d.). Guided by law, regulation, and agency policy, Forest Service forest managers use timber sales, as well as other vegetation management techniques such as prescribed fire to achieve these objectives ("About the Agency," n.d.). Currently 20% of employees work in forest management at the local, state, regional and national levels (Table 1).

Staff augmentation at the forest level will be necessary given the prescriptions for managing the Revenue Areas and achieving annual timber volume requirements. The Forest Supervisor will determine the appropriate staffing changes needed within the forest unit he or she oversees. Augmented staff will ensure the facilitation of changes in timber production levels based on the RAC's recommendations. Given the diversity of forests throughout the System and the wide range of anticipated impacts on timber production, some national forests may experience a much greater need for staffing increases than others. For example, the Rogue River Siskiyou National Forest in Oregon will experience a six-fold increase in timber production and may require a similar increase in staffing needs. In contrast, Beaverhead-Deerlodge National Forest in

Forest System-Wide	FY 2013	Projected - x150%	Difference
State and Private Forestry			
Forest Health Management – Federal Lands	264	396	132
Forest Health Management – Cooperative Lands	72	108	36
Forest Stewardship	60	90	30
TOTAL State and Private Forestry Staff	396	594	198
National Forest System (NFS)			
Collaborative Forest Landscape Restoration	238	357	119
Land Management Planning	263	394.5	131.5
Inventory and Monitoring	969	1453.5	484.5
Grazing Management	420	630	210
Forest Products	2704	4056	1352
Vegetation and Watershed Management	1390	2085	695
TOTAL National Forest System Staff	5984	8976	2992
TOTAL Forest Health Management Staff			3200
Wildland Fire Management			
Preparedness	6968	10452	3484
Hazardous Fuels	1834	2751	917
Forest Health Management – Federal Lands	83	124.5	41.5
Forest Health Management – Cooperative Lands	23	34.5	11.5
TOTAL Wildland Fire Management Staff	8908	13362	4454
TOTAL Fire Management Staff			4500
FS Staff from above departments only	15288	22932	7700
TOTAL FS Staff from above and other departments	32805	49207.5	16402.5

TABLE 1. Staffing levels in FY 2013 and as projected under the bill of positions within State and Private Forestry, NFS, and Wildland Fire Management, relevant to achieving the objectives of the Restoring Healthy Forests for Healthy Communities Act (USDA Forest Service 2014; National Forest Service, 2013).

Montana currently harvests more than the minimum mandated by the bill, so staffing levels at this forest may not change (National Forest Service, 2013).

According to forest plans current to the year 2012, the total sustainable yield of all national forests in the NFS is 12,524 million board feet (National Forest Service, 2013). Based on the mandated minimum of at least 50% of the sustainable yield being harvested, the Forest Service faces an increase in total volume of timber coming out of Forest System lands by more than double current harvest levels. This amounts to at least 6,261 million board feet. The figures in Table 1 reflect the projected volume increase as a measure of comparison for scaling current Forest Service-wide employment figures to what is anticipated under the bill. The staffing figures calculated are extrapolations, with economies of scale factored into the calculations. These calculations are merely intended to provide a rough estimation, as each Forest Supervisor will make the staffing decisions at the forest unit level. Staffing levels will also depend upon the determinations established by the Secretary as to the Revenue Area boundaries within each forest unit and the timber volume requirement of each specific area.

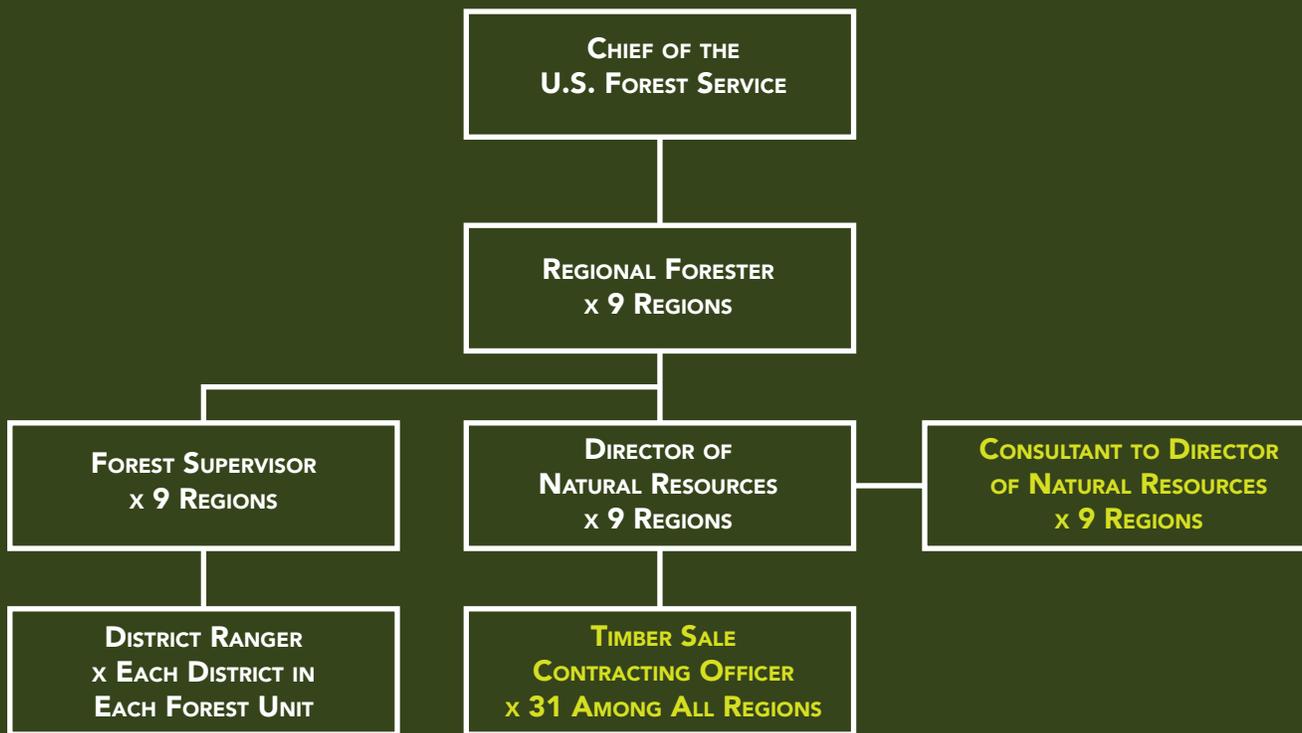


FIGURE 7. Staffing chart for the Forest Service with the new positions Consultants to the Regional Forester and Assistant to the Regional Forester highlighted. The Chief of the Forest Service supervises nine Regional Foresters, who in turn supervises 155 Forest Supervisors, one for each of the units of the National Forest.

Under the program design, the following positions will require new responsibilities in order to achieve the mandates of Title I (Figure 7):

Forest Supervisors

Under the bill, Forest Supervisors will oversee the recruitment and appointment of members of the RACs specific to the forest unit under their jurisdiction. The Forest Supervisors will convene the first committee meeting to determine available and needed information for establishing FRRRA boundaries and annual volume requirements. In coordination with the other RAC members, the Forest Supervisors will initiate outreach for public comment through relevant media channels. The Forest Supervisors will coordinate with District Rangers to provide guidance in the designation process and facilitate input from any other stakeholders (NGO’s, trade groups, etc.) deemed relevant by committee members. In collaboration with the other members of the RAC, the Forest Supervisors will lead the compilation of all inputs, make the final proposal of FRRRA boundaries, and issue a statement of the committee’s recommendations up the chain of command to the Regional Office within the mandated 60 days. In addition, the Forest Supervisors will be responsible for ensuring the RAC’s adherence to the timeline in determining the annual volume requirements and submitting those determinations to the Regional Office. The Forest Supervisor will organize and annually convene the RAC for review of the annual volume requirements and pertinent management actions needed to achieve those requirements.

District Rangers

New responsibilities of District Rangers under the bill include providing consultation

regarding FRRA designations and evaluating annual volume requirements of FRRA lands within their districts. This may include identifying appropriate staff members to support the evaluation process and/or presenting information to RAC meetings. Once the RAC's recommendations have been issued, the District Rangers will oversee changes in management structure to deliver on those plans.

Consultant to the Regional Forest Manager

A new position must be created in each region of the NFS to assist the Secretaries in the review of recommendations provided by the RACs regarding the Revenue Areas and establishment of sustainable yields. The Consultant to the Regional Forest Manager will be a temporary 3-month position designed to aid in the review of Revenue Area boundaries and sustained yield proposals under the strict timeline of the bill. In addition, this design calls for the addition of Timber Sale Contracting Officers, a position that currently exists at the regional level within the Forest Service. These employees are responsible for aiding in contracting, administration, and supervision of increased timber lease sales. Since the smallest region (Region 4) harvests 361 MMBF, only one additional Timber Sale Contracting Officer will be hired to assist operations in this area. Region 2 (378 MMBF) and Region 10 (365 MMBF) will also receive only one additional Timber Sale Contracting Officer. Other regions, however, will receive an amount of Timber Sale Contracting Officers proportional to the size of their projected sustainable timber harvest yield, so that each 400 MMBF increment of potential harvest warrants an additional officer. This guideline is based on an estimated amount of work to be done in regions with large quantities of timber, and tries to incorporate economies of scale in its approximation. As a result, the 9 regions of the NFS will hire 31 Timber Sale Contracting Officers in total, to be allocated as shown in Table 2 (National Forest Service, 2013).

Region	Sustainable Harvest Yield Size (MMBF)	Additional Timber Sale Contracting Officers (based on 50% of Sustainable Yield)
1	1,955	5
2	378	1
3	957	2
4	361	1
5	1,546	4
6	4,082	10
8	1,679	4
9	1,201	3
10	365	1

TABLE 2. Hire of Additional Timber Sale Contracting Officers in NFS Regions, based on National Forest Service "Land suited for timber production" data. Region 7 no longer exists, as it has merged with Region 9.

BUDGET

Revenues:

In order to estimate a realistic rise in the total volume of timber sold, the 2013 level of timber harvested (2,400 million board feet) was multiplied by 2.61, which is the projected increase in timber harvests based on the 50% of the sustainable yield of each forest (National Forest Service, 2013). Using these figures, approximately 6,300 MMBF will be sold annually after the implementation of the bill. These 6,300 MMBF are assumed to sell for \$59 per MBF (thousand board feet), which was the timber lease sale price for the year 2013 ("Cut and Sold Reports", USDA Forest Service, 2014). At this price, the total value of timber sold after implementing the bill would reach approximately \$372,000,000 annually.

	Timber Sold (MMBF)	Timber Price per MBF (USD)	Value of Timber (thousands USD)
2013	2,400	59	142,000
Future	6,300	59	372,000

TABLE 3. Approximate revenues from the enactment of Title I of the Restoring Healthy Forests for Healthy Communities Act

Costs:

Salaries for both forest management and wildland fire management staff range from under \$30,000 per year to approximately \$69,000 per year in the Forest Service (USAJOBS, 2014). These positions include individuals who conduct fieldwork such as timber stand improvement employees and forest management apprentices as well as supervisors like timber sale administrators. Based on anticipated increases in timber lease sales and forest management needs, staffing levels must also grow, with the addition of more low-level than high-level positions anticipated. Given the variety of staffing changes in the many individual offices, for budgetary purposes, new staff in forest management and wildland fire management are estimated to earn the average Forest Service salaries for these types of positions, or \$45,000 per year. Based on projections of an additional 3,200 forest management staff and 4,500 wildland management staff, these new positions will annually cost approximately \$144,000,000 and \$202,500,000, respectively. To account for fringe benefits of such employees, 50% was added to each annual salary, which is a percentage typical of fringe benefits in the federal government (Project Manager, 2014). This will cost an additional \$72,000,000 annually for forest management staff, and an additional \$101,250,000 annually for wildland fire management staff.

The Consultants to the Deputy Forest Manager positions are 3-month contracts with salaries of \$5,500/month, consistent with competitive consultant salaries and other similar Forest Service employees ("Consultant Salary", 2014; USAJOBS, 2014). For all 3 months and across all 9 regions, this will cost about \$148,500 for the first year of the program before the position becomes obsolete. An additional \$297,000 has been allocated in year one to account for fringe benefits for these positions, based on typical federal government consultant benefit rates of 200% (Project Manager, 2014). The

Timber Sale Contracting Officers are assumed to receive the average of the salary range for this position, or approximately \$80,000, as some employees will start at a lower pay grade, while others with more experience will start at a higher pay grade (USAJOBS, 2014). Adding 31 permanent Timber Sale Contracting Officers across the 9 regions will carry an annual cost of approximately \$2,480,000. Fringe benefits for these employees have been estimated at 50% of annual salary as is typical in the Federal Government, and thus will cost the program \$1,240,000 annually for all Timber Sale Contracting Officers (Project Manager, 2014). In addition, each RAC will receive \$1,000 annually for the purposes of transportation, administrative, or other costs for meetings.

Payments to Beneficiary Counties:

Title I's primary motivation is to address recent reductions in local counties' incomes from the federal government through increased annual timber harvests and the return of 25% of the revenues from federal timber sales to local counties. The estimated projection of approximately \$372,000,000 in timber sales would mean a revenue sharing from timber lease sales of about \$93,000,000. This is an increase of approximately \$53,000,000 from 2013 levels.

Knutson-Vandenberg Fund:

The text of the Restoring Healthy Forests for Healthy Communities Act specifies that after the appropriate funds have been allocated to beneficiary counties, forest reserve

Item	Year 1 Cost Only	Annual Cost per Individual	Number of Positions to be Added	Total Cost: Year 1	Total Annual Costs: Years 2-5
Forest Management Staff		45,000	3,200	144,000,000	144,000,000
Forest Management Staff Fringe Benefits (50%)		22,500	3,200	72,000,000	72,000,000
Wildland Fire Management Staff (preparedness and hazardous fuels)		45,000	4,500	202,500,000	202,500,000
Wildland Fire Management Staff Fringe Benefits (50%)		22,500	4,500	101,250,000	101,250,000
Consultant to the Regional Forester (3 months)	16,500		9	148,500	
Consultant to the Regional Forester Fringe Benefits (200%)	33,000		9	297,000	
Timber Sale Contracting Officer		80,000	31	2,480,000	2,480,000
Timber Sale Contracting Officer Fringe Benefits (50%)		40,000	31	1,240,000	1,240,000
Operational Costs- RACs		1,000	15	15,000	15,000
Payments to the Knutson-Vandenberg Fund	86,000,000			86,000,000	
Payments to beneficiary counties (25% of timber lease revenues)		93,000,000		93,000,000	93,000,000
Total:				702,930,500	616,485,000

TABLE 4. Approximate costs from the enactment of Title I of the Restoring Healthy Forests for Healthy Communities Act.

revenues will make payments to the Knutson-Vandenberg Fund in amounts equal to those otherwise allocated from previous acts ("Restoring Healthy Forests", n.d.; H.R. 1526, 2013). This fund allocates timber revenue payments to reforestation activities as well as for other activities such as road building. This budget report includes payments to the Knutson-Vandenberg Fund at approximately the level of funds appropriated by the President's FY 2015 budget for the Forest Service. This equals \$86,000,000 and is only included in year one, considering that following the first year, it is possible for the payments being made to the Knutson-Vandenberg Fund to be used directly for projects concerning timber sale infrastructure, which is also part of the proposed budget. Accordingly, these payments can simply be categorized as operational costs post-year one ("Fiscal Year 2015 Budget Justification," 2014).

PERFORMANCE MANAGEMENT

In order to ensure consistent and sustainable timber harvests, the bill mandates the establishment of Revenue Areas and annual timber volume requirements. An important metric of success for this legislation will be whether, within 60 days, there are 155 FRRAs (one in each unit of the NFS) and that, within 90 days, each has an annual volume requirement, as mandated by the legislation.

The Forest Service currently measures the timber harvests of all 155 units of the NFS and compiles this data into "Cut and Sold Reports" which are collected on a quarterly basis and then aggregated by region ("Cut and Sold Reports," 2014). Forest Supervisors can determine if the annual volume requirement is met every year by comparing the data on timber harvests against the annual volume requirement. If the timber harvests fall below the requirement, then the Forest Supervisors, in collaboration with the RAC, will assess the reasons why and will advise on future forest management decisions.

In addition to timber harvests, the Forest Service tracks payments made to counties that contain NFS land ("Payments and Receipts," 2014). The return of 25% of timber harvest revenues to local counties would replace the Secure Rural Schools and Community Self-Determination Act, which currently makes payments to counties that contain federal land. As the payments transition to funds drawn from timber revenues, the Forest Service will continue to track the timber revenues sent to counties, just as it does now for federal payments. The amounts received will be compared to the cut and sold reports to ensure that they equal 25% of the revenues from the relevant forest unit and county.

Success of the RACs will be measured principally on their formation and completion of mandated tasks. Successful implementation of the bill will require all 155 forest units to have established a RAC within 15 days of the bill's implementation, and then subsequently establish a Revenue Area and determine an annual volume requirement within the structured timeline. Going forward, the success of each RAC will be based on the performance of its FRRRA (achieving the annual volume requirement) and its efficacy in oversight of timber sales and operations (mostly performed by the Forest Supervisor). For example, Forest Supervisors will look to see that they meet annually, are available when needed, and produce any outputs mandated by the Secretary.

Measuring mandated actions and evaluating the program elements that complete those actions is not the only consideration in the implementation of the bill. In addition, Forest Service staff must consider forest health, particularly because the bill requires timber harvests based on sustainable yield. Forest health must be actively monitored and reported on to determine the impact of activities and inform future decisions. The Forest Service currently measures a myriad of indicators to measure forest health, which are detailed in their Forest Inventory Analysis Program (Stolte, 2002) and are listed below:

- Soils
- Plant impacts
- Streams
- Water Quality
- Stream bank stability
- Water temperature
- Amount of bare soil versus vegetation
- Soil erosion characteristics
- Amount of invasive species versus native species
- Tree species, size, and health
- Wildlife habitat
- Total tree growth
- Tree mortality
- Removals by harvest
- Soil compaction and rutting
- Wood production and utilization rates by various products
- Tree crown conditions
- Lichen community composition
- Coarse wood debris
- Ozone injury

In addition to measuring these indicators, the Forest Service also compiles them and maintains a Forest Inventory and Analysis program ("Forest Inventory and Analysis," 2014). This program tracks both local and regional measurements, then issues reports to Regional Foresters on forest health across the NFS. The Forest Service will use these reports to assess forest health in the units. Specifically, they will use the measurements to see the impact of projects undertaken as a result of the legislation. Monitoring, reporting, and acting in such a way is what the Forest Service refers to as "adaptive management" ("Forest Inventory and Analysis," 2014).

MASTER CALENDAR

As there is a strict mandated timeline for the designation of FRRAs and annual volume requirements, in order to allow ample time for review throughout the forest system chain of command, the program design advises that the Forest Reserve Revenue Areas be submitted for regional review no later than the 45 days after the initiation of the Act. Once the proposals are submitted, the Regional Forester will review them, recommended alterations if necessary, and subsequently approve the plan and submit it to the Chief of the Forest Service for review and approval.

Upon approval of the Revenue Area boundaries, the bill mandates that the Secretary of Agriculture designate an annual volume requirement that must be harvested annually in each area. This action must be completed no later than 30 days after the Revenue Area has been established. The process for the development of the annual volume requirement follows the same general process as the Revenue Area. Proposals will be submitted by the RACs, reviewed by the Regional Forester, and approved by the Chief of the Forest Service.

The stringent timelines of Title I require that a large amount of work be completed in little time. This could prove quite taxing on the Regional Foresters responsible for reviewing proposals for all FRRAs and annual volume requirements in each of the forest units under their jurisdiction. The program design entails the hiring of Consultants to the Regional Forester for each region for a contract period of three months to assist in the review of the Revenue Areas and annual volume requirement proposals.

Additionally, implementing the recommendations of the RACs will likely require increased staffing levels in each of the forest units, particularly pertaining to timber contract management. Once Revenue Areas and annual volume requirements have been established, forest units will need to quickly increase staff in order to meet the yearly requirements of the bill and successfully manage the health of the forests.

Individual forest unit staff will be required to submit reports on timber harvesting and forest health. The timber reports will be generated on a quarterly basis and the forest health reports will be published on an annual basis, matching current Forest Service procedures.

TITLE II: HEALTHY FOREST MANAGEMENT AND CATASTROPHIC WILDFIRE PREVENTION

OVERVIEW

Purpose

Title II aims to reduce the potential for wildfires on high-risk federal lands in order to further protect communities and forest habitat, improve aquatic conditions, and restore landscapes through the restoration of forest ecosystems (H.R. 1526, 2013).

Legislative Structure

Unlike Title I, the legislative language of Title II does not include mandated activities for the Secretary or state governors. Instead, Title II consists of discretionary programs that these authorities may choose to implement, making the structure of this title more flexible in terms of timetables and administrative structure.

Title II authorizes both the Secretary of Agriculture (concerning land in the NFS) and the Secretary of the Interior (concerning other public lands) to implement hazardous fuel reduction projects or forest health projects in at-risk forests in a manner that focuses on fuel reduction. At-risk forests are defined by the legislation as “federal land where there exists a high risk of losing an at-risk community, key economic system, water supply, wildlife, or wildlife habitat to wildfire, including catastrophic wildfire and post-fire disturbances” (H.R. 1526, 2013). These activities must emphasize surface, ladder, and canopy fuel reduction using sustainable and ecological practices deemed appropriate within the forest where such activities will occur. Title II also authorizes the recommended activities of grazing, timber thinning, and timber harvesting for the fuel reduction or forest health projects.

In addition, Title II states that the governor of a state may designate high-risk areas of

federal land to address deteriorating forest health conditions, such as drought or bark beetle infestations, and propose management projects to the Secretary concerned for implementation. High-risk areas are defined by the legislation as “federal land suffering from the bark beetle epidemic, drought, or deteriorating forest health conditions, with the resulting imminent risk of devastating wildfires, or otherwise at high risk for bark beetle infestation, drought, or wildfire” (H.R. 1526, 2013). These projects are intended to improve forest health conditions while lowering the risk of wildfire devastation.

Program Design

To facilitate the goals of Title II, a FRMC will be formed at the request of the Secretary concerned or a state governor. No more than one FRMC will be established within each of the nine regions of the NFS (Figure 8). These FRMCs shall serve as an advising council to both the Chief of the Forest Service (who reports to the Secretary of Agriculture) and the governor of a state that contains NFS land. This committee will consist of seven members: the Regional Forester of the Forest Service, a Forest Scientist, two Timber Industry Representatives, a member of the general public, a Forest Health Protection Specialist of the Forest Service, and a member of an Indian tribe if the forest system lands within a region that coincides or is adjacent to an American Indian reservation area. The members that are not Forest Service employees will serve posts on a pro-bono basis, with criteria for these positions as follows:

- Forest scientist: Representative of the science community who, at a minimum, holds a Doctor of Philosophy degree in wildlife biology, forestry, ecology, or related field and has published peer-reviewed academic articles in the representative’s field of expertise.
- Industry representative: Forestry and/or wood products members who represent commercial timber, wood products, or milling industries and who represent a company based within the region.
- Member of the general public: Representative of the general public who has professional experience in one or more of the following fields: business management, law, accounting, banking, labor management, transportation, engineering, or public policy.
- Forest Health Protection Specialist: Personnel of the Forest Service Forest Health Management program who works to protect and monitor forest conditions in the NFS.
- Member of Indian tribe: Member or designee of a federally recognized Indian tribe or tribes within the region.

The FRMC will work at the regional level with the Forest Service to assist in the organization, communication, and collaboration for hazardous fuel reduction projects in each respective region. FRMCs will be open to formal consultation for either the Secretary or state governors who are planning the implementation of these forest health projects, and will conduct ongoing discussions towards the designation of at-risk forests and high-risk areas. The Regional Foresters will draw upon the knowledge and counsel of the subordinate Forest Service counterparts, including the Forest Supervisors, District Rangers, and Forest Technicians who will provide analyses of multiple forest features, including but not limited to forest density, sustainable thinning practices, fire risk, and past fire history. The forest scientist will be expected to provide a review of and recommendation based on the available scientific literature regarding

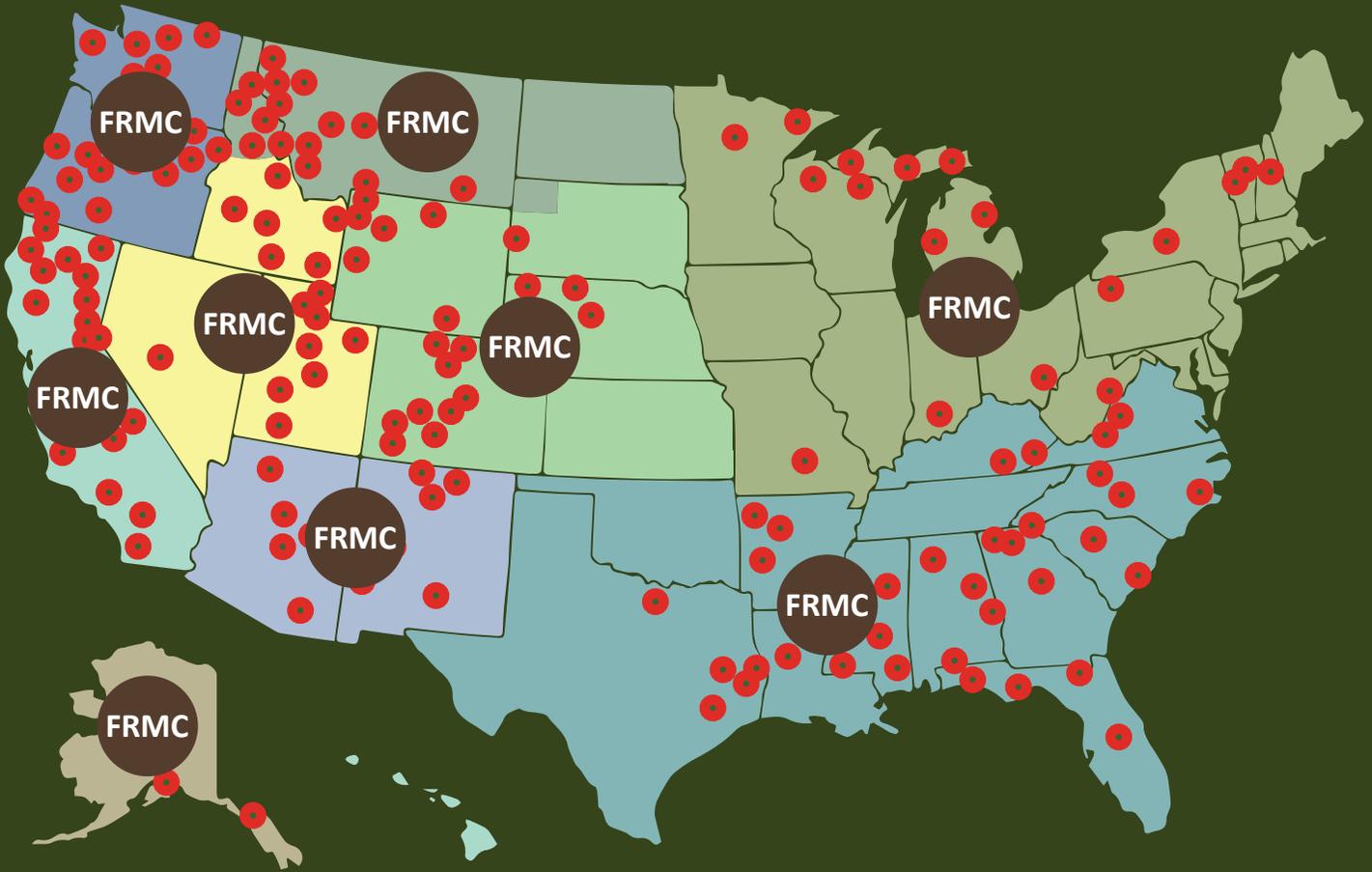


FIGURE 8. The nine regions of the NFS in which FRMCs will be formed. Each Committee will be responsible for overseeing the forest health projects for at-risk forests and high-risk areas as determined by the Secretary of Agriculture and state governors.

fire potential in the forest units of the region. The industry representatives will provide assessments of the economically viability of hazardous fuel reduction projects that would include timber thinning or harvesting, and provide potential methodologies for implementing those practices. The member of the general public will represent the voice for members of the community who have been adversely affected by fire or could be impacted by future fires, thus taking into consideration the constituents of each region. He or she will also be expected to actively engage with the community to ensure informed representation. Lastly, the member or designee of a federally recognized Indian tribe, if applicable, will be expected to provide representation for the Indian community or communities-at-large in the NFS region, allowing for cultural sensitivities to be included in the decision-making and advising processes.

As a result of the fact that the activities outlined under Title II are at the discretion of the concerned Secretary or governor, no mandated timeline is included in the program design of the FRMC. However, these advising councils shall meet biannually and produce a report of their activities at the conclusion of the fiscal year.

STAFFING PLAN

Staff Augmentation. The Regional Directors and Forest Supervisors will determine the

appropriate staffing levels for forest units in which the Chief of the Forest Service has approved hazardous fuel reduction plans. New staff will be necessary to carry out the fuel reduction plans that involve timber thinning and harvesting projects or prescribed burn programs. Currently, 8,908 employees, or 27% of all National Forest Service employees work in wildland fire preparedness and hazardous fuel management. Nevertheless, other divisions of the Forest Service may also be affected over the long-term implementation of this program, including staffing for fire suppression and emergency incident activities within the Fire and Aviation Management Unit.

Regional Foresters

The new Regional Forester responsibilities under the bill will include recruiting and appointing members of the regional FRMCs. In addition, each Regional Forester must convene the first committee meeting within six months after the passage of the bill or earlier if requested by the Secretary of Agriculture or the governor of a state within the region to discuss parcels qualifying as “high-risk area” or “at-risk forests” within the forest units throughout the region. The Regional Forester, in collaboration with the members of the FRMC, will take the lead in issuing the committee’s recommendations to the Secretary of Agriculture and state governors within the region. Between subsequent biannual committee meetings, the Regional Forester will act as the primary contact for the Secretary or governors on behalf of the committee and relate any requests back to the members of the FRMC.

BUDGET

Many of the revenues and costs for Title II of the bill have not been estimated in the program budget as both the number and the extent of hazardous fuel reduction projects are at the discretion of the Secretaries and state governors. In general, a decline in fire suppression costs from hazardous fuel reduction projects could offset all or part of other costs such as road building and maintenance. Hazardous fuel reduction projects may include grazing, which for FY 2014 created revenue of \$1,300,000 for the

Item	Annual Cost per Individual	No. of Positions Added	Total Cost: Year 1	Total Annual Costs: Years 2-5
Operational Costs FRMCs	15,000	9	135,000	135,000

TABLE 5. The approximate costs for the implementation of Title II of the Restoring Healthy Forests for Healthy Communities Act based on conservative estimates.

Forest Service and added approximately 19,500 jobs and \$900,000,000 indirectly to the economy (“Fiscal Year 2015 Budget Justification”, 2014). Timber salvage sales of around \$20,000,000 for FY 2014 are also expected to increase, although the extent of these changes are up to the discretion of the Secretaries and state governors. \$2.1 billion, or 33% of the Forest Service’s total budget for FY 2014, is allocated as a subset of the budget directly to wildland fire management (“Fiscal Year 2015 Budget Overview”, 2014). However, the proposed bill could reduce these costs through hazardous fuel reduction projects. The additional Forest Service staff as outlined in the budget for Title I will also be able to aid in functions under Title II. In addition, each of the 9 FRMCs have been allocated \$15,000 annually to be used for meetings, travel, and other expenses, as these organizations are regionally based and have diverse members (Table 5).

Besides the additional revenues from timber harvesting, NFS revenues from the sale of new grazing leases are expected to increase. In 2013, the Forest Service generated revenues of \$4,839,000 from grazing permits (USDA Forest Service "Cut and Sold Reports", 2014b). Predicted future revenues from grazing are not included in this budget, as the levels of grazing will fall at the discretion of the Secretary concerned or state governor based on the recommendations of the FRMCs.

PERFORMANCE MANAGEMENT

Title II emphasizes a more local management of individual forest units in order to control the extent and damage of catastrophic wildfires. The bill allows state governors to designate high-risk areas within a National Forest and to mandate management of those areas to reduce fuel loads and the risk of catastrophic wildfire. The National Interagency Fire Center currently monitors and reports on fire activity on federal forest lands. The compiled reports track both the number of fires and the number of acres burned across all federal lands, with reporting available at the individual forest unit level (National Interagency Fire Center, n.d.). The year before the implementation of the bill will be used as a baseline, from which fire activity will be measured to determine the success or failure of the bill based on the change in both frequency and extent of wildfires. If fire activity increases, state governors will have the opportunity to analyze forest plans and consider potential fuel reduction projects, as allowed by the legislation in high-risk areas.

Regional foresters will first measure the success of the nine FRMCs on the basis of their formation within three months of the passage of the bill. Moreover, these committees must meet regularly, provide advice when requested by the Secretaries or Governors, and do their best to see that any proposed projects are both effective and successful in achieving their goals.

MASTER CALENDAR

Each of the nine Regional Foresters of the NFS will be required to recruit members for his or her region's FRMC. Specialists already engaged in such work by the National Forest Service will carry out these recommendations; however, increased staffing may be required to enact those recommendations.

The FRMC will meet on a biannual basis or as requested by the Secretary or state governors. At the culmination of each fiscal year, the committee will be required to submit a report on their findings that will be reviewed and approved by the Chief of the Forest Service.

OVERALL BUDGET

Implementation of the Restoring Healthy Forests for Healthy Communities Act will require significant increases in staffing levels for the Forest Service, as timber harvests will rise dramatically. In addition, the program will make payments to the Knutson-Vandenberg Fund and will restore 25% revenue sharing to rural counties. In total in year one, income from timber is expected to reach \$372,000,000. Staffing expenditures are expected to be \$523,915,500, with an additional \$150,000 for operational costs. Payments to rural counties will be \$93,000,000, and payments to the Knutson Vandenberg Fund will be \$86,000,000. Overall expenditures were calculated to be \$331,065,500 assuming that the income from timber will offset costs of program implementation. However, income will actually go into the General Treasury and will be allocated to the Forest Service based on Congressional appropriations. These figures also assume that only the minimum mandated amount (50%) of the sustained yield of timber will be harvested.

In FY 2014, the Forest Service appropriated approximately \$279,000,000 to rural counties directly from the Forest Service budget rather than from timber lease revenue sharing ("Fiscal Year 2015 Budget Justification", 2014). Under the Restoring Healthy Forests for Healthy Communities Act, this would fall to approximately \$93,000,000. However, this is a conservative number, as this assumes that the minimum 50% of the sustained yield is harvested annually. Thus, payments could reach approximately \$186,000,000.

It is important to note that there are many uncertainties underlying the figures in this budget. This is largely due to uncertainties about how implementation of the Act would affect staffing at the local level within the Forest Service. As each forest unit will have a different level of change in timber lease sales and hazardous fuel reduction projects, many assumptions had to be made regarding increases in staffing levels and budgetary implications. Future timber prices and possible offsets in revenue for wildland fire management are also unknown. This budget reflects reasonable extrapolations as to the effects of the bill on the budget of the Forest Service.

CHALLENGES TO IMPLEMENTATION

Among the several serious challenges to the implementation of the Restoring Healthy Forests for Healthy Communities Act include legal, jurisdictional, and timetable issues. The exclusions on judicial review would effectively prohibit the judiciary from evaluating, and potentially invalidating, any actions undertaken in response to the bill's requirements. The bill would thus undermine the principles of judicial review and prevent citizens from easily challenging its directives.

In addition, the bill would permit unprecedented state influence over federal property management, potentially setting the stage for future legislation to cede federal jurisdiction to the states. States would be able to implement hazardous fuel reduction projects in high-risk areas within national forests, complicating decisions on whether the state or federal government has authority over federal lands.

Finally, Title I mandates a very aggressive timeline, with an annual volume requirement

and the size and location of the FRRAs determined within the first ninety days of the bill's implementation. However, the sustainable yield of each unit of the national forest may be difficult to ascertain, particularly in such a short period of time. In addition, the rushed timeline for offering any concerns that the timber harvests projects may jeopardize an endangered species may prevent a substantial or high quality response from either the Department of Commerce or the Interior. Furthermore, this timeline may preclude meaningful contribution from many stakeholders unable to respond within the various brief windows for input allowed by the bill.

CONCLUSION

Effective implementation of the first two titles of the Restoring Healthy Forests for Healthy Communities Act will require substantial increases in Forest Service staffing, continued assessments of forest health metrics, and increases in timber harvesting, particularly in the western United States. Increasing Forest Service staff by approximately 7,500 hires, as well as the work of the newly-created RACs and FRMCs, will be needed to transition to a future with much higher timber harvest. In addition, the risk of catastrophic wildfires and its affiliated costs will decrease due to the forest health projects in at-risk forests and high-risk areas required by either the Secretary of Agriculture or the governor of the respective state. Through the activities described in this report, the National Forests of the United States will glean the benefits anticipated by the passage of the Restoring Healthy Forests for Healthy Communities Act, including fewer destructive wildfires and greater revenues available for the citizens of America's rural communities.

APPENDIX I: MASTER CALENDAR

Forest Level
Regional Level
National Level

Action Item	J	F	M	A
Recruit Resource Advisory Committee	Forest Level			
Request public comments	Forest Level	Forest Level		
Forest Reserve Revenue Areas proposed		Forest Level		
Forest Reserve Revenue Area reviewed		Regional Level		
Forest Reserve Revenue Area approved			National Level	
Annual volume requirements proposed			Forest Level	
Annual volume requirements reviewed			Regional Level	
Annual volume requirements approved				National Level

FIGURE 10: The year one plan for Title I, including deadlines for the approval and adoption of the FRRAs and the annual volume requirements. The timelines mandated by the bill necessitate action in a very limited timeframe.

Forest Level
Regional Level
National Level

Action Item	J	F	M	A	M	J	J	A	S	O	N	D
Recruit Forest Risk Management Committee (FRMC)	Regional Level	Regional Level	Regional Level									
FRMC biannual meeting			Regional Level									
FRMC annual report submitted									Regional Level			
Annual report reviewed and approved									National Level			

FIGURE 11: The year one plan for Title II of the Restoring Healthy Forests for Healthy Communities Act provides a timeline for the formation and activities of the FRMC.

Forest Level
Regional Level
National Level

Action Item	J	F	M	A	M	J	J	A	S	O	N	D
Recruit Forest Risk Management Committee (FRMC)	Regional Level	Regional Level	Regional Level									
FRMC biannual meeting			Regional Level									
FRMC annual report submitted									Regional Level			
Annual report reviewed and approved									National Level			

FIGURE 12: The timeline for hiring staff on the forest, regional, and national level. Hiring a contract consultant will help manage the increased workload of the regional forest offices. Additional forest level staff will likely be required to increase timber harvests in the forest units.

National Level
Regional Level
Forest Level

Action Items	Q1	Q2	Q3	Q4
RAC annual meeting to revisit volume requirement	Forest Level			
Timber harvest reports	Forest Level	Forest Level	Forest Level	Forest Level
Forest health annual report				Forest Level
Annual reports reviewed				Regional Level
Annual reports approved				National Level
FRMC biannual meeting		Regional Level		
FRMC annual report submitted			Regional Level	Regional Level
Annual report reviewed and approved				National Level
Revisit Forest Revenue Reserve Area				2019

FIGURE 13: The overall timeline for the performance management of The Restoring Healthy Forests for Healthy Communities Act. The RACs and FRMCs will be responsible for continual monitoring and reporting. Forest level officials must track forest health and timber harvest metrics to determine if the legislation is being implemented effectively.

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