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We Didn't Start the Fire...And We Won't Pay to Stop It: Financing Wildfire Management in America's Wildland-Urban Interface

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WE DIDN'T START THE FIRE . . . AND WE WON'T PAY TO STOP IT: FINANCING WILDFIRE MANAGEMENT IN AMERICA'S WILDLAND-URBAN INTERFACE

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INTRODUCTION

Just seven miles west of Glenwood Springs, Colorado, and in plain view from Interstate 70, the South Canyon Fire on Storm King Mountain, originally ignited by a lightning strike,[1] trapped and killed fourteen brave, heroic wildland firefighters in July of 1994.[2] In a single moment, a once small, tame fire "spotted" and began to burn in the canyon, behind and immediately downhill from the firefighters working along the steep canyon slope.[3] One hundred-foot flames whirled out of control in the uphill winds and ran up the Gambel Oak–covered slope, engulfing the fleeing firefighters in flames just yards before they reached the safety of the mountain peak.[4]

The frightening thing about this incident was not just that there were fatalities, but that so many firefighters were killed fighting a

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[1] BRET W. BUTLER ET AL., U.S. DEP'T OF AGRIC., FOREST SERV., RESEARCH PAPER RMRS-RP-9, FIRE BEHAVIOR ASSOCIATED WITH THE 1994 SOUTH CANYON FIRE ON STORM KING MOUNTAIN, COLORADO 1, 2 fig.1, 3 (1998).

[2] *Id.* at 1.

[3] *Id.* at 4–5. The report created by the U.S. Forest Service notes that twelve firefighters were killed in a single sweep on one face of the mountain. *Id.* at 5. They could not outrun the flames running up a very steep slope at speeds as fast as six to nine feet per second. *Id.* The two additional deaths resulted from a similar blowout, overrunning a narrow gulley in which the two firefighters were working. *Id.*

[4] SAFE FIRE PROGRAMS, & FOREST STEWARDSHIP CONCEPTS, SOUTH CANYON FIRE: TEN YEAR REVIEW OF THE EFFECTIVENESS OF PLANNED ACTIONS 3 (2004) [hereinafter SAFE FIRE PROGRAMS]; BUTLER, *supra* note 1, at 44.

relatively small fire.[5] This catastrophe marked a low point in modern American fire suppression history;[6] it was a notable failure to achieve the primary goal of United States wildland firefighting: to protect human life.[7] Though catastrophes like the one on Storm King Mountain in 1994 are rare, a number of Americans lose their lives to wildfire almost every year.[8] As patterns of residential and commercial development push further into our nation's wildlands[9] and rapidly increasing numbers of people choose to live, work, and recreate on lands directly adjacent to or very near to federal and state forests,[10] the danger to human life, of firefighters and civilians, and to personal property, has increased exponentially.[11]

The South Canyon Fire did not stop burning after it engulfed fourteen firefighters; it continued to burn toward Glenwood Springs, Colorado.[12] Despite the risk shifting from federal and state lands to private property as fires burn towards civilization, the cost, for the most part, remains on the federal and state governments to fight these fires.[13] After thirty-four firefighters lost their lives in the 1994 American fire season, the fire community rewrote the rule book on fire safety, reaffirming the emphasis on the primary goal of wildland firefighting, human safety.[14]

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[5] When the fire was declared controlled on July 11, 1994, it had burned about 2115 acres. BUTLER, *supra* note 1, at 50. More firefighters died by burnover on this fire than on any other fire since 1990. *See* NAT'L WILDFIRE COORDINATING GRP., WILDLAND FIREFIGHTER FATALITIES IN THE UNITED STATES: 1990–2006 10 (2007) [hereinafter FIREFIGHTER FATALITIES].

[6] *See* FIREFIGHTER FATALITIES, *supra* note 5, at 10. *See generally* SAFE FIRE PROGRAMS, *supra* note 4 (marking an extensive set of fire safety policy changes that went into effect as a result of the 1994 South Canyon Fire).

[7] *See* U.S. DEP'T OF THE INTERIOR & U.S. DEP'T OF AGRIC., FEDERAL WILDLAND FIRE MANAGEMENT: POLICY & PROGRAM REVIEW 4 (1995) [hereinafter 1995 POLICY & PROGRAM REVIEW].

[8] *See generally* FIREFIGHTER FATALITIES, *supra* note 5.

[9] *See* Federico Cheever, *The Phantom Menace and the Real Cause: Lessons from Colorado's Hayman Fire 2002*, 18 PENN ST. ENVTL. L. REV. 185, 193 (2010) (detailing the migration of the population after World War II into the "lost frontier," driven by tax deductions, a new federal highway system, and the availability of land along the wildland-urban interface).

[10] *See* STEPHEN J. PYNE ET AL., INTRODUCTION TO WILDLAND FIRE 266–67 (2d ed. 1996).

[11] *See* 1995 POLICY & PROGRAM REVIEW, *supra* note 7, at 7–8 (noting that as organic materials continue to build up after years of large-scale fire suppression, fires will continue to burn hotter, longer, more intensely, and cover greater areas).

[12] *See* BUTLER, *supra* note 1, at 50 & fig.37.

[13] *See* ROSS W. GORTE, CONG. RESEARCH SERV., RL 33990, FEDERAL FUNDING FOR WILDFIRE CONTROL AND MANAGEMENT 13 (2010) [hereinafter GORTE 2010] ("[The unclear nature of wildfire funding] has led to increasing reliance by homeowners and local governments on federal fire protection . . . .").

[14] *See* 1995 POLICY & PROGRAM REVIEW, *supra* note 7, at iii; CAL. DEP'T OF FORESTRY & FIRE PROT., CALIFORNIA FIRE SIEGE FIRE EVENTS AND POLICY: FIRE EVENTS AND POLICY, *available*

The secondary goal of firefighting is to protect valuable property on both public and private lands.[15] With the costs of accomplishing this goal higher than ever and certain to continue to climb,[16] it is now time to rewrite the policy of the secondary goal.

This Note argues that the undisputed rise in wildfire risk across the United States coupled with developer and landowner awareness of this risk warrants a shift of wildfire-related costs to those properties that receive the most benefit from government wildfire services. The intention of this Note is to suggest possible cost-shifting implementation methods and examine their feasibility. The goals of implementation include: (1) shift a greater proportion of wildfire costs to those living in the wildland-urban interface ("WUI") who are most responsible for aggravating wildfire costs and who actively receive the most benefit from governmental protection; (2) deter irresponsible sprawl and development patterns into our nation's wildlands by reducing reliance on existing federal programs for wildfire protection; (3) increase the availability of funds for wildfire prevention and forest health restoration spending, not allowing suppression costs to take away from other federal agency wildfire and land management programs; (4) reduce the debts of cash-strapped state and federal governments.

In Part I, this Note explains the historical and present relationship of the United States and wildfire management, detailing how and why the current problems have occurred and addressing the three main sources of increasing wildfire frequency, severity, and costs: climate change, historical suppression tactics, and the growth of the WUI. This Note will explain how these factors and the relationship of state, federal, and local governments have created a trend of rising and insurmountable costs for wildfire funding of state and especially federal agencies. Part II details the current cost structure of wildfire funding in the United States. Part III examines how state and federal agencies share responsibility for many wildfire costs, and shows that the structure leaves the federal government with the ultimate responsibility for the largest costs.

Finally, Part IV describes four policy options for implementation, varying in their potential cost to the property owner and their overall effectiveness in creating a sustainable relationship between the United States and wildfire within its borders. The Note concludes with an analysis of the

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at http://www.fire.ca.gov/fire_protection/downloads/siege/2007/Overview_FireEvents&Policy.pdf (last visited Feb. 2, 2012).

[15] *See* 1995 POLICY & PROGRAM REVIEW, *supra* note 7, at 6 (relying on firefighters on the ground to make decisions on property protection based on "relative values to be protected, commensurate with fire management costs").

[16] *See* GORTE 2010, *supra* note 13, at 1, 3–4.

feasibility of each of these four options, ultimately depicting the difficult political and judicial environment that disaster-related legislation must fight through in an attempt to protect the nation from overwhelming financial and physical losses in the future.

I. BACKGROUND

A. Wildfire Policy in the United States

As the United States continued to expand westward after the turn of the twentieth century, forest fire became a great danger to the manifest destiny of expansion and settlement of the modern, lower forty-eight United States.[17] After briefly toying with the idea of empowering the Army to fight wildfire, the federal government created the Bureau of Forestry in 1905, the predecessor of the U.S. Forest Service, and charged it as the preeminent wildfire-fighting agency in the United States.[18] Though there have been a number of public and private organizations with varying fire management policies, fire historian Stephen J. Pyne assures that if you "[t]rack the pathways of Forest Service fire programs, . . . you trace out the national saga."[19]

While the tactics of the Forest Service were debated in its early years, the summer of 1910 shaped the policy for the next century.[20] In 1910, fires burned across the Western United States with a frequency and intensity that no one in the Forest Service had ever seen.[21] During that summer over five million acres were burned, creating an inferno that killed at least seventy-eight people.[22] Out of necessity and a sense of

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[17] *See* Alison Berry, *Forest Policy Up in Smoke: Fire Suppression in the United States*, PROP. & ENVTL. RES. CTR. (Sept. 2007), at 4, http://www.perc.org/pdf/Forest%20Policy%20Up%20in%20Smoke.pdf.

[18] *See* PYNE ET AL., *supra* note 10, at 246–47.

[19] *Id.* at 247.

[20] *See Wildfire Management in the U.S. Forest Service: A Brief History*, NAT. HAZARDS OBSERVER, July 2005, at 1 [hereinafter *A Brief History*].

[21] *See id.*

[22] *Id.* When the newly formed Forest Service discovered fires, ignited by lightning deep in the wilderness across the nation, it began to fight them with all its resources, calling on the army for aid and hiring almost any man to labor on the ground crews across the Western States. *See* STEPHEN J. PYNE, FIRE IN AMERICA: A CULTURAL HISTORY OF WILDLAND AND RURAL FIRE 243, 251 (Princeton Univ. Press 1982). With the experience of the blowup of 1910 under their belts, surviving what they called a "holocaust," Forest Service leaders scoffed at the idea of allowing fire to freely burn beneficially in certain areas around the nation. *See id.* at 251.

obligation and pride,[23] the Forest Service began to aggressively fight forest fire, attempting to put out any wildfire as soon as possible, regardless of its location or its potential to lead to loss of human life or loss of valuable property.[24] With an overwhelming amount of resources, the Forest Service was extremely successful in suppressing fire for many years.[25] Not until the 1970s did the Forest Service and other agencies begin to perform research and discover the effects of removing fire from an environment that had become dependent on fire.[26] During the same era, it became glaringly evident that on many occasions, the government was spending far more money suppressing fire than it stood to gain from the unburned landscape that it was so tenaciously defending.[27]

A change in policy came in the 1970s, not because of the adverse effects that fire deprivation was having on American forests, but because the cost of suppressing fire was becoming too great for the federal government to bear.[28] It became clear that as annual expenditures on suppression continued to rise, the annual area burned was remaining the same, or even increasing.[29] Though there was some movement toward the use of controlled burning to simulate the missing positive impact that fire had on ecosystems, the movement lost steam when high-profile prescribed burns escaped fire managers' control and cost the nation dearly—financially and through the loss of life.[30]

Wildland fire policy in the twenty-first century has progressed significantly, but it is still a product of the failed policies of the twentieth

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[23] *See* PYNE, *supra* note 22, at 295. In 1929, the Forest Protection Board issued this statement: "All forests under federal ownership of jurisdiction should be protected from destruction by fire. . . . [sic] As the owner of property, the Federal Government is morally if not legally charged with the duty not to maintain a nuisance." *Id.*

[24] *See* GORTE 2010, *supra* note 13, at 1. The original Forest Service policy was known as the "10:00 a.m. policy" which was based around the goal of having any forest fire contained by 10:00 a.m. the next morning, working during the cool hours of night while the fire was in its early stages. *See id.* at 1–2.

[25] *See* PYNE ET AL., *supra* note 10, at 248. From the origins of the Forest Service's aggressive suppression policy through the 1960s, the agency had a surplus of resources from varying sources: the money of the Firefighting Fund Act of 1908, the manpower of the Civilian Conservation Corps and other New Deal agencies, and the surplus mechanical power given to the Forest Service from the military. *See id.*

[26] *See A Brief History*, *supra* note 20, at 2.

[27] *See id.* at 1–2 (explaining that the original fire suppression policy was created to protect what was at that time one of America's great economic resources, its timber reserves).

[28] *See A Brief History*, *supra* note 20, at 2.

[29] *See* PYNE ET AL., *supra* note 10, at 260–61.

[30] *See id.* at 85–89; *A Brief History*, *supra* note 20, at 2–3.

century.[31] Though financing troubles remain, especially the need to offset suppression costs, the Forest Service and other branches of the federal government are placing a greater emphasis on fire prevention and preservation of ecosystems through prescribed fire and mechanized treatments, like thinning and the creation of fire breaks, that aim to create healthier forests and less intense fires.[32]

B. Fuel Buildup and Increasing Wildfire Frequency

Historically, wildfires in the United States occurred naturally by lightning strike, but as our population has grown, the number of human-caused wildfires has increased extraordinarily.[33] Today, far more wildfires are ignited by humans, by both arson and negligence, than are caused naturally by lightning.[34] For a number of reasons in addition to direct human ignition, fires are occurring more often and are burning more intensely than ever when they do occur.[35]

Many ecosystems in the American West have not only adapted to fire, but their healthy growth has even become dependent on fire in some cases.[36] Key plant species have developed positive responsive traits to fire: growing more quickly in the years following a fire, releasing dormant buds and subterranean growths after fire, and increasing seed release from spores due to fire.[37] Some conifers, like the lodgepole pine, rely on the heat from fire to crack the serotinous seed coats of their seeds to allow for germination.[38] In addition to its direct benefits, wildfire also

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[31] *See A Brief History*, *supra* note 20, at 3 (explaining the Forest Service's recent attempts at beginning to restore the health of fire-deprived forests).

[32] *See* U.S. DEP'T OF AGRIC., FOREST SERV., FIRE AND AVIATION MANAGEMENT FISCAL YEAR 2009 ACCOUNTABILITY REPORT 18 (2010).

[33] *See Lightning vs. Human-Caused Fires and Acres*, NAT'L INTERAGENCY FIRE CTR., http://www.nifc.gov/fireInfo/fireInfo_stats_lightng.html (last visited Feb. 2, 2012).

[34] *See id.* (providing a recorded data list from 2001 to 2010 of the number of fires caused by lightning and by humans and showing the ultimate acreage burnt by fires from each source). From 2001 to 2010 there were 653,650 wildfires caused by humans in the United States and only 111,600 caused by lightning. *See id.*

[35] *See infra* text accompanying notes 40–62.

[36] *See* NAT'L INTERAGENCY FIRE CTR., NATIONAL WILDFIRE COORDINATING GROUP: COMMUNICATOR'S GUIDE FOR WILDLAND FIRE MANAGEMENT: FIRE EDUCATION, PREVENTION, AND MITIGATION PRACTICES 2.11, *available at* http://www.nifc.gov/PUBLICATIONS/communicators_guide/2%20Wildland%20fire%20overview.PDF (last visited Feb. 2, 2012).

[37] *See id.* at 2.11–.18 (detailing specific fire-dependent ecosystem regions in the United States).

[38] *See id.* at 2.12, 2.15; *see also* PYNE ET AL., *supra* note 10, at 210–11.

restores minerals to the soil as it burns organic plant matter, aiding future growth.[39]

Lodgepole pine forests, which cover much of the Rocky Mountains and high-elevation areas of the Western United States,[40] serve as an excellent case study to show the effects of fire removal from a thriving ecosystem. "High-intensity crown fire initiates lodgepole pine regeneration in the Rocky Mountains."[41] In serotinous plant species, like the lodgepole pine, "when seeds become mature, they are retained by the parent because the cones do not open. The cones are sealed shut with surface resin and the seeds remain viable because the vascular water connection is intact."[42] This ecosystem adapted to infrequent, intense crown fires that occur on average every 200 to 300 years.[43] When fire finally occurs, decades of viable seeds are released.[44] "Because seeds fall on a substrate that is conducive to successful germination and seedling establishment, widespread postfire regeneration results."[45] Other ecosystems across the country developed similar adaptations that depend on fire to flourish and remain healthy, including, "southwestern California chaparral, midwest tallgrass prairie, and various pine stands of the Southwest, Rocky Mountains and Southeast."[46]

The success of the Forest Service at eliminating fire from the American landscape throughout much of the twentieth century denied forests a valuable asset. As a result of this denial, American forests have become extremely thick and overgrown.[47] Tree and other plant species have suffered from this overgrowth, becoming more susceptible to parasites[48]

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[39] *See* NAT'L INTERAGENCY FIRE CTR., *supra* note 36, at 2.16; *see also* PYNE ET AL., *supra* note 10, at 191–96 (providing a more nuanced analysis of varying effects that fire may have on an ecosystem's soil makeup).
[40] *See* PYNE ET AL., *supra* note 10, at 210–11.
[41] *Id.* at 211.
[42] *Id.* at 186–87.
[43] *See id.* at 210.
[44] *See id.*
[45] *Id.*
[46] *See* ROCKY MOUNTAIN LAND USE INST., WILDFIRE HAZARD IN THE WILDLAND-URBAN INTERFACE 1, *available at* http://www.law.du.edu/documents/rmlui/sustainable-development/Wildlfires-in-the-Urban-Interface.pdf (last visited Feb. 2, 2012).
[47] *See* Marvin Dodge, *Forest Fuel Accumulation: A Growing Problem*, 177 SCI. 139, 139 (1972) (arguing that fire suppression agencies' own efficiency is their greatest enemy because it does not allow fires to burn off dead underbrush, which creates more intense and faster-moving wildfires).
[48] *See id.* at 140; *see, e.g.*, STATE OF COLO., THE 2009 REPORT ON THE HEALTH OF COLORADO'S FORESTS: THREATS TO CURRENT AND FUTURE FOREST RESOURCES 7–13 (2010), *available at* http://csfs.colostate.edu/pdfs/105504_CSFS_09-Forest-Health_www.pdf (documenting the

and fire.[49] Unhealthy forests with very thick, dead underbrush and more dead or bare and unhealthy trees tightly packed together are more easily ignited and they create the fuel that allows fires to burn more intensely for longer periods of time across greater distances.[50] Ultimately, the mistakes of our own national wildfire agencies have created the fuel buildup partially responsible for the recent increase in wildfire activity.

C. Climate Change

Compounding the land use and fire management mistakes of the last century, climate change in the United States has created longer fire seasons, drier conditions, and ushered in an era of more intense fire behavior since the 1980s.[51] According to A. L. Westerling's study, climate change has had the greatest effect on fires in the Rocky Mountains and other higher elevation forests, but data also shows climate change causation in California, Oregon, Washington, and many other non–Rocky Mountain states.[52] Westerling argues that climate change may have greater causation for the recent escalation in Western fires than the land use "mistakes" made by fire managers throughout the twentieth century.[53]

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severe problem created by the Mountain Pine Beetle, a boring parasite responsible for killing whole stands of trees throughout the Rocky Mountain area, especially in Colorado). Not only is susceptibility to these parasites raised by the overgrowth and poor health of the forest: many believe the high number of dead trees in certain areas creates severe fire danger and more intense fire. *See* Editorial, *Science Should Lead Pine Beetle Epidemic Solutions*, CASPER STAR-TRIB. (Oct. 3, 2010, 12:00 AM), http://trib.com/news/opinion/editorial/article_f87d7db9-ed2a-5620-8d66-20556935c592.html.

[49] *See* Dodge, *supra* note 47, at 139–40 (explaining that unhealthy trees and increased amounts of underbrush or "ladder fuels" create higher fire danger and greater fire intensity).

[50] *See* 1995 POLICY & PROGRAM REVIEW, *supra* note 7, at 7. *See generally* ROSS W. GORTE, CONG. RESEARCH SERV., RS 21880, WILDFIRE PROTECTION IN THE WILDLAND-URBAN INTERFACE (2004) [hereinafter GORTE 2004] (acknowledging the effect of increased vegetation levels spreading and intensifying wildfire, but challenging current community wildfire prevention methods around structures).

[51] *See* A. L. Westerling et al., *Warming and Earlier Spring Increase Western U.S. Forest Wildfire Activity*, 313 SCI. 940, 942–43 (2006).

[52] *See id.* at 941 (noting that the greatest effect was in the Rockies, the area which accounts for sixty percent of the late twentieth century rise in large fires). *But see Torching the Forest Fire Myth*, WORLD CLIMATE REP. (Apr. 25, 2007) http://www.worldclimatereport.com/index.php/2007/04/25/torching-the-forest-fire-myth/ (using evidence from a tree ring study to show that perhaps the current level of acreage burnt is more akin to the numbers in the 1800s and 1900s, questioning early methods of record-keeping and ultimately questioning whether climate change is indeed a cause of increasing wildfire).

[53] *See* Westerling et al., *supra* note 51, at 943.

Between 1987 and 2003, the average length of the wildfire season (the time between the first and last reported fire of the year) increased sixty-four percent, by seventy-eight days, compared to the average season from 1970 to 1986.[54] Westerling's study also showed that seventy-two percent of acreage burned in the United States occurred in "early snowmelt" years.[55] The average temperatures from 1987 to 2003 were 0.87°C higher than those in the preceding period from 1970 to 1986, and seventy-three percent of "early [snowmelt] years" between 1970 and 2003 occurred in the latter half, from 1987 to 2003.[56] The data shows that since the 1980s, these rising average temperatures have shortened the snow cover season, releasing moisture to lower elevations more quickly and thus creating longer periods of dry conditions later in the fire season.[57] The data also shows higher temperatures, drier vegetation, longer fire seasons, and earlier snowmelts having a strong correlation with the increased fire activity since the 1980s.[58] Westerling argues that if global warming is THE cause of increased fire activity, it is senseless to fight it with preventative measures aimed at righting the fire management processes of the early twentieth century;[59] however, if, as many scholars believe,[60] global warming has combined with the failed fire management policies to cause the extreme spike in fire activity, then the solution must take both causes into account.[61]

No matter the cause, it is clear that the frequency and intensity of wildfire have increased severely since the 1980s,[62] and the cost to governments is shooting through the roof.

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[54] *Id.* at 941.
[55] *Id.* at 942.
[56] *Id.*
[57] *Id.*
[58] *Id. passim*.
[59] Westerling et al., *supra* note 51, at 940.
[60] *See* NAT'L ASS'N OF STATE FORESTERS, 2009–2010 NATIONAL ASSOCIATION OF STATE FORESTERS ANNUAL REPORT 14 (2010), *available at* http://www.stateforesters.org/files/2010-NASF-AnnualReport.pdf (noting the creation of the Forest Climate Working Group to advocate for the protection of forests related to global warming legislation or action).
[61] *See* Westerling et al., *supra* note 51, at 940. Westerling concludes that global warming may have a greater effect on higher-altitude forests that have a history of only sporadic, extreme fire, while fire management policy may have a greater effect on lower-altitude forests accustomed to regular brush level, less intense fires. *Id.*
[62] *See* GORTE 2010, *supra* note 13, at 2 (showing a range of data with a sharp increase in number of acres burned since the mid-1980s). In 2006 and 2007 over nine million acres were burned each year, the highest levels ever recorded. *See id.* at 22.

D. The Wildland-Urban Interface

Analyzing the increasing costs of fire suppression based on fire's increased frequency and intensity alone would be a mistake. Another important factor contributing to skyrocketing suppression costs, and the frequency and intensity of wildfire, is the residential and commercial development of lands very near to state and national forests and rangelands. As development pushes towards every last frontier in America, it creates a very difficult land conflict and forces wildland firefighters to defend homes and other private structures.[63] In the developmental stages of the Forest Service, it adopted as its main fire-related objectives to protect human life and to protect valuable property.[64] Through this policy and the nature of the agency's development,[65] it established itself as the agency predominantly responsible for the protection of vast federal forests and resources.[66] Other state and federal agencies followed the lead of the Forest Service in developing land management strategies that reflected the competing demands of governmental and private actors along the wildland-urban interface.[67]

By the late twentieth century, the public had grown skeptical of the Forest Service's work with prescribed fires[68] and human-supported fires in wilderness areas.[69] Despite their value in ecosystem management,

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[63] *See* PYNE ET AL., *supra* note 10, at 267.
[64] *See* GORTE 2010, *supra* note 13, at 1.
[65] Through the first seventy years of the twentieth century, the Forest Service was blessed with a surplus of resources: bottomless financing, a large increase of labor from the New Deal, and even more labor and machinery after World War II. *See A Brief History*, *supra* note 20, at 1–2.
[66] PYNE ET AL., *supra* note 10, at 247.
[67] *See id.* ("The Forest Service . . . established the basis for a national system of fire management."). Other state and national organizations focused more on other aspects of land management, but the cooperation seen today is due to coordination in wildfire management and the lead of the Forest Service. *See id.*
[68] Prescribed fire or controlled burning is a method of fuel reduction and simulation of natural fire behavior in fire-starved forests. *See id.* at 405–06. Fire managers will intentionally set these fires in a controlled area, monitoring the fire to only burn in that area, reducing the fuel load and restoring some of the beneficial effects of fire to fire-deprived areas. *Id.*
[69] PYNE ET AL., *supra* note 10, at 266; *see also id.* at 87–89. This section details the Yellowstone-area fires of 1988. Pyne points to this fire season, the most "extensive" fires since 1910, as the one that solidified public unrest with the new "let it burn" philosophy of fire managers. *Id.* at 87. Many of the fires began as prescribed fires, but when a drought hit the area that summer, the fires roared out of control, burning sixty-five percent of the perimeter of Yellowstone National Park and destroying tree stands as old as

prescribed fires became a growing problem, often times spreading to nearby towns and homes.[70] Escaped prescribed fires highlight the growing difficulty in protecting structures adjacent to state and federal lands, not only from prescribed fire, but, more frequently, from naturally ignited wildfire as well.[71] This problem is the hallmark issue in a new era of fire management, namely "intermix fire" or "wildland/urban interface fire."[72]

The WUI is "the fastest growing category of real estate in America."[73] It can be defined loosely as "the area where houses and wildland vegetation coincide,"[74] or perhaps more fittingly, "where combustible homes meet combustible vegetation."[75] Though the definition may be broad, according to one current designation, 9.4% of all land in the United States is designated as part of the WUI.[76] The area includes thirty-nine percent of all housing units in the United States, a total of forty-four million homes.[77] There are more total homes in the WUI in the eastern states where fire is less of a problem; however, a higher percentage of homes in western fire-prone states fall within this designation than the percentage of homes in eastern states.[78] A year 2000 report found that 11,000 communities adjacent to federal lands in the American West are

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500 years. *Id.* at 88. For a further report on the severity of the 1988 fire season around Yellowstone National Park, *see* NAT'L PARK SERV., THE YELLOWSTONE FIRES OF 1988 (2008), *available at* http://www.nps.gov/yell/naturescience/upload/firesupplement.pdf.

[70] *See* PYNE ET AL., *supra* note 10, at 267.

[71] *See id.*

[72] *Id.*

[73] Jamison Colburn, *The Fire Next Time: Land Use Planning in the Wildland/Urban Interface*, 28 J. LAND RESOURCES & ENVTL. L. 223, 240 (2008).

[74] *See* Susan I. Stewart et al., *The Wildland-Urban Interface in the United States*, *in* U.S. DEP'T OF AGRIC., FOREST SERV., THE PUBLIC AND WILDLAND FIRE MANAGEMENT: SOCIAL SCIENCE FINDINGS FOR MANAGERS 197, 197, 201 (Sarah McCaffrey tech. ed., 2006) (noting that the federal definition errs on the side of inclusion for the sake of a report in the Federal Register, including incorporated municipalities, defined as "vicinity," that may be as far away from public lands as 2.4 kilometers, or 1.5 miles).

[75] GORTE 2004, *supra* note 50, at 1 (quoting U.S. FOREST SERV. ET AL., WILDFIRE STRIKES HOME!: THE REPORT OF THE NATIONAL WILDLAND URBAN FIRE PROTECTION CONFERENCE 2 (1987)).

[76] Stewart et al., *supra* note 74, at 197; *see also* Colburn, *supra* note 73, at 241.

[77] Colburn, *supra* note 73, at 241.

[78] Stewart et al., *supra* note 74, at 198–99. Attempting to gain the most effective information, Stewart's research team used 2.4 kilometers, or about 1.5 miles, as the measure of proximity necessary for a structure to be included in the designated area. This distance is the maximum distance a fire brand has been known to travel with the ability to land on the roof of a structure and start a fire. *Id.* at 201.

at a high risk of wildfire.[79] As the nation moves closer to the wilderness,[80] the pressure of urban sprawl pushing up against overgrown, overheated, and unhealthy forests creates incredible danger and high combustibility.[81] As Pyne states: "Historically, most disastrous fires break out during times of transition. The intermix [WUI] era is that, certainly. . . . [T]he extended urban and the resurgent wildland each persist, the transition suspended, both elements arcing fire across their shared landscape."[82]

As sprawl pushes further into highly combustible areas, human presence and man-made structures make fire increasingly difficult to fight.[83] Additionally, increased presence leads to more human-caused wildfires from campgrounds, suburban areas, and residences.[84] Even a small fire that starts in a wildland-urban interface zone can immediately threaten multiple homes and other structures.[85] The presence of homes and structures in wilderness areas can create a number of problems for firefighters: the structures may be more flammable than the natural ecosystem, they may help spread the fire, and they may interfere with controlled burning, cutting, or other preventative projects.[86] Most importantly, the federal government is often called upon to protect these private lands.[87]

Though it is hard, if not impossible, to collect data in order to determine how much of an effect urban sprawl and the expanding WUI has had on the frequency, intensity, and cost of wildfire suppression in the United States, it is clear to most foresters that these factors have had a positive correlative relationship with each other in recent years. One recent study used FASTRACS (Fuel Analysis, Smoke Tracking, and Report Access Computer System) to conclude that prescribed burning and mechanical thinning projects along the WUI "consistently exhibited higher

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[79] SEC'Y OF AGRIC. ET AL., A COLLABORATIVE APPROACH FOR REDUCING WILDLAND FIRE RISKS TO COMMUNITIES AND THE ENVIRONMENT: 10-YEAR COMPREHENSIVE STRATEGY 4 (2001).
[80] *See* SARAH E. JENSEN & GUY R. MCPHERSON, LIVING WITH FIRE: FIRE ECOLOGY AND POLICY FOR THE TWENTY-FIRST CENTURY 47 (2008) [hereinafter LIVING WITH FIRE]; *see, e.g.*, Cheever, *supra* note 9, at 193 (stating that Colorado, like most southwestern states, has seen rapid overall growth (3.1% annually from 1990 to 2000) and even more rapid growth in the WUI (4.6% annually)).
[81] *See* PYNE ET AL., *supra* note 10, at 267.
[82] *Id.*
[83] *See* LIVING WITH FIRE, *supra* note 80, at 47.
[84] *See id.*
[85] *See id.* at 47–48.
[86] *See id.*
[87] *See id.* at 48–49.

treatment costs for both prescribed fire and mechanical treatments."[88] When fire approaches private homes and structures, the fire managers lose their ability to let the fire burn.[89] In addition to suppression costs, governments are spending a large portion of wildfire funds on defending the WUI through prevention techniques (prescribed burning, cutting, and clearing).[90]

The Forest Service and other federal government agencies are charged with protecting federal lands;[91] however, agencies believe they are burdened with a much higher duty. In a November 2006 report from the Inspector General of the United States Department of Agriculture ("USDA"), the USDA stated that:

> Forest Service's (FS) wildfire suppression costs have exceeded $1 billion in 3 of the past 6 years. [The Forest Service's] escalating cost to fight fires is largely due to its efforts to protect private property in the wildland urban interface (WUI) bordering FS lands. Homeowner reliance on the Federal government to provide wildfire suppression services places an enormous financial burden on FS, as the lead Federal agency providing such services.[92]

The residents[93] of communities that are benefitting from these enormous expenditures are getting a free ride to live in a very dangerous,

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[88] Hayley Hesseln & Alison H. Berry, *The Effect of the Wildland-Urban Interface on Prescribed Burning Costs in the Pacific Northwestern United States*, *in* U.S. DEP'T OF AGRIC., FOREST SERV., PSW-GTR-208, PROCEEDINGS OF THE SECOND INTERNATIONAL SYMPOSIUM ON FIRE ECONOMICS, PLANNING, AND POLICY: A GLOBAL VIEW 339, 339 (Armando González-Cabán tech. coordinator, 2008).

[89] *See* LIVING WITH FIRE, *supra* note 80, at 49.

[90] *See* Karen M. Bradshaw, *A Modern Overview of Wildfire Law*, 21 FORDHAM ENVTL. L. REV. 445, 455 (2010) (noting that the Forest Service resources have largely been put towards firefighting, with "other areas" losing funding to "fire suppression efforts"). *But see* Colburn, *supra* note 73, at 242–43 (arguing that preventative fuel reduction work creates a never-ending cycle of human labor that can never hope to reach all areas of dangerously overgrown forest).

[91] *See* U.S. DEP'T OF AGRIC., OFFICE OF INSPECTOR GEN. W. REGION, REP. NO. 08601-44-SF, AUDIT REPORT: FOREST SERVICE: LARGE FIRE SUPPRESSION COSTS 1 (2006) [hereinafter 2006 AUDIT REPORT].

[92] *Id.* at i.

[93] Bradshaw recognizes three types of WUI landowners: governmental owners, small private landowners, and institutional landowners. *See* Bradshaw, *supra* note 90, at 451–52. While attention is typically focused on the government and small private owners in the

yet beautiful and attractive, residential setting.[94] The Federal government, as well as state governments,[95] are subsidizing residential growth into areas they will soon be unable to protect. Federal agencies' policy is to protect any valuable structures over timberland or uninhabited land, even if it means sacrificing control of a fire or spending more money to protect the structures than "100% of the rebuilding cost."[96] This policy creates an impossible burden on the federal government. The Inspector General goes on to plead that:

> It also removes incentives for landowners moving into the WUI to take responsibility for their own protection and ensure their homes are constructed and landscaped in ways that reduce wildfire risks. Assigning more financial responsibility to State and local government for WUI wildfire protection is critical because Federal agencies do not have the power to regulate WUI development. Zoning and planning authority rests entirely with State and local governments.[97]

Though state and local governments may argue that it was the historic federal suppression policies that created many of the problems associated with wildfire suppression today, it was likely an amalgamation of variables that stoked the inferno of rising suppression costs. Fault appears to lie at all levels of society. Costs are now whirling out of control, thanks in large part to historical suppression policies, climate change, and the booming WUI. Our nation's wilderness lands are disappearing, and residents continue to be financially incentivized to exacerbate the problem.

E. Costs Are Higher than Ever and Climbing

Despite some disagreement about the degree and variety of causes that have effectuated an increase in fire activity across the nation, one

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WUI debate, the majority of timberland in the United States is owned by institutional owners (defined as owning over 5000 acres). *See id.* at 465.

[94] *See id.* at 463–64 (noting the overprotection of private property by the government and the structure of private insurance policies).

[95] *See Study: Protecting Homes Drives Up Wildfire Costs*, FLATHEAD BEACON (Aug. 21, 2008), http://www.flatheadbeacon.com/articles/article/study_protecting_homes_drives_up_wildfire_costs/.

[96] Bradshaw, *supra* note 90, at 463 (quoting OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, BUDGET OF THE UNITED STATES GOVERNMENT, FISCAL YEAR 2003 66 (2002)).

[97] 2006 AUDIT REPORT, *supra* note 91, at i.

thing is clear: this century, the federal government is spending more money than ever on prevention, suppression, and recovery from wildland fire.[98] The federal government has routinely spent over one billion dollars on fire suppression alone throughout the past decade.[99] Suppression costs have not reached these heights in modern memory, and it does not appear that the government will find a reprise of calmer fire seasons in the future.[100] Though 2010 was calmer than most fire seasons in recent memory, 2011 activity is back to record heights, outpacing the ten-year average through October of 2011.[101]

Fire suppression, however, is just the tip of the iceberg, and though the Forest Service is the largest force in wildland firefighting, it is only one of a number of federal agencies that perform wildland fire management services.[102] In analyzing the current state of wildfire costs, Ross Gorte, Congressional Specialist in Natural Resources Policy, notes in his April 2010 report:

> The acres burned annually have also increased over the past 50 years, with the six highest totals in the past decade. Many in Congress are concerned that wildfire costs are spiraling upward without a reduction in damages. With emergency supplemental funding, FY2008 wildfire funding was $4.46 billion, more than in any previous year.[103]

Even before this landmark year in fiscal year 2008, costs had been raging out of control. In a June 2007 Government Accountability Office report to Congress, Director of Natural Resources and Environment, Robin M. Nazzaro, informed Congress that, "[o]ver the past decade, the number

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[98] *See* GORTE 2010, *supra* note 13, at 3–6.
[99] *See A Brief History*, *supra* note 20, at 3 (noting that the Forest Service alone, not including Department of the Interior agencies who also have suppression budgets, spent over one billion dollars on suppression in 2000, 2002, and 2003). This article was published in July 2005 and therefore information beyond the 2004 fire season was not available.
[100] *See* GORTE 2010, *supra* note 13, at 4 (showing the rapidly increasing annual wildfire expenditures of both the Forest Service and the Bureau of Land Management). *But see Wildland Fire Summary and Statistics: Annual Report 2010*, NAT'L INTERAGENCY COORDINATION CTR. 6 (2010), *available at* http://www.predictiveservices.nifc.gov/intelligence/2010_statssumm/intro_summary.pdf (noting that 2010 was a much calmer year compared to the ten-year average, with lower numbers of total fires and acres burned).
[101] *See State of the Climate: Wildfires*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., http://www.ncdc.noaa.gov/sotc/fire (last visited Feb. 2, 2012).
[102] *See* GORTE 2010, *supra* note 13, at 1.
[103] *Id.* at Summary.

of acres burned annually . . . has substantially increased. Federal appropriations to prepare for and respond to wildland fires . . . have almost tripled."[104] Nazzaro went on to detail a plan for cost containment that stresses interagency cohesiveness, but retains control at the federal level amongst the many agencies that currently handle wildland fire prevention and suppression.[105]

Federal wildland fire funding for these agencies is addressed in the budget by four categories and thus four separate payment accounts: preparedness, suppression and emergency funds, fuel reduction, and post-fire rehabilitation.[106] Each category has experienced fluctuation but averaged growth during the last decade.[107] Of these categories, fire suppression is by far the most volatile, fluctuating wildly throughout the past decade with the highest budgetary totals being recognized in the year immediately following an extreme fire season.[108] Enormous and unexpected suppression costs have forced federal agencies to borrow money from other programs in the past, leading the federal government to create an additional "FLAME"[109] account to serve as an emergency fire suppression fund.[110] Overall, increased fire has led to massively increased funding, yet has failed to reduce damages.[111] While the average federal wildfire expenditures from 1994 to 1999 were $1.1 billion, they averaged $3.4 billion from 2004 to 2009.[112] Perhaps of most concern is the fact that there is essentially no cap on suppression funds, as monies will be shifted from other programs or other federal agencies to meet whatever price tag is necessary to fulfill suppression policies on large fires.[113]

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[104] U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-07-1017T, WILDLAND FIRE MANAGEMENT: A COHESIVE STRATEGY AND CLEAR COST-CONTAINMENT GOALS ARE NEEDED FOR FEDERAL AGENCIES TO MANAGE WILDLAND FIRE ACTIVITIES EFFECTIVELY 3 (2007) [hereinafter GAO 2007].
[105] *See id.* at 4–9.
[106] *See* GORTE 2010, *supra* note 13, at 5–8.
[107] *See id.*
[108] *See id.* at 5–7.
[109] *See id.* at 7; *see also* Federal Land Assistance, Management, and Enhancement Act, Pub. L. No. 111-88, § 501, 123 Stat. 2904 (2009).
[110] GORTE 2010, *supra* note 13, at 7.
[111] *See id.* at 12–13 (explaining that total acreage burned rises along with suppression costs, showing that higher cost does not necessarily mean greater effectiveness).
[112] *Id.* at 12. The greater the expenditure that federal agencies are forced to make on wildfire suppression, the less discretionary funds will be available to those agencies (like the Forest Service, the National Park Service, the Bureau of Land Management, the Fish and Wildlife Service, and the Bureau of Indian Affairs) to use for other positive improvements for the federal lands that each agency manages. *See id.* at 13.
[113] Bradshaw, *supra* note 90, at 459–60; *see also infra* Part III.

II. STATE AND LOCAL WILDFIRE COST STRUCTURE

Technically, states and local governments are responsible for fire suppression on all non-federal lands.[114] This division has often placed federal firefighting crews in difficult situations, depending on the stringency for which agencies will adhere to this policy.[115] Even in the heat of an extreme fire season, there is much uncertainty about where a fire might spring up, often leaving some fire crews and resources unoccupied while others are in desperate need of manpower somewhere else in the country.[116] For the sake of domestic wildfire efficiency, it is important to have some degree of coordination between state, local, and federal fire resources, considering it is often difficult to quickly transport the necessary crews and equipment across the country.[117] With some states constantly strapped for money, wildfire programs are beginning to feel the heat,[118] and are often led to rely on aid from the federal government.[119]

States are paying an enormous price for wildfire damage,[120] and it does not stop with the suppression costs they are forced to shell out.[121] In fact, in a recent study done by the Western Forestry Leadership Coalition, suppression costs made up just a range of three percent to fifty-three percent of total costs associated with a single large wildfire, depending on its severity, location, and other surrounding circumstances.[122] This study

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[114] GORTE 2010, *supra* note 13, at 19.
[115] *See id.* at 20 n.33 (noting an instance where two private homes were burned as firefighters from the Bureau of Indian Affairs sat idly by and watched, forced into inaction by jurisdictional demands).
[116] *See* 1995 POLICY & PROGRAM REVIEW, *supra* note 7, at 29.
[117] *See id.* at 29–32.
[118] *See* Kevin O'Leary, *Can Budget-Strapped California Afford More Wildfires?*, TIME (Sept. 7, 2009), *available at* http://www.time.com/time/nation/article/0,8599,1920815,00.html.
[119] *See id.*; *see also* GORTE 2010, *supra* note 13, at 19 (stating that federal assistance to state wildfire programs has risen throughout the past decade, peaking in 2009 (the last year for which data is available) at $314 million); Bradshaw, *supra* note 90, at 456–58 (noting the difficulty and lack of current system to prioritize which resources are to be protected first by coordinated federal resources).
[120] *See 2011 is the Most Expensive Wildfire Season on Record*, CONNECTAMARILLO.COM (Sept. 7, 2011, 2:32 PM), http://www.connectamarillo.com/news/story.aspx?id=660557. "The Texas Forest Service said Wednesday that fighting wildfires have cost an estimated $61.5 million in the last few months alone. That's on top of $121 million lawmakers gave the agency in June to help pay for wildfires earlier this spring." *Id.* (noting the uncertainty in federal assistance grants).
[121] *See* W. FORESTRY LEADERSHIP COAL., THE TRUE COST OF WILDFIRE IN THE WESTERN U.S. 2–3 (2010) [hereinafter TRUE COST OF WILDFIRE].
[122] *Id.* at 5.

includes property damage, loss of commerce, rehabilitation costs, and resulting medical costs.[123] In 2003, this report estimated the "true" cost of just one large California wildfire at over $1.2 billion,[124] while that year California's wildfire agency recorded $252.3 million in suppression costs and $974 million in total damage costs for the entire fire season.[125] When costs do not make it into state and local accountings, they are often dispersed through other government programs and absorbed by the localities decimated from wildfire damage.[126] This information shows that the costs to the victim states, localities, and individuals are already severe, and they will surely rise along with increasing numbers and intensity of wildfires.

Though fire damage to homes and business along the WUI can be catastrophic, if home and business owners are lucky enough to avoid direct fire damage, they can potentially profit from the influx of federal money to the area.[127] With sometimes as many as 3000 firefighters on a single fire, traveling private contractors, local restaurants, and even local landowners often profit from renting land to set up base camps and contracting with federal agencies for food sales and other services like laundry.[128] Wildfires can bring so much commerce to an area that one local businessman nearby a large fire was lead to comment that "[wildfire] brings this almost wartime funding machine into place."[129]

Though some select entrepreneurial individuals are profiting from wildfire, state and local governments in states with high fire activity are left with an extreme burden, as evidenced by California's exacerbated budgetary issues due to raging wildfire costs.[130] Some states seek natural

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[123] *Id.* at 3–5.
[124] *Id.* at 5.
[125] *See* CAL. DEP'T OF FORESTRY & FIRE PROT., CDF 2003 FIRE SEASON SUMMARY 1 (2005), *available at* http://www.fire.ca.gov/communications/downloads/fact_sheets/2003summaryfinal.pdf.
[126] *See* TRUE COST OF WILDFIRE, *supra* note 121, at 3–12.
[127] *See* Bettina Boxall & Julie Cart, *As Wildfires Get Wilder, the Costs of Fighting Them are Untamed*, L.A. TIMES (July 27, 2008), http://www.latimes.com/news/local/la-me-wildfires27-2008jul27,0,4093174.story.
[128] *See id.*
[129] *Id.*
[130] *See* O'Leary, *supra* note 118. In the event of large, disaster level fire, the burden is placed to a greater degree on the federal government with federal assistance grants for direct suppression, Federal Emergency Management Agency ("FEMA") support funding, and even military assistance when necessary, leaving the discussion of cost allocation between the state and federal governments to be determined by no exact guidelines after the fact. *See generally* ROSS W. GORTE, CONG. RESEARCH SERV., RS 22744, CALIFORNIA WILDFIRES AND FEDERAL ASSISTANCE 1–2 (2007).

catastrophe insurance coverage to insulate from exceedingly large wildfire costs, but even this insurance can be preemptively expensive and place a large burden on state budgets.[131] Unlike the federal government, however, states and localities can seek federal assistance with fire suppression costs. Through the Federal Emergency Management Agency's ("FEMA") "Fire Management Assistance Grant Program," FEMA will pay for seventy-five percent of a state or locality's wildfire suppression costs if FEMA deems the fire to be a "threat of major disaster."[132] Ultimately, though state and local wildfire agencies perform much preventative and reactionary work, the final burden in funding wildfire fighting lies with the federal government.

III. FEDERAL AND STATE COST CONTROVERSY

Because wildfires know no political boundaries, they often sweep across the federal lands of many different agencies, state lands, and private land.[133] This fact raises many questions: Should cost be based on where the fire started? How it started? Should it be based on the percentage of burned area or resources used? And, perhaps most importantly, who is to bear the greatest burden in protecting the WUI?

Not one of these factors is determinative of who bears the primary costs of wildfire suppression, although all of these factors go into a discussion between the heads of all the various agencies involved to determine cost structure for each fire individually.[134] Sometimes agencies choose to divide total costs based on acreage burnt, and sometimes the calculation is much more specific, but without a consistent cost calculation, it is even more difficult for federal and state agencies alike to concentrate on cost containment, as it is unclear to the firefighters on the ground actively battling the inferno what ramifications their decisions may have on eventual total cost.[135]

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[131] *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-10-568R, NATURAL CATASTROPHE INSURANCE COVERAGE 2 (2010).

[132] *Fire Management Assistance Grant Program: Overview*, FED. EMERGENCY MGMT. AGENCY (Aug. 11, 2010, 12:48 PM), http://www.fema.gov/government/grant/fmagp/index.shtm (describing the grant application process as a fluid process that takes only a few hours with a written request from a state governor after the state has met a delineated threshold amount in funding the fire suppression).

[133] *See generally* TRUE COST OF WILDFIRE, *supra* note 121.

[134] *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-06-570, WILDLAND FIRE SUPPRESSION: LACK OF CLEAR GUIDANCE RAISES CONCERNS ABOUT COST SHARING BETWEEN FEDERAL AND NONFEDERAL ENTITIES 3 (2006) [hereinafter LACK OF GUIDANCE].

[135] *See id.* (explaining that many federal and non-federal officials have difficulty determining a fair method of cost calculation that places an appropriate monetary burden on

The cost of fire suppression has been firmly placed on the state and federal agencies which are often charged with protecting the WUI (public and private structures) from the spreading fires whose origins are often in federal and state lands.[136] Even so, the federal government has declared the protection of privately owned structures, like homes, paramount to federal fire suppression.[137] "The anomalous result is that hundreds of acres of timberland can be allowed to burn to save a single, unoccupied home."[138] Bradshaw implies that by favoring the protection of residences, the federal government is overlooking both the institutional landowners of valuable timberland and the federal tax-paying population as a whole.[139]

With costs rapidly rising and the nation's budgetary problems providing no relief, it is important for future policy to fight all three of the main causes of rising costs: climate change, past policy mistakes, and the development of the WUI.[140] Our nation's fight against global warming is very controversial and public,[141] with wildfire representing only a small piece of that debate. State and federal wildfire agencies are constantly fighting to undo the mistakes they made in land and fire management over the course of the twentieth century.[142] Despite knowledge of its effects, the final cause, the growth of the WUI, is not being combated at all.[143] Instead, the federal and state governments are subsidizing home-building along the interface by providing fire protection services at no cost to the homeowner, insulating the homeowner from consideration of the danger

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each respective agency). The report also notes that FEMA reimbursement for non-federal agencies can be a powerful bargaining chip for federal agencies to convince non-federal agencies to take on a greater portion of the costs with seventy-five percent reimbursement in mind. *See id.* at 14. Bradshaw suggests that the essentially uncapped federal wildfire suppression budget financially incentivizes the firefighters to let the fire grow. *See* Bradshaw, *supra* note 90, at 459–60. This analysis, however, fails to take into account the non-economic moral, protective incentives of the firefighters in charge.

[136] *See* LACK OF GUIDANCE, *supra* note 134, at 5.

[137] *See* Bradshaw, *supra* note 90, at 455–56.

[138] *Id.* at 456.

[139] *See id.*

[140] *See* GAO 2007, *supra* note 104, at 3–4 (concurring that the three main causes of the rising cost of wildfire are development, climate, and overgrowth).

[141] *See Global Warming Controversy*, SCIENCE DAILY, http://www.sciencedaily.com/articles/g/global_warming_controversy.htm (last visited Feb. 2, 2012).

[142] *See A Brief History*, *supra* note 20, at 3.

[143] *See* 2006 AUDIT REPORT, *supra* note 91, at ii ("[The Forest Service's] suppression costs are likely to continue to rise as the number of homes in the WUI increase because current public expectations and uncertainties about protection responsibilities compel FS to suppress fires aggressively and at great expense when private property is at risk, even when fires pose little threat to national forest system land."). *Id.*

of living in high fire danger areas.[144] In order to protect our nation's wilderness, slow the spread of urban sprawl, reduce the financial pressure on state and federal government, and apply costs fairly to those benefitting, it is time to adopt a new wildfire policy based on homeowners paying the true cost of living in the WUI.

IV. IMPLEMENTATION

The focus of this Note is to find a feasible method of public financing that will shift a greater proportion of the costs of battling wildland fire on those who choose to develop and inhabit the WUI, swelling the costs, difficulty, and danger of fighting fire for federal, state, and local agencies. The key to successful implementation is to create an incentive system that will accomplish the goals mentioned throughout this Note: slow the intrusion of development on our nation's wildernesses, restore forest health, reduce the costs to our increasingly cash-strapped governments, and allocate costs in a fair way to those receiving the benefit.

When considering a course of action, "[t]here are two basic questions in environmental policy: 'What is the right balance between environmental protection and use?' and 'How do we induce economic agents to use the environment in a fashion that we have determined is desirable?'"[145] Thus far, this Note has described an imbalance of overuse taking precedence over environmental protection, and the remainder of this Note will describe a system to induce a more desirable pattern of development that respects the increased fire danger that the WUI creates.

In creating this policy, it is helpful to consider the efforts of Congress in establishing the National Flood Insurance Program[146] ("NFIP") in 1968 when faced with a similar natural disaster issue, massive flooding problems. Beginning as early as the 1920s, the federal government began implementing policies aimed at slowing the increase of the enormous costs associated with flood plain development.[147] It was

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[144] *See id.* at i.

[145] Sara Elizabeth Jensen, *Policy Tools for Wildland Fire Management: Principles, Incentives, and Conflicts*, 46 NAT. RESOURCES J. 959, 962 (quoting CHARLES KOLSTAD, ENVIRONMENTAL ECONOMICS 28 (2000)).

[146] *See* National Flood Insurance Act of 1968, 42 U.S.C. § 4001 (2006).

[147] *See* Charles T. Griffith, Note, *The National Flood Insurance Program: Unattained Purposes, Liability in Contract, and Takings*, 35 WM. & MARY L. REV. 727, 728–29 (1994) (describing early methods of building flood walls, levees, and other capital projects aimed at diverting water away from developing flood plains, ultimately resulting in a false sense of security for residents and increased flood damage due to ineffectual technology).

not until 1968, however, that the NFIP finally went into effect with the dual intentions to provide relief to those residents whose homes were damaged by floods and to deter future development of flood plains for the sake of reducing recurring government and property owner recovery costs.[148] Today, Congress's interests in wildfire relief should be largely the same: to deter growth of the WUI, thus easing the rapid increase of wildfire costs associated with defending development,[149] but also not to burden the individual homeowner with the costs associated with fire damage to so great an extent as to drive a large percentage of WUI homeowners out of their existing homes.[150]

The NFIP failed to deter development of flood plains; instead, by creating a national insurance policy for landowners in flood plains it encouraged development in those areas.[151] "Ironically, by conveying a sense of security and federal approval, the NFIP has probably *increased* our vulnerability to floods in the U.S. by normalizing and thereby enabling flood plain development—which has risen steadily every year since 1968."[152]

Currently, the Forest Service and other federal, state, and local wildfire authorities are repeating the mistakes of the NFIP by spending a majority of their budget on direct defense of and fuel reduction around the WUI.[153] WUI homeowners typically are receiving these benefits without paying a fair market price for the protection.[154] Like the flood insurance program, these services are creating a false sense of security for homeowners and normalizing the dangers they subject themselves to by living in the WUI. In seeking to reduce the government's debt down the line, it is imperative not to repeat the same mistakes of the NFIP.

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[148] *Id.* at 730–31. The program was initially introduced in the early 1950s by President Truman, but, ironically, Congress refused to fund the Act for fear that it would only encourage greater development of flood plains. *Id.* at 729–730. As it turns out, Congress was exactly right. *Id.* at 730.

[149] *See supra* Part I.D.

[150] *See, e.g.*, Francine J. Lipman, *Anatomy of a Disaster Under the Internal Revenue Code*, 6 FLA. TAX REV. 953 (2005) (detailing the costs that a family faces, including money owed to the unsympathetic IRS, after losing their home, many of their neighbors, and all of their possessions).

[151] *See* Griffith, *supra* note 147, at 730–31. The program did provide relief for existing homeowners who could not get flood insurance at a reasonable rate because a relatively small number of homes were at a high enough danger to desire flood insurance, and insurance companies could not spread the risk amongst a sufficiently high volume of policies. *See id.* at 732.

[152] Colburn, *supra* note 73, at 242.

[153] *See id.* at 242–43; *supra* Part I.D; *see also supra* note 146 and accompanying text.

[154] *See* Bradshaw, *supra* note 90, at 463–65.

A. Potential Applications of Funding

While the NFIP provides an example of what NOT to do, policy makers are left to create a solution to our burgeoning wildfire problems that will not backfire in ways similar to the NFIP. "A policy can provide a strong disincentive by creating a complex network of rules and regulations for [developers] to navigate, [but] . . . an even stronger disincentive is created when [an] activity is explicitly forbidden, especially when accompanied by the threat of economic or other sanctions."[155] With this guidance in mind, the options listed below consider administrative and economic policy tools to create effective policy.

In order to simplify the legislative possibilities, this Note will analyze potential policies for implementation in four separate categories, ranging from the highest expenditure and highest expected effectiveness (Option 1) to a lower threshold level of expenditure and expected effectiveness (Option 4). Each category will require a different level of government to act to implement the policy; these actions will be analyzed at the conclusion of Part IV. Variations and hybrids of the four options are plausible as well.

1. Option 1: National Wildfire Suppression and Prevention Fund

The best-case scenario to accomplish the four goals[156] mentioned throughout this Note would be to create a national account funded through landowner payments that vary in percentage based on an assessment of property value and average fire danger for each specific parcel or community,[157] giving payment breaks to communities or parcels in full compliance with specific risk mitigation practices.[158] A portion of

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[155] Jensen, *supra* note 145, at 963 n.14.

[156] *See supra* Introduction.

[157] Measuring wildfire risk can be difficult and assessments will be highly disputed in the face of accompanying economic costs. *See* Geoffrey H. Donovan, Patricia A. Champ & David T. Butry, *Wildfire Risk and Housing Prices: A Case Study from Colorado Springs*, 83 LAND ECON. 217, 217–18 (2007). But federally accepted risk assessment methods are already in place. *See* GORTE 2010, *supra* note 13, at Summary. Still, new legislation will need to settle on a uniform system of risk assessment for effective implementation of this policy.

[158] *See Getting Public Involvement in Wildfire Hazard Mitigation*, 111 FIRE SCI. BRIEF, June 2010, at 1–3, *available at* http://www.firescience.gov/projects/briefs/05-3-2-05_FSBrief111.pdf (outlining various local practices adopted to create more fire safe homes and structures in the WUI); *see also* Bradshaw, *supra* note 90, at 462 ("[S]ome states impose increased liability against wildland-urban interface owners who do not engage in appropriate vegetation clearing practices.").

the funds in the account would be distributed amongst existing local, state, and federal wildfire agencies that provide preventative and rehabilitative services to local, state, and federally owned wilderness land along the WUI.[159] It is these interface areas that such a high percentage of prevention costs are devoted to already.[160] Fund dispersal would be flexible enough to allow states and localities to use a portion of the funds collected to create new wildfire agencies where appropriate.

While efforts have unsuccessfully been made in the past to ramp up prevention spending in hopes of reducing suppression costs,[161] prevention methods like mechanical cutting, prescribed burning, and creation of fire breaks are still revered as the most effectual methods of wildfire prevention.[162]

The account created would not only distribute funds for this type of wildfire prevention and forest health maintenance, it would retain the greatest proportion of funds to create a wildfire suppression fund that would be used in state and national suppression efforts with strong impacts on the WUI or likely ignition from the WUI.[163]

Creation of this type of account would bill real property owners directly for the risks created by development in the WUI; it would increase state and national agencies' budgets for prevention and rehabilitation of forest health; it would deter excessive, irresponsible development along

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[159] Bradshaw suggests that because the government offers little protection for institutional landowners' timberland, these private landowners are often the most individually prepared for preventing and controlling wildfire on their own property. *See* Bradshaw, *supra* note 90, at 465–66.

[160] *See* GORTE 2010, *supra* note 13, at 17 ("The proportion of fuel treatments in the WUI has increased since FY2001 . . . , from 37% . . . to about 60% from FY2003 to FY2006 . . . , and 70% in FY2008.").

[161] The Healthy Forests Restoration Act of 2003 ("HFRA") heavily advocated and increased funding for national prevention efforts, but results have been limited. *See* Jensen, *supra* note 145, at 968; *see* GORTE 2010, *supra* note 13, at 16–18 (describing the increased fuel treatment efforts—primarily thinning and prescribed burning—over the last two decades, and noting that there is little empirical evidence to show that these efforts have reduced the rapid increase of wildfire suppression costs seen over those same two decades).

[162] *See* GORTE 2010, *supra* note 13, at 18. Gorte points out the difficulty of extracting information on the effects of these fire treatments. *See id.* at 17–18. With increased prevention funding stemming from the HFRA, total acreage treated per year has stabilized at just less than three million acres. *Id.* at 16. At this level, it would take the Forest Service and Department of the Interior twenty-five years to treat all lands at "high risk." *Id.*

[163] Persons directly responsible for ignition of a wildfire can be liable for the ultimate damage and costs of suppression in many states. *See* Bradshaw, *supra* note 90, at 475. Under the proposed system, these laws would remain in effect, but this type of "cost recovery" typically only yields four to six million dollars a year, hardly making a dent in national suppression costs. *See id.*

our nation's wildernesses by raising the costs of WUI construction, and it would provide increased physical protection for existing structures without making the federal government infinitely liable through a mandated insurance program, like the NFIP.[164]

2. Option 2: National Wildfire Suppression Fund

Because of the potential difficulties that legislators would face from political and constituent opposition to creation of such a large fund, a more conservative option would be to limit the fund to directly paying for suppression of wildfires involving the WUI, leaving prevention and rehabilitative costs to the budgets of existing governmental agencies. Depending on the degree of cost that the government is willing to place on the reckless WUI homeowner, this fund could serve as an overflow fund, or as the primary funding for wildfire suppression in the WUI.

If the government chooses to act more conservatively through creation of an overflow account, the account would be very similar to the current FLAME account originally created in 2009.[165] The FLAME account was created to help government agencies avoid cutting other programs or borrowing from other accounts in order to fund wildfire suppression.[166] The FLAME account can be used as overflow in standard federal wildfire suppression actions, with no increased limitations on the use of FLAME funds to defend private lands.[167]

In fiscal year 2010 the FLAME fund was financed at $474 million ($413 million for the Forest Service and $61 million for the Department of the Interior), but in fiscal year 2011, the requests for funding were smaller, $387 million ($291 million for the Forest Service and $96 million for the

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[164] As Ross Gorte points out in his report to Congress, a similar mandated insurance program for properties at high risk for wildfire has been suggested by some. *See* GORTE 2010, *supra* note 13, at 20. Without such a program, many property owners without private insurance or with insurance that covers structure fire, but not wildfire, will be left with nothing after a wildfire has burned through their community. *See id.* Such devastating costs to citizens should never go without consideration when government implements related legislation, but the purpose of this Note is to encourage developers and homeowners to recognize the risk potential of inhabiting the WUI before disaster strikes.

[165] *See* Federal Land Assistance, Management, and Enhancement Act of 2009, Pub. L. No. 111-88, § 501, 123 Stat. 2904 (2009).

[166] *See id.* § 502(c) ("The FLAME Funds shall be available to cover the costs of large or complex wildfire events and as a reserve when amounts provided for wildfire suppression and Federal emergency response in the Wildland Fire Management appropriation accounts are exhausted.").

[167] *See id.* § 502(e)(3).

Department of the Interior).[168] Though the federal government also created an additional account of contingency reserve funds, a very conservative estimate for the creation of a WUI suppression fund would begin within this range of funding.[169] The ultimate decision on funding this national suppression account would be based on annual taxes assessed on WUI properties. The assessment rate would be left to the legislature to determine a fixed or variable value.

Even a relatively small account value could have a great effect in achieving some of this Note's stated goals. A fund solely dedicated to wildfire suppression costs would have a great effect in improving the overall forest health of the nation's wilderness. But, creation of such a fund would disincentivize sprawl through increased annual costs to live in the WUI and, depending on implementation strategies, possible additional costs like fees or assessments to build new construction in the WUI. The suppression fund would more accurately allocate costs to the WUI owners receiving the benefits of WUI wildfire suppression. Finally, the suppression fund would achieve the goal of reducing the burden on federal and state governments to fight wildland fire and protect the WUI.

3. Option 3: State Wildfire Funds

Implementing similar suppression funds to the National Suppression Fund suggested in Option 2 in each state substantially affected by wildfire may be a more simple solution to implement, but participation across the board would be difficult to achieve. Because the power to tax real property is vested in the states,[170] it would follow that any type of tax to be assessed on properties in a specific area, in this case the WUI, would be best implemented by the states. As long as states can receive aid from the federal government for large wildfire suppression costs,[171] however, they will be reluctant to increase their share of funding wildfire costs, in effect accepting the greater responsibility for wildfire management.[172] While a state's voting populace may be more likely to accept increased costs along with a promise of greater prevention efforts, forest health restoration, and more vigorous direct action like more state funded initial

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[168] *See* GORTE 2010, *supra* note 13, at 7.
[169] *See id.* The contingency fund requests for fiscal year 2011 totaled $357 million, $282 million for the Forest Service and $75 million for the Department of the Interior. *Id.*
[170] *See* U.S. CONST. art. I, § 9, cl. 4; U.S. CONST. amend. XVI.
[171] *See supra* Parts II & III.
[172] *See generally* O'Leary, *supra* note 118.

attack crews, it seems quite unlikely that large-scale improvements would be accepted at cost across a majority of states. States will be reluctant to pass these costs onto their citizens when the federal government has shown its willingness to finance suppression costs in certain instances.

Implementation on the state level would create jurisdictional problems as well, for wildfires do not cease at state lines,[173] and each year's weather brings a different burn pattern, more heavily affecting different states every year.[174] State level implementation would be less flexible than a national program that could divert resources to the varied locations across the country that most desperately need suppression resources in a given year.

4. Option 4: State and Local Prevention Funds

Localities that are the most affected by wildfire will be more likely to adopt programs that increase the costs directly placed on citizens than will entire states in which a smaller percentage of the population is directly benefitting from wildfire programs. Various localities across the country in fire-prone areas have already taken action in a number of ways, choosing to finance programs aimed at prevention, education, risk assessment and management, and other preemptive methods.[175] Some localities have gone as far as "self-imposing" local taxes and ordinances that mandate programs and funding for vegetation removal and the creation of buffer zones between vegetation and structures.[176]

Option 4 contemplates this and similar programs, already in place in many areas, in which localities, larger regions, or states establish legislation and policies that support micro-scale wildfire prevention. Such

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[173] *See generally* TRUE COST OF WILDFIRE, *supra* note 121.

[174] *See* Kevin Bonsor, *How Wildfires Work: Weather's Role in Wildfires*, HOWSTUFFWORKS, http://science.howstuffworks.com/nature/natural-disasters/wildfire2.htm (last visited Feb. 2, 2012).

[175] *See* Margaret Reams et al., *An Examination of State and Local Fire Protection Programs in the Wildland-Urban Interface*, *in* PROCEEDINGS OF THE SECOND INTERNATIONAL SYMPOSIUM ON FIRE ECONOMICS, PLANNING, AND POLICY: A GLOBAL VIEW, *supra* note 88, at 495, 497. This article concludes by noting that ultimate success depends largely on budgetary constraints, policy of larger governmental units, and community support. *See id.* at 503.

[176] *See* Lara Cooper, *City Council Gives Vote of Support for Wildfire Suppression Program*, NOOZHAWK (May 25, 2010), http://www.noozhawk.com/article/052510_santa_barbara_wildfire_suppression/ (describing a locality-wide program focused on ladder fuel, or vegetation, removal, especially around structures, in order to minimize damages in the event of wildfire, a frequent occurrence in this locale).

programs would include property maintenance requirements and the creation of homeowner-funded programs that would hire third parties to inspect, cut, and clear excess vegetation from public and private lands in a community.[177] Though properties in the WUI may be singled out and charged through these methods, the costs of small-scale programs may not provide significant deterrence to irresponsible WUI development, and the programs may be aimed more at sustaining development than at creating responsible growth patterns.[178] Such policies, focused on existing home protection, are to be expected from those already living in the WUI, naturally motivated to protect their home and way of life. Still, as the study mentioned above shows, even programs aimed at education and prevention can have a substantial effect on a consumer's willingness to move into an area with high wildfire risk.[179]

Option 4 is a very attainable option, but participation in this option would vary based on locality lines. While aspects of the varied programs implemented at the local level may restore forest health to a degree and reduce suppression costs in the WUI, Option 4's effects would be limited as it would not necessarily be adopted by widespread localities, it may do more to encourage development than discourage it, and it would do nothing to reallocate the major suppression costs associated with large fires.

B. Federal Legislation Is the Most Desirable Option

While the effects of property damage are felt most heavily by individuals at the local level, the governmental financial effects of wildfire legislation would be felt primarily at the federal level. Because wildfire creates such a daunting burden on the federal government, if large-scale relief is to occur, it is most likely to originate at the federal level, the body set to see the largest savings.

According to the criteria set out in this Note, federal action would have the greatest effect in accomplishing the goals set out by this Note.

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[177] *See* Bradshaw, *supra* note 90, at 462 (stating that private WUI owners typically only have "ex-ante obligations" for wildfire prevention, if any).

[178] At least one study suggests that simple community and potential home-buyer education of actual wildfire risk factor of a property can vastly change the potential home buyer's willingness to pay for a WUI home. The study concludes that an educated home buyer is willing to pay $40,000 less than a home buyer without the benefit of wildfire risk education. *See* Donovan et al., *supra* note 157, at 228–29.

[179] *See id.* at 232. The final results of the study question whether this educational campaign will have a lasting impact on encouraging home buyers to incorporate wildfire risk factors into the equation when deciding what type of home and in what location to purchase. *See id.*

The most direct method of federal implementation would be based on direct taxation of developed properties in what is designated the WUI,[180] a method contemplated in Options 1 and 2 above. Since wildfire damage to a community creates such extraordinary costs to that community—economic and medical losses, rebuilding costs, loss of business, and so forth—it would be very difficult to collect taxes to recoup suppression costs from individuals, properties, or communities after fire damage has occurred and various costs are already being felt; therefore, it is logical to assess taxes based on a well-defined risk factor before the damage occurs, allowing WUI land owners to pay for risk and not necessarily be responsible for 100% of the suppression costs associated with protecting each landowner's own land or community.[181]

Unlike the NFIP, the goal of this program would not be to subsidize insurance for homes and properties in the risk area,[182] but rather to exact a greater portion of the costs associated with the protection and management that is already being provided to these properties. While legislation would seek to minimize the detrimental effects to current WUI residents, the primary goal of this legislation would not be property owner protection, it would be fair cost allocation.[183] To implement either Option 1 or Option 2 mentioned above, the key challenge will be drafting federal legislation that does not interfere with state sovereignty or create too great a burden on individual property owners that would drive people and families out of their homes.

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[180] If such a program were created, defining the WUI would certainly become a major issue. One established definition came in the HFRA. The HFRA defines the WUI as "an area within or adjacent to an at-risk community . . . ." Healthy Forest Restoration Act of 2003, 16 U.S.C. § 6511(16)(A) (2006). The HFRA defines an "at-risk community" as "a group of homes and other structures with basic infrastructure and services . . . within or adjacent to Federal land; in which conditions are conducive to a large-scale wildland fire disturbance event . . . ." *Id.* §§ 6511(1)(A)–(B). This definition would leave a great deal of discretion to assessment agents charged with mapping out the WUI.

[181] *See* TRUE COST OF WILDFIRE, *supra* note 121.

[182] *See* Griffith, *supra* note 147, at 730.

[183] While traditional insurance may not create a socially beneficial incentive system for homeowners in the WUI, collaborative insurance programs that use an actuarial risk assessment encouraging homeowner wildfire mitigation efforts may create a more cost-effective and socially beneficial solution to homeowner wildfire insurance. *See generally* Mariam Lankoande, Jonathan Yoder & Philip Wandschneider, *Optimal Wildfire Insurance in the Wildland-Urban Interface in the Presence of a Government Subsidy for Fire Risk Mitigation* (Sch. of Econ. Sci., Wash. State Univ., Working Paper No. 2005-9, 2005), *available at* http://faculty.ses.wsu.edu/WorkingPapers/Yoder/LankoandeEtAl_InsuranceSubsidiesWildfire_2005.pdf.

1. The National Wildfire Protection Fund

If implemented at the federal level, creation of a wildfire protection fund to supplement the budget currently afforded the Department of the Interior and the Department of Agriculture (U.S. Forest Service) will be quite complex. For the sake of this article, such an act of Congress that would implement Option 1 or Option 2 will hypothetically be known as the National Wildfire Protection Act ("NWPA"). The challenge for Congress would be to fit a federal tax on property into our nation's legal framework.

For NWPA legislation to be constitutional, Congress must cite the specific power that allows it to levy a tax based on a percentage risk factor of fire danger for each specific parcel of land within the WUI.[184] To do so, NWPA should cite specific concerns of safety and general welfare[185] that are protected by this act.[186] Continuing to use the NFIP as a model, Congress would create a program that withholds federal wildfire protection of any type, including any additional preventative or suppression services contemplated to be provided by the new NWPA funding, from non-participating communities, unless those communities participate in the NWPA.[187]

The legislation would be drafted so as to assess costs as a function of the level of wildfire risk of a property or community and the value of the

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[184] *See* U.S. CONST. amend. X. ("The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.").

[185] *See* U.S. CONST. art. I, § 8, cl. 1.

[186] *See* National Flood Insurance Act of 1968, 42 U.S.C. § 4001 (2011). The NFIP outlines its purpose clearly, as follows:

> (a) Necessity and reasons for flood insurance program[.] The Congress finds that (1) from time to time flood disasters have created personal hardships and economic distress which have required unforeseen disaster relief measures and have placed an increasing burden on the Nation's resources; (2) despite the installation of preventive and protective works and the adoption of other public programs designed to reduce losses caused by flood damage, these methods have not been sufficient to protect adequately against growing exposure to future flood losses; (3) as a matter of national policy, a reasonable method of sharing the risk of flood losses is through a program of flood insurance which can complement and encourage preventive and protective measures; and (4) if such a program is initiated and carried out gradually, it can be expanded as knowledge is gained and experience is appraised, thus eventually making flood insurance coverage available on reasonable terms and conditions to persons who have need for such protection.

Id. § 4001(c).

[187] *See discussion infra* Part IV.B.2.

parcel in its present condition. This formula would provide some protection to lower income communities and residents in the WUI, aiming to increase funding without forcing families in the area into sale or foreclosure. The NWPA would also offer a break in payment for properties that comply with a slate of "Firewise" conditions in the upkeep of the property: keeping a buffer zone around the home and minimizing the level of excess brush and vegetation by periodically clearing leaves, saplings, and other ladder fuels from the property, implementing aspects of Option 4, as described above, into a national program.[188] Incentivizing large-scale participation in micro-prevention tactics should mitigate the costs of direct home defense from wildfire.[189]

While the law would go into effect immediately for any new construction, and include a registration and risk assessment process, a buffer/assessment period would be given to existing homeowners in order to maximize notice of the shift in costs. Although this legislation would stand a strong chance to accomplish the goals set out in this Note—to defer costs from the government to property owners and developers, to protect and possibly institute additional federal wildfire programs that support restoration of forest health, to ease the budgetary obligations of state and federal wildfire agencies, and to deter irresponsible development of the WUI, the legislation will certainly face political and judicial challenges along the way.

2. The Federalism Roadblock

Land management is a power generally left to the states.[190] The federal government allows states the exclusive power to levy direct property taxes on the value of real property[191] in its present form and on the underlying parcel. So, the federal government must find a way, without directly taxing private properties in the WUI, to assess costs on WUI landowners and create a direct income stream for the NWPA to increase wildfire management funding, or, in the alternative, induce the states to increase their income streams for wildfire funding from WUI properties across the board.

One key to drafting NWPA legislation will be avoiding any state claims of sole sovereignty over private property taxation. Again, it is useful

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[188] *See generally* Reams et al., *supra* note 175.
[189] *See generally id.*
[190] *See* U.S. CONST. amend. X.
[191] *See, e.g.*, CAL. REV. & TAX CODE § 75 (West 2010); COLO. REV. STAT. § 39-1-101 (2010).

to turn to the NFIP for comparison. The federal government's power to implement this program was challenged in *Texas Landowners Rights Association v. Harris*.[192]

In response to low enrollment at the outset of the NFIP, the federal government enacted the Flood Disaster Protection Act of 1973.[193] Sections 102 and 202 of the Act deny federal assistance or federally related financing by private lending institutions for acquisition or construction of properties within participating or eligible communities of the NFIP, unless the property is covered by national flood insurance.[194] The plaintiffs challenged this provision as a violation of the Tenth Amendment, claiming that the federal government is usurping local land use power through the adoption of this program.[195] While the plaintiffs argued that the federal program does not present an actual choice for communities to participate, but rather an "illusory" choice,[196] the court ruled that a "carrot and a stick" inducement for state action is constitutional, so long as the federal legislation presents a choice to the states.[197] The court held that the determination of whether an actual choice exists is NOT based on a balancing test between "the severity of the sanctions" and "the discretion left with the States."[198]

The court affirmed the federal government's power under the General Welfare Clause[199] as "a grant of power, the scope of which is quite expansive,"[200] and noted that Congress did a more than adequate job in setting out the national issues that demonstrated a need for a plan for national flood insurance.[201] The court went on to say that, "the federal government usually attracts voluntary state compliance . . . 'by offering the states a sufficiently attractive incentive or by threatening to withdraw a federal benefit they are presently receiving.'"[202]

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[192] Tex. Landowners Rights Ass'n v. Harris, 453 F. Supp. 1025 (D.D.C. 1978).
[193] Flood Disaster Protection Act of 1973, Pub. L. No. 93-234, 87 Stat. 975.
[194] *See id.* §§ 102, 202.
[195] *See* 453 F. Supp. at 1027–28.
[196] *See id.* at 1029.
[197] *See id.* at 1030.
[198] *Id.*
[199] U.S. CONST. art. I, § 8, cl. 1 ("The Congress shall have power to lay and collect taxes, duties, imposts and excises, to pay the debts and provide for the common defence and general welfare of the United States; but all duties, imposts and excises shall be uniform throughout the United States.").
[200] 453 F. Supp. at 1030 (quoting Buckley v. Valeo, 424 U.S. 1, 90 (1976)).
[201] *See id.*; *see supra* text accompanying note 171.
[202] 453 F. Supp. at 1031 (quoting District of Columbia v. Train, 521 F.2d 971, 993 n.26 (D.C. Cir. 1975)).

With the NFIP and the Flood Disaster Protection Act as guidance, Congress could draft legislation for the implementation of the NWPA (in the form of Option 1 or Option 2) that mirrors the drafting of these two acts.

The NWPA would be based upon an optional program that designates graded WUI "risk" areas within each state, just like the flood zone risk areas in the NFIP.[203] The program would predicate continued federal preventative and suppression labor and financial assistance within non-federal in-state lands, the availability of FEMA wildfire reimbursement plans, and the additional preventative/suppression services created by increased funding on state and local acceptance of a WUI property ownership-based funding of the new national wildfire protection fund. Like the flood insurance program, the government is offering a benefit under the General Welfare Clause that, even though the lack of which is very unattractive, gives states and localities the choice between paying for and receiving federal wildfire protection or relying solely on state and local agencies. Though localities are likely to subscribe to the NWPA, even a choice to opt out of the program may reduce the federal government's burden of suppression and prevention costs in that area, necessitating states not in compliance with the Act to expand their state wildfire services. Ultimately, mirroring the NFIP will give the NWPA the best chance to withstand challenges on federalism grounds and ensure voluntary local participation or provide the catalyst for states to take their own initiative.

3. Takings Clause Issues

In *Texas Landowners Rights Association* above, challenging national flood insurance, the plaintiffs not only challenged the law under the Tenth Amendment on federalism grounds, they disputed the government regulation on their property as going so far as becoming a taking under the Fifth Amendment.[204] They claimed that the federal program devalued the land subject to the program to such a great extent so as to be considered a taking.[205] With the implementation of the Flood Disaster Prevention Act, the government went beyond the simple choice of participation in the program, and placed building and construction limitations on properties in the subject area that do not opt into the federal insurance program.[206]

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[203] *See* Griffith, *supra* note 147, at 733.
[204] *See* 453 F. Supp. at 1027, 1031.
[205] *See id.* at 1031.
[206] *Id.* at 1027–28; *see* 42 U.S.C. § 4012a (2006).

The court held that, "[w]hen the government acts to protect the safety and welfare of the community, generally no taking or appropriation is found. . . . As a matter of policy the Court has been reluctant to find governmental takings where the action challenged is shown to be related to a legitimate public interest."[207] Since this case was decided in 1978, however, takings litigation has progressed to a significant degree, and the NWPA would be unwise to rely solely on this language for safe harbor. Still, as a government program that encourages participation through incentives and does not physically infringe upon property nor take property completely away from a landowner, the NFIP would likely not be considered a taking under regulatory takings law.[208]

Though a regulatory taking may be a "hard sell," situations may arise where the additional burden of a wildfire protection fund payment would make individual landowners unable to maintain ownership in their property. For that matter, if the NWPA were to incorporate similar restrictions on construction, individual scenarios in which a court may find a "total taking"[209] or "temporary taking"[210] may become more probable. For the sake of avoiding governmental liability and protecting the rights of existing residents in the WUI, it is important to include stipulations in the law that protect low-income homeowners from excessive fees, likely through income graded payments and the allowance of a grace period for existing property owners. Similarly, to avoid takings litigation, implementation of the NWPA must avoid singling out individual properties in an area by applying uniform costs to communities whenever possible to avoid equal protection and takings claims.[211]

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[207] 453 F. Supp. at 1031–32.

[208] *See* Robert Meltz, *Takings Law Today: A Primer for the Perplexed*, 34 ECOLOGY L.Q. 307, 370–71 (2007). Meltz writes,

> We know from decades of decisional law that a *Penn Central* claim is a difficult sell—i.e., that the economic impact factor in most courts is not that much laxer than the total taking standard, and that the legal landscape at the time of property acquisition is often pivotal, whether or not background principles are involved.

Id. at 371.

[209] *See id.* at 330–33 (describing what modern law may consider to be a "total taking" by the *Lucas* standard).

[210] *See id.* at 351–52.

[211] *See id.* at 314–15, 315 n.31 (noting that equal protection and takings claims may run together in cases in which a single property owner is relied upon to finance a regulatory burden).

C. Option 3 Implementation: State-Level Targeted Taxation Legislation

Success of the NWPA is likely predicated on its passing through political oppositions and judicial challenges; however, if enacted into law, the NWPA would be a strong step towards shifting realistic wildfire costs to WUI property owners, easing the financial burden of wildfire management on the government, deterring irresponsible growth in the WUI, and increasing funding towards prevention programs and restoration of forest health.

In the event that Option 1 and/or Option 2 are unsuccessful, Option 3 creates a plausible alternative to be enacted individually by each state. States that see a high frequency of wildfire and/or high levels of property damage in the WUI, like California, Colorado, Montana, Idaho, Alaska, Nevada, Arizona, Utah, and others,[212] would be excellent candidates for creating a state wildfire protection fund financed by WUI property owners. Management of such a fund may prove difficult in the event of a large fire that spans multiple states, complicating the already muddled cost allocation process of wildland fire suppression.[213]

Realistically, however, it is likely not management difficulties or judicial challenges[214] that will lead to Option 3's failure, but politics. Despite the positive environmental and fiscal impacts of a state wildfire protection fund, legislatures and the voting public may simply be unwilling to enact legislation that places a higher financial burden on their home state when the status quo is so heavily financed by the federal government and general tax dollars.[215]

D. Option 4 Implementation: Impact Fees, Special Assessments, and Local Prevention-Focused Policy

Even if unwilling to shoulder a greater portion of suppression costs, property owners in the WUI have proven their recognition of the increasing danger that wildfire brings to their communities through

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[212] *See 1997–2009 Large Fires (100,000+ Acres)*, NAT'L INTERAGENCY FIRE CTR., http://www.nifc.gov/fireInfo/fireInfo_stats_lgFires.html (last visited Feb. 2, 2012).
[213] *See supra* Part III.
[214] *See supra* Part IV.B.2. The same federalism challenges would not exist for state governments enacting property-based taxes.
[215] *See supra* Part III.

enactment of various localized, prevention-oriented programs.[216] Option 4 seeks to expand these localized prevention programs across greater areas, mandating compliance through more formal, well-publicized and action-based programs.

While the goal of these programs is to "creat[e] effective wildfire mitigation strategies to protect lives, property, and resources within developed communities and private holdings in wildland intermix areas,"[217] expanding the scope of local programs and more frequently mandating WUI property participation may also accomplish many of the goals discussed above with the NWPA. Currently, a large number of localities with localized prevention programs use education as a key component of the program.[218] Education alone can serve to alter growth patterns by shifting consumer home preferences away from high wildfire risk areas, topography, and home site characteristics.[219]

Pairing regulatory programs and homeowner assistance with additional education and risk assessment programs can only serve to multiply the educational effects on consumer risk aversion by creating greater exposure of the public to the threat of wildfire in the WUI. Most prevention programs of this type stem from local and county ordinances.[220] It is the California program, however, that serves as a supreme illustration of the more expansive reach that Option 4 contemplates. California has adopted defensible space regulations (reducing vegetation near structures) that apply to WUI and high-risk areas across the entire state.[221] Statewide legislation like California's is more sweeping and hence more likely than local ordinances to increase awareness of wildfire risks, allocate more costs to WUI landowners, and ideally reduce some costs to the government by reducing the ignitability of private structures and properties along the WUI.

In order to induce states to adopt fire safe programs like this one, members of Congress have proposed legislation that would increase the level of FEMA funding for suppression costs to states, from seventy-five percent to ninety percent, that implement statewide fire safety policies

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[216] *See supra* Part IV.A.4; *see generally* Terry Haines et al., *The National Wildfire Mitigation Programs Database: State, County, and Local Efforts to Reduce Wildfire Risk*, *in* PROCEEDINGS OF THE SECOND INTERNATIONAL SYMPOSIUM ON FIRE ECONOMICS, PLANNING, AND POLICY: A GLOBAL VIEW, *supra* note 88, at 505.
[217] Haines et al., *supra* note 216, at 506.
[218] *See id.* at 507.
[219] *See generally* Donovan et al., *supra* note 157.
[220] *See* Haines et al., *supra* note 216, at 508.
[221] *See id.*

or ordinances that comply with the National Fire Protection Association Code.[222] The notion of increasing federal responsibility for suppression costs from general funds is in contrast with the thesis of this Note, but legislators must use ideas like this to strike a balance between wildfire suppression today and forest health maintenance and wildfire prevention for the future.

Congress can use similar legislation to encourage states to mandate responsible construction, planning, and maintenance of areas of high wildfire risk.[223] Community standards should include financial responsibilities that go towards funding risk assessment, vegetation removal (on public, private, residential, and commercial lands), defensible space creation, and community education.

Localities can implement these practices and come into compliance with state standards using a number of financing methods. Though each state and locality may use different terms, an array of policy tools are at the disposal of the locality to settle on a judicially acceptable method of raising capital.[224] To best accomplish the purposes laid out in this Note, special assessments and impact fees should be used by local governments in order to transfer a realistic cost of wildfire protection to the property owners living in high risk WUI areas.

Impact fees and exactions can be charged to a developer who must apply for certain permits and building approvals with a locality.[225] While a locality may have existing projects that it intends to fund through these methods, fire prevention has typically been a judicially accepted

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[222] *See* Fire Safe Communities Act of 2009, S. 762, 111th Cong. §§ 2(4) (2009) (naming areas in which conformance would be required, including use of fire safe materials in new construction, specifications for site and community design, defensible space requirements, standards for infrastructure management, and many more).

[223] *See id.*

[224] *See* Ronald H. Rosenberg, *The Changing Culture of American Land Use Regulation: Paying for Growth With Impact Fees*, 59 SMU L. REV. 177, 190 (2006). Rosenberg writes that:

> Funds for local capital projects could be collected from one or more of the following list: 1) *intergovernmental transfers* from the federal and/or state government—grants, revenue sharing, and subsidies; 2) *gifts* from private corporate, foundation, or individual benefactors; 3) *taxes*—property, sales, income, special purpose, gasoline, excise, and real estate transfer or recording; 4) *bonds*—general obligation or revenue; 5) *special assessments*; 6) *user charges*; 7) *special taxing districts revenues*; and 8) *land use exactions*, including development impact fees.

Id. Rosenberg goes on to clarify that in most localities only a few of these financing methods are legally available. *See id.*

[225] *See* Isla Verde Int'l Holdings v. City of Camas, 49 P.3d 867 (Wash. 2002).

reason for charging an impact fee.[226] Tacking the additional cost onto development in the WUI whenever possible will help deter irresponsible growth and increase awareness of the serious risk of wildfire.

Special assessments can be applied to existing developed properties and communities in order to fund a capital improvement for which each property will see a benefit.[227] As seen applied in Santa Barbara above, special assessments can be used to essentially "tax" local residents for the creation of a wildfire prevention fund.[228] In this case, the fund was responsible for assessing risk and removing vegetation on both public and private lands throughout the community.[229]

Though implementation of Option 4 risks encouraging the continued development of the WUI and does little to restore forest health or encourage rehabilitation, it makes promising strides toward applying wildfire costs directly to homeowners and reducing the long-term costs on federal and state wildfire management agencies. Ultimate accomplishment of these economic goals depends largely on the scale at which Option 4 is implemented. Without widespread participation in ambitious programs, however, total costs shifted will be minimal and development incentives will be negligible. To create a positive incentive system for responsible development, protect our wildlands, and insulate government agencies from spiraling costs, action should be taken at the federal level, mandating pervasive changes in the United States' relationship with wildfire.

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[226] *See* Rosenberg, *supra* note 224, at 182 n.19 (listing fire protection as one of a list of typical infrastructure improvements funded through impact fees). *But see id.* at 247 (citing S. Nev. Homebuilders Ass'n v. City of N. Las Vegas, 913 P.2d 1276, 1278–79 (Nev. 1996), which held that fire prevention services were not included in the statutory list of "capital improvement" projects to be funded in Nevada by impact fees).

[227] *See id.* at 204 (noting that the difference between different financing methods may be in name only; localities have distinct rules for what types of citizen financing will be available). Rosenber writes,

> This is an area where labels matter and the judicial categorization of a financial charge placed on land development as a tax, a special assessment, or a development impact fee can be determinative in determining lawfulness. In a particular state context, one of these devices may be authorized and available to the locality, while another technique may not.

Id.

[228] *See* Cooper, *supra* note 176.

[229] *See id.*

CONCLUSION

A once heroic battle[230] against an unquestioned enemy, the United States' relationship with wildfire has progressed into a circus-like balancing act, leveraging environmental concerns and future wildfire protection against development in the WUI and the assurance of human safety through fire suppression. Financing this balancing act is becoming increasingly difficult in the face of three main causes, all showing no sign of relief in the near future. Overgrowth in our forests created by past mismanagement is allowing fires to burn longer, more intensely, and to cover greater areas;[231] climate change is exacerbating this problem with early snow melt, higher average temperatures, and drier forests;[232] the encroachment of the WUI deeper into our wilderness lands is forcing state, federal, and local agencies to expend greater portions of their budgets on direct defense of WUI structures and wildfire prevention in the WUI, all the while preventing prescribed fire or a "let it burn" policy and providing WUI structures as kindling to wildfires spreading across the nation.

As these three factors drive wildfire management costs upward, with the largest proportion of costs for direct wildfire suppression, state and federal wildfire agencies are unable to even maintain the status quo level of wildfire risk or wildfire expenditure from year to year. With the promise of more intense and more expensive wildfire seasons in the future, it is the federal government that will be counted on to finance large fire suppression, not to mention other prevention and rehabilitation costs. Currently, federal programs are fighting two of the three main causes of increasing costs—trying to turn back the clock on historical forest fire suppression through thinning, prescribed burning and other projects,[233] and beginning a policy fight against global warming, even if not necessarily BECAUSE *of* its effects on wildfire.[234] It is time for federal action to help fight the third main cause, the cause that is potentially the easiest to regulate, the growth of the WUI.

This Note lays out four options for ways in which federal, state, and local governments can act to achieve the four goals of this Note: fair

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[230] *See* PYNE, *supra* note 22, at 239.
[231] *See* Dodge, *supra* note 47, at 139–40.
[232] *See* Westerling et al., *supra* note 51, *passim*.
[233] *See A Brief History*, *supra* note 20, at 3.
[234] *See* 2009–2010 NATIONAL ASSOCIATION OF STATE FORESTERS ANNUAL REPORT, *supra* note 60, at 14.

cost allocation, encouraging responsible growth, reducing governments' financial burden in wildfire management, and restoring forest health. Accomplishment of these goals likely requires federal action, like the proposed NWPA, as state and local governing bodies will not be willing to voluntarily place a greater proportion of future, potentially massive suppression and prevention costs on their constituents. Federal legislation is imperative in creating a sustainable cost structure for financing wildland fire management, aimed primarily at creating realistic costs that foster informed, responsible, and risk-conscious development of the WUI.