

NOTES

Let It Burn: An Argument for An Adaptive Resilience Approach to Federal Wildfire Management in the Western United States

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ABSTRACT

Despite years of wildfire management, the Western United States continually experiences the most expensive and most destructive fire seasons on record. This trend indicates that the federal government’s wildfire management strategies, both past and present, have been, and still are, inadequate. This Note explains the inadequacies in these strategies and suggests two ways in which these inadequacies can be addressed. First, the courts can maintain some environmental protections under the current management strategy, the Healthy Forests Initiative (“HFI”), by probing into the reasoning underlying proposed U.S. Forest Service projects. Such probing would not solve all the problems that the HFI poses, but it would help stop the projects that seek economic gain at the expense of the environment. Second, wildfire management strategies should shift away from fire suppression and fuel reduction approaches and towards an adaptive resilience approach that focuses on enhancing the ability of local environments to withstand a wildfire and rebuild afterward. An adaptive resilience approach would more adequately address both the inevitability of wildfires and the increasing threat posed by wildfires because of climate change and population growth.

TABLE OF CONTENTS

Introduction	696
I. The History, Purpose, and Implementation of the Healthy Forests Initiative	697
A. The History of U.S. Federal Wildfire Management.	698
B. Current U.S. Federal Wildfire Management.	699
C. The Healthy Forests Initiative.	700

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D.	The National Environmental Policy Act of 1970	703
E.	The National Forest Management Act of 1976.	703
II.	The HFI is An Inadequate Approach to Federal Wildfire Management. . .	704
A.	Both the HFI and HFRA Reduce The Environmental Protections Afforded by NEPA and NFMA.	704
B.	The HFI Does Not Focus on Areas that Need the Most Protection. . .	705
III.	To Maintain Some Environmental Protections under the HFI and HFRA, Courts Should Probe Into the Reasoning Behind Forest Service Projects .	705
IV.	Federal Wildfire Management Laws and Policies Should Focus on An Adaptive Resilience Approach	708
A.	Climate Change and the Ever-Increasing Population Living within the Wildland-Urban Interface Worsen the Threat Posed by Wildfires	708
B.	An Adaptive Resilience Approach is Best Suited to Address Current and Future Wildfire Threats	709
1.	Federal Wildfire Management Should Increase Use of Prescribed Burning Instead of Mechanical Thinning	710
2.	Fire-Planning and At Least Some Funding Should Shift to State and Local Levels	712
Conclusion	712

INTRODUCTION

*“As long as no one is standing in its way, a [wildfire] is a natural event. Put people in front of it, and it becomes the stuff of tragedy.”*¹

Fire is a chemical reaction.² Moreover, it is a self-sustaining reaction; it will continue forever if three elements—fuel, heat, and oxygen—are present.³ In its most basic form, fire control is simply the removal of one of these three elements.⁴

Although federal wildfire management dates to the early twentieth century, the United States continually experiences the worst and most expensive fire seasons on record, indicating that these approaches to wildfire management have been inadequate—they address the current fire risk, but not the future threat. In 2016, 67,595 fires burned 5,503,538 acres.⁵ Suppressing these fires cost federal agencies a staggering \$1,975,545,000.⁶ In 2015, the U.S. Forest Service reported that over half of its annual budget, almost two billion dollars, was spent fighting wildfires, and it estimated that this spending will consume approximately two-thirds

1. John N. MacLean, FIRE AND ASHES: ON THE FRONT LINES OF AMERICAN WILDFIRE 49 (2003).

2. KELSI BRACMORT, CONG. RESEARCH SERV., RS21880, WILDFIRE PROTECTION IN THE WILDLAND-URBAN INTERFACE 2–3 (2014).

3. *Id.*

4. *See id.* at 3.

5. *Federal Firefighting Costs (Suppression Only)*, NAT’L INTERAGENCY FIRE CTR., https://www.nifc.gov/fireInfo/fireInfo_documents/SuppCosts.pdf (last visited Oct. 3, 2018).

6. *Id.*

of its budget by 2025.⁷ Nine of the ten worst fire seasons in the last half-century have occurred in the last fifteen years, and 2017 is the worst and most expensive fire season yet.⁸ “Mega-fires, those that burn more than 100,000 acres, are seven times more likely now than they were 40 years ago”⁹ and the average fire season is now seventy-eight days longer than it was in the 1970s.¹⁰

These statistics clearly indicate that both historical federal wildfire management approaches and the most recent policy, known as the Healthy Forests Initiative (“HFI”), do not adequately address the threat of wildfire in the Western United States. Rather than focusing on fire suppression or fire reduction approaches in forest landscapes, as these historical and current policies have, federal wildfire management should shift to an adaptive resilience approach that focuses on enhancing *all* vulnerable landscapes to better withstand a fire. Such an approach not only is more realistic given the fact that climate change is only worsening the threat of wildfires, but it is more sustainable and less expensive in the long run.

This Note is divided into four Parts. Part I provides an overview of the history, purpose, and implementation of the HFI. Part II explains why the HFI is inadequate. Part III suggests a way in which the judiciary can help provide environmental protection despite the HFI and its implementing regulations. Finally, Part IV proposes an adaptive resilience approach to federal wildfire management that better addresses the threat that wildfires present.

I. THE HISTORY, PURPOSE, AND IMPLEMENTATION OF THE HEALTHY FORESTS INITIATIVE

The HFI is the latest in a long history of wildfire management policies in the United States. To comprehend fully the purpose and scope of the HFI, it is important to understand the history of federal wildfire management in the United States. This Part provides introductory, background information: first delivering a brief overview of the history of U.S. federal wildfire management; then delving into current management efforts; then introducing the HFI and the various regulations, policies, and procedures that implement it; and finally describing the relevant federal environmental statutes.

7. Georgina Gustin, *Sonny Perdue, Trump’s Agriculture Pick, Could Roll Back Forest Protections*, INSIDE CLIMATE NEWS (Feb. 7, 2017) [hereinafter *Sonny Perdue*], <https://insideclimatenews.org/news/06022017/sonny-perdue-georgia-usda-agriculture-secretary-national-forest-service-climate-change>.

8. Georgina Gustin, *With Extreme Heat and Dryness Fueling Wildfires, Firefighting Costs Top \$2 Billion*, INSIDE CLIMATE NEWS (Sept. 14, 2017) [hereinafter *Firefighting Costs*], <https://insideclimatenews.org/news/05092017/west-wildfires-california-canada-forests-record-heat-climate-change>; *see also* Georgina Gustin, *As Climate Change Fuels Wildfires, Fighting Them Must Change, Report Says*, INSIDE CLIMATE NEWS (Apr. 18, 2017) [hereinafter *Climate Change*], <https://insideclimatenews.org/news/17042017/wildfires-climate-change-global-warming-forests-controlled-burns-west>.

9. *Sonny Perdue*, *supra* note 7.

10. *Climate Change*, *supra* note 8.

A. THE HISTORY OF U.S. FEDERAL WILDFIRE MANAGEMENT

In the United States, five federal agencies oversee federal wildfire management efforts, but the Department of Agriculture's U.S. Forest Service has the primary responsibility of protecting federal lands from wildfire.¹¹ U.S. federal wildfire management was founded on the belief that fast, aggressive control was the best, most effective management strategy.¹² Early wildfire managers believed that if fires were not stopped while they were small, they "would become . . . large, destructive conflagrations that are . . . expensive to control."¹³ At the time, the goal was to protect human lives first, then to protect private property, and finally, to protect natural resources.¹⁴ While the many approaches and strategies towards federal wildfire management have changed over the years, this prioritization of life over property over resources has stayed the same.¹⁵

The first major policy was developed in 1926.¹⁶ The goal of this policy, aptly named the "10-acre Policy," was to control all wildfires before they reach ten acres in size, reflecting the early notion that wildfires were easier and less expensive to control if they were kept relatively small.¹⁷ Later, in 1935, the Forest Service added the "10:00 a.m. Policy."¹⁸ Also aptly named, the goal of this new policy was to control fires exceeding ten acres in size before 10:00 a.m. the next day.¹⁹ Failing this, the 10:00 a.m. Policy dictated that the fire was to be controlled by 10:00 a.m. the following day, and so on.²⁰ The idea was that the cooler, calmer air of the night and morning made fire control easier and less expensive.²¹ This policy was implemented nationwide "and marked a high point in wildfire suppression."²²

Starting around the last two decades of the twentieth century, however, forest managers, led by the U.S. Forest Service, began to realize that years of aggressive fire suppression activities had created a buildup of hazardous fuels and had

11. See National Interagency Fire Center, *Policies*, POLICIES (last accessed Oct. 2, 2017), https://www.nifc.gov/policies/policies_main.html; BRACMORT, *supra* note 2, at 1.

12. ROSS W. GORTE, CONG. RESEARCH SERV., RL33990, FEDERAL FUNDING FOR WILDFIRE CONTROL AND MANAGEMENT I (2011).

13. *Id.*

14. *Id.*

15. See *id.* at 3.

16. See *id.* at 1.

17. See *id.* at 1–2.

18. *Id.*; see also J.B. Davis, *The Healthy Forests Initiative: Unhealthy Policy Choices in Forest and Fire Management*, 34 ENVTL. L. 1209, 1210–11 (2004).

19. GORTE, *supra* note 12, at 1–2; Davis, *supra* note 18, at 1210–11.

20. National Park Service, *Policy & Law*, FIRE AND AVIATION MANAGEMENT (last visited Oct. 19, 2017) [hereinafter FIRE AND AVIATION MANAGEMENT].

21. GORTE, *supra* note 12, at 2.

22. FIRE AND AVIATION MANAGEMENT, *supra* note 20.

changed the composition and arrangement of these fuels.²³ Naturally burning fires clear forests of underbrush.²⁴ Decades of suppressing these fires created a buildup of underbrush, reducing the overall number of wildfires, but making the wildfires that escaped suppression catastrophic and extremely difficult (and expensive) to control.²⁵

B. CURRENT U.S. FEDERAL WILDFIRE MANAGEMENT

As a result of this realization, forest management strategies since 1990 have shifted focus from fire suppression-based activities towards fuel reduction-based activities.²⁶ Fuel reduction is often posed as a means of reducing the ever-increasing cost of fire suppression activities.²⁷ The goal of fuel reduction is to clear underbrush, dead trees, non-native species, and other vegetation that has built up due to fire suppression.²⁸ Some propose that the extent of wildfires is greatly reduced through this method, and it is both easier and less expensive to control them.²⁹

Recognizing the buildup of forest fuel, the federal government implemented the National Fire Plan (“NFP”) in 2000 to help facilitate these fuel reduction projects.³⁰ The NFP “increased funding and committed federal land management agencies to treat[ing]. . . 40 million acres of brush and dense forest during the first decade of the new century.”³¹ It called for fuel reduction treatments such as “prescribed fire, mechanical thinning, herbicides, grazing, [and] combinations of these and other methods.”³² In reality, however, the majority of NFP funding went towards fire suppression activities, with only a small portion going towards hazardous fuel reduction.³³ This contradiction occurred because forest managers were “unwilling[] to take greater risks [and] to recognize that suppression techniques are sometimes futile,” the funds available for “emergency” fire suppression activities seemed unlimited, “and [because of] public and political expectations.”³⁴

23. See Jack Cohen, *The Wildland-Urban Interface Fire Problem*, 38 *FREMONTIA* 16, 17 (2010), available at https://www.fs.fed.us/rm/pubs_other/rmrs_2010_cohen_j002.pdf; see GORTE, *supra* note 12, at 17.

24. Georgina Gustin, *Longer, Fiercer Fire Seasons the New Normal with Climate Change*, *INSIDE CLIMATE NEWS* (July 11, 2017) [hereinafter *Longer, Fiercer Fire Seasons*], <https://insideclimatenews.org/news/11072017/wildfire-forest-fire-climate-change-california>.

25. See *id.*; Sonny Perdue, *supra* note 7; GORTE, *supra* note 12, at 19.

26. See GORTE, *supra* note 12, at 17.

27. *Id.*

28. *Id.* at 17–18.

29. *Id.* at 19.

30. ALEXANDER EVANS & GEORGE MCKINLEY, FOREST GUILD, AN EVALUATION OF FUEL REDUCTION PROJECTS AND THE HEALTHY FORESTS INITIATIVE 1–2 (2007), http://www.forestguild.org/publications/research/2007/Evaluating_HFI.pdf; see Davis, *supra* note 18, at 1216.

31. FIRE AND AVIATION MANAGEMENT, *supra* note 20.

32. EVANS & MCKINLEY, *supra* note 30, at 3.

33. *Id.*

34. STRATEGIC ISSUES PANEL ON FIRE SUPPRESSION, LARGE FIRE SUPPRESSION COSTS: STRATEGIES FOR COST MANAGEMENT 6 (2004), <https://www.forestsandrangelands.gov/resources/reports/documents/2004/costmanagement.pdf>.

To support the NFP, Congress mandated the creation of the 10-Year Comprehensive Strategy in 2000.³⁵ The Implementation Plan for the 10-Year Comprehensive Strategy was published in May of 2002.³⁶ The Implementation Plan has a three-tier organizational structure facilitating collaboration among stakeholders at all levels of government and establishing a performance-based framework to improve wildfire and hazardous fuel management, facilitate ecosystem restoration and rehabilitation, reduce the risk of wildfire to communities and environments, and monitor progress over time.³⁷ For each of these major goals, the Implementation Plan lays out various performance measures and tasks that people at all levels of forest management can take to meet the overarching goal.³⁸ For example, to meet the goal of improving wildfire and hazardous fuel management, the Implementation Plan suggests that stakeholders develop and implement procedures for collaborations between federal, state, tribal, and local governments in order to select fuel treatment projects within local regions.³⁹

C. THE HEALTHY FORESTS INITIATIVE

To help facilitate the NFP and the 10-Year Comprehensive Strategy, the Healthy Forests Initiative (“HFI”) was created in 2001 on the belief that the numerous lawsuits against hazardous fuel reduction projects were interfering with an effective management strategy, and so the “red tape” needed to be reduced.⁴⁰ More specifically, the HFI introduced new measures that permitted 59% of fuel reduction projects to be categorically excluded from the requirements of the National Environmental Protection Act (“NEPA”)⁴¹ in Fiscal Years 2001 and 2002.⁴²

While the HFI is a step in the right direction for federal wildfire management, it is only a statement of policies and goals, not a binding agency rule.⁴³ Thus, to implement the HFI, regulations, policies, and procedures needed to be promulgated or amended.⁴⁴ In 2003, President George W. Bush signed into law

35. Eric E. Huber, *Environmental Litigation and the Healthy Forests Initiative*, 29 VT. L. REV. 797, 798 (2005).

36. DEP’T OF AGRIC. & DEP’T OF THE INTERIOR, A COLLABORATIVE APPROACH FOR REDUCING WILDLAND FIRE RISKS TO COMMUNITIES AND THE ENVIRONMENT, 10-YEAR COMPREHENSIVE STRATEGY: IMPLEMENTATION PLAN 1 (2002) [hereinafter IMPLEMENTATION PLAN], available at <https://www.forestsandangelands.gov/resources/plan/documents/11-23-en.pdf>.

37. National Environmental Policy Act Documentation Needed for Fire Management Activities; Categorical Exclusions, 67 Fed. Reg. 77,038, 77,040 (Dec. 16, 2002).

38. See IMPLEMENTATION PLAN, *supra* note 36, at 6.

39. See *id.* at 13.

40. EVANS & MCKINLEY, *supra* note 30, at 4.

41. See *infra* Part I.D.

42. EVANS & MCKINLEY, *supra* note 30, at 5.

43. Huber, *supra* note 35, at 803.

44. *Id.*

the Healthy Forests Restoration Act (“HFRA”).⁴⁵ HFRA was designed to authorize and implement hazardous fuel reduction projects, consistent with the 10-Year Implementation Plan.⁴⁶ It provided that Environmental Assessments (“EA”) or Environmental Impact Statements (“EIS”) would be completed in compliance with NEPA, though it did not preclude categorical exclusions, which allow projects to bypass these NEPA requirements.⁴⁷ Additionally, it contained provisions on judicial review which limited venue to the district where the project was to take place, limited injunctions to sixty days,⁴⁸ increased the agency’s ability to get around administrative appeals,⁴⁹ directed “judges to balance the potential negative effects of [the] projects against the potential negative effects of no action,”⁵⁰ and stripped the judiciary of jurisdiction to hear certain cases.⁵¹

In addition to HFRA, an important guidance document and four major regulations were amended or promulgated to implement the HFI. First, the day after the HFI was created, the Forest Service revised the Forest Service Handbook and changed the definition of “extraordinary circumstances.”⁵² This is significant because, under the old Handbook, if “extraordinary circumstances,” such as the presence of critical habitat for an endangered or threatened species, applied to a project or were present within the project area, then the Forest Service was required to conduct an EA or EIS in accordance with NEPA.⁵³ After the revision

45. *Id.* at 802; FIRE AND AVIATION MANAGEMENT, *supra* note 20; EVANS & MCKINLEY, *supra* note 30, at 5.

46. FIRE AND AVIATION MANAGEMENT, *supra* note 20; GORTE, *supra* note 12, at 18; Huber, *supra* note 35, at 802 (citing 16 U.S.C. § 6512(a) (West Supp. 2004)).

47. See 16 U.S.C. §§ 6514, 6517 (“Nothing in this subchapter affects, or otherwise biases, the use by the Secretary of other statutory or administrative authority (including categorical exclusions adopted to implement the National Environmental Policy Act of 1969 (42 U.S.C. § 4321 et seq.)) to conduct a hazardous fuel reduction project on Federal land”); see also GORTE, *supra* note 12, at 18; BRACMORT, *supra* note 2, at 7–8.

48. Huber, *supra* note 35, at 802 (citing 16 U.S.C. § 6516 (West Supp. 2004)).

49. Davis, *supra* note 18, at 1213, 1219. Davis further states:

Under the new regulations, an emergency determination made by the Forest Service Chief or a Regional Forester is now sufficient to justify immediate implementation of the project, even if an appeal of that project is pending . . . The regulations then redefine “emergency” to include impending “substantial loss of economic value to the Federal Government,” a change clearly aimed at bringing salvage operations within the definition of emergency.

Id. at 1222–23.

50. EVANS & MCKINLEY, *supra* note 30, at 6; see Huber, *supra* note 35, at 802 (citing 16 U.S.C. § 6516 (West Supp. 2004)).

51. See 16 U.S.C. § 6515 (2012) (limiting means of administrative review to a pre-decisional administrative review process promulgated by the Secretary of Agriculture through interim final regulations).

52. Huber, *supra* note 35, at 803 (citing Clarification of Extraordinary Circumstances for Categories of Actions Excluded from Documentation in an Environmental Assessment or an Environmental Impact Statement, 67 Fed. Reg. 54,622, 54,622 (Aug. 23, 2002)).

53. Huber, *supra* note 35, at 803 (citing *Rhodes v. Johnson*, 153 F.3d 785, 789–90 (7th Cir. 1998) (holding that because extraordinary circumstances existed, the Forest Service had to conduct an EA or EIS for a shrub removal project that, under ordinary circumstances, would have been categorically excluded from NEPA requirements)).

however, “extraordinary circumstances” was not defined.⁵⁴ Instead, the Handbook provided a list of “resource conditions” for the Forest Service to *consider* in deciding whether “extraordinary circumstances” existed.⁵⁵ This revision makes it significantly easier for the Forest Service to state that no extraordinary circumstances apply to its proposed projects, thus allowing it to easily bypass NEPA’s EA or EIS requirement.

Second, on June 4, 2003, the Forest Service revised its administrative appeals procedures by issuing what is commonly known as the “new Appeals Rule.”⁵⁶ Under this new rule,

Logging projects under appeal can be implemented immediately for “emergency” economic loss; categorical exclusions are exempted from notice, comment, and appeal; standing on appeal is limited to only those that submitted “substantive” comments to the agency; “interested party” status is eliminated; decisions signed by the Secretary or Undersecretary of Agriculture are exempt from appeal; the appeal deciding officer is the next higher line officer[;] . . . and projects under categorical exclusions can be implemented immediately.⁵⁷

Third, on June 5, 2003, the Forest Service created the Fuels Categorical Exclusion (“Fuels CE”), which exempts hazardous fuel reduction projects of up to 4,500 acres of burning and 1,000 acres of mechanical treatments from NEPA’s EA or EIS requirement.⁵⁸ Fourth, on July 29, 2003, the Forest Service created the “Small Timber CE,” which permits, without requiring an EA or EIS, timber harvests meeting certain project size-based restrictions.⁵⁹ Finally, on December 8, 2003, the Department of the Interior and the Department of Commerce issued regulations pertaining to the Endangered Species Act (“ESA”).⁶⁰ These regulations reduced legal protections for endangered and threatened species by removing the requirement that potentially harmful projects had to be reviewed by the Fish and Wildlife Service or the National

54. Huber, *supra* note 35, at 803 (citing U.S. FOREST SERV., FOREST SERVICE HANDBOOK: 1909.15 – Environmental Policy and Procedures Handbook, ch. 30 (July 6, 2004), available at https://www.fs.fed.us/im/directives/fsh/1909.15/wo_1909.15_30_Categorical%20Exclusion%20from%20Documentation.doc).

55. *Id.* (“This list includes such things as whether endangered or threatened species or their habitat are present, whether wilderness or wilderness study areas are involved, and whether the project involves an Inventoried Roadless Area.”).

56. Notice, Comment, and Appeal Procedures for National Forest System Projects and Activities, 68 Fed. Reg. 33,582 (June 4, 2003) (codified at 36 C.F.R. pt. 215); Huber, *supra* note 35, at 803.

57. Huber, *supra* note 35, at 803–04 (citing various provisions within part 215).

58. National Environmental Policy Act Documentation Needed for Fire Management Activities; Categorical Exclusions, 68 Fed. Reg. 33,814, 33,814 (June 5, 2003).

59. National Environmental Policy Act Documentation Needed for Limited Timber Harvest, 68 Fed. Reg. 44,598 (July 29, 2003); Huber, *supra* note 35, at 805.

60. Joint Counterpart Endangered Species Act Section 7 Consultation Regulations, 68 Fed. Reg. 68,254 (Dec. 8, 2003) (codified at 50 C.F.R. pt. 402); Huber, *supra* note 35, at 805.

Marine Fisheries Service before they could proceed.⁶¹

D. THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1970

The National Environmental Policy Act of 1970 (“NEPA”) is a procedural statute that requires agencies to consider and publicly disclose an action’s environmental impacts and potential alternatives.⁶² It compels federal agencies to evaluate the environmental impacts of “major Federal actions significantly affecting the quality of the human environment.”⁶³ First, an agency must take a “hard look” at the project and evaluate its impact by conducting an Environmental Assessment (“EA”).⁶⁴ The EA must provide “sufficient evidence and analysis,” and determine whether the action will significantly affect the environment.⁶⁵ If the EA finds that the action will have no significant effects, the agency will issue a Finding of No Significant Impact and the NEPA process will end.⁶⁶ If however, the EA finds that the action will have significant environmental effects, then the agency must provide an Environmental Impact Statement, which requires a much more rigorous analysis and study of the proposed action.⁶⁷

E. THE NATIONAL FOREST MANAGEMENT ACT OF 1976

The National Forest Management Act of 1976 (“NFMA”), unlike NEPA, is a substantive statute that controls agency actions and places restrictions on land management.⁶⁸ It designates that national forests are to be “for multiple use,” which includes timber as long as it is harvested sustainably,⁶⁹ and requires that Forest Service projects ensure a “sustained yield.”⁷⁰ It also requires the use of the “best available scientific information,”⁷¹ and demands that decisions be based on “current information and guidance.”⁷² This means that decisions must rely on “comprehensive evaluations . . . of ecological conditions and trends that contribute to sustainability.”⁷³

61. *Id.* at 68,255 (stating that the goal of the HFI was “to accelerate implementation” of the National Fire Plan); Huber, *supra* note 35, at 805.

62. See National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321, 4331–4335, 4341–4346, 4346a, 4346b, 4347 (2012).

63. 42 U.S.C. § 4332; see also *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989).

64. See *Ecology Ctr. Inc. v. U.S. Forest Serv.*, 451 F.3d 1183, 1189 (10th Cir. 2006); *Utah Envtl. Congress v. Bosworth*, 443 F.3d 732, 736 (10th Cir. 2006) (citing 40 C.F.R. § 1508.9).

65. See *Utah Envtl. Congress*, 442 F.3d at 736 (citing 40 C.F.R. § 1508.9).

66. 40 C.F.R. § 1508.9(a)(1) (2018).

67. See *Utah Envtl. Congress*, 442 F.3d at 736.

68. 16 U.S.C. § 1604(a) (2012).

69. § 1604(e).

70. *Id.*

71. 36 C.F.R. § 219.6(a)(3) (2018).

72. § 219.3.

73. § 219.6(a)(1).

In sum, the HFI procedures and resultant safeguards, and the statutes, regulations, and policies that implement the HFI, drastically changed the protections intended by NEPA, ESA, NFMA, and other administrative procedures in the name of accelerating hazardous fuel reduction projects.

II. THE HFI IS AN INADEQUATE APPROACH TO FEDERAL WILDFIRE MANAGEMENT

As a result of these changes aimed at promoting fuel reduction projects, wildfire management under the HFI has proven to be inadequate. The HFI is an inadequate approach to federal wildfire management for two main reasons. First, it, along with HFRA, modifies the application of NEPA and NFMA and the constraints they place on the actions of federal agencies. This modification reduces environmental protections under these two statutes. Second, while it attempts to address the problem of forest wildfires, the HFI completely ignores the fact that most wildfires in the West occur not in forests, but in shrub- and grasslands. Because of these two facts, the HFI does not provide adequate management support to combat the threat of wildfire.

A. BOTH THE HFI AND HFRA REDUCE THE ENVIRONMENTAL PROTECTIONS AFFORDED BY NEPA AND NFMA

The main reason the HFI is an inadequate approach to federal wildlife management is that it, along with HFRA, modifies the application of NEPA and NFMA by reducing the constraints they place on the actions of federal agencies. The HFI effectively dissolves many NEPA requirements by adopting categorical exclusions for fuel reduction projects, allowing the Forest Service to avoid having to conduct EAs or EISs.⁷⁴ Some categorical exclusions are subject to an “extraordinary circumstances” exception, precluding situations that may cause a “significant environmental effect.”⁷⁵ However, the 2007 version of the Forest Service Handbook gives the agency discretion to determine when one of these “extraordinary circumstances” exists.⁷⁶ Moreover, it provides that “the mere presence of one or more . . . resource conditions does not preclude use of categorical exclusions.”⁷⁷ Before the HFI, the presence of a “resource condition”⁷⁸ required the Forest Service to conduct an EA.⁷⁹ After the HFI, the Forest Service merely had

74. See 10 C.F.R. § 51.21–22 (2018); *Colo. Wild v. U.S. Forest Serv.*, 435 F.3d 1204, 1209–10 (10th Cir. 2006).

75. 40 C.F.R. § 1508.4 (2018).

76. *Sierra Club v. Bosworth*, 510 F.3d 1016, 1021 (9th Cir. 2007).

77. *Id.* (citing FOREST SERVICE HANDBOOK § 1909.15(30.3)(2) (2007)).

78. “Resource conditions” include steep slopes or highly erosive soils; threatened and endangered species or their critical habitat; flood plains, wetlands, or municipal watersheds; congressionally designated areas, such as wilderness, wilderness study areas, or National Recreation Areas; inventoried roadless areas; Research Natural Areas; and Native American religious or cultural sites, archaeological sites, or historic properties or areas. *Bosworth*, 510 F.3d at 1020–21 (citing FOREST SERVICE HANDBOOK § 1909.15(31.2)(2) (1992)).

79. *Id.*

to conduct “a preliminary analysis” determining whether and to what degree the proposed action had an environmental impact.⁸⁰

Furthermore, the HFI weakened the judicial process by restricting the parties who might try to appeal agency actions, restricting appeals of categorical exclusions, and eliminating some types of appeals altogether.⁸¹ These provisions reduce the environmental protections provided by NEPA and NFMA by making it harder for concerned stakeholders to get agency decisions overturned. Moreover, they go against the purpose of NEPA by allowing federal agencies to undertake major actions with only minimal consideration for environmental consequences.⁸² Because of this, Professor Robert Keiter summarized the HFI as “a targeted assault on the basic legal framework governing forest management in the name of efficiency and safety.”⁸³

B. THE HFI DOES NOT FOCUS ON AREAS THAT NEED THE MOST PROTECTION

The HFI is also an inadequate approach to federal wildfire management because it only focuses on managing *forest* wildfires.⁸⁴ This might seem obvious, given the name “Healthy Forests Initiative,” but because this is *the* federal policy combating the threat of wildfires, it should focus on *all* fire-prone areas, not just forests. Only 40% of wildfires in the West occur in forests.⁸⁵ The other 60% occur in shrub- and grasslands.⁸⁶ As such, the HFI alone is not adequate. It either needs to be combined with a Healthy Shrub- and Grasslands Initiative, or it needs to be more all-inclusive (and probably renamed). In other words, some non-forest component is needed to fully address current and future wildfire threats.

In sum, the HFI is an inadequate approach to federal wildfire management both because it reduces the protections afforded by federal environmental laws and because it does not focus wildfire management efforts on the environments that experience the most wildfires.

III. TO MAINTAIN SOME ENVIRONMENTAL PROTECTIONS UNDER THE HFI AND HFRA, COURTS SHOULD PROBE INTO THE REASONING BEHIND FOREST SERVICE PROJECTS

Although the HFI provides inadequate safeguards for effective wildfire management, there are some ways courts can maintain some environmental

80. *Id.* at 1021 (internal citation omitted).

81. See *Earth Island Institute v. Ruthenback*, 490 F.3d 687 (9th Cir. 2007).

82. See *Summary of the National Environmental Policy Act*, ENVTL. PROT. AGENCY (Aug. 15, 2018), <https://www.epa.gov/laws-regulations/summary-national-environmental-policy-act>.

83. Robert B. Keiter, *The Law of Fire: Reshaping Public Land Policy in an Era of Ecology and Litigation*, 36 ENVTL. L. 301, 343 (2006) (“It is hard to see these reforms as anything other than an overt effort to significantly reduce judicial oversight opportunities by removing substantive legal mandates from forest management and eliminating NEPA-based procedural requirements from the planning process.”).

84. See *Climate Change*, *supra* note 8.

85. *Id.*

86. *Id.*

protections under the HFI's legal framework. One of the ways in which the judiciary can help retain environmental protections in the face of the HFI and HFRA is to have courts probe into the reasoning underlying Forest Service projects. Based on precedent, the cases that delve into the Forest Service's true intentions for a project better consider the environmental impacts of that project.⁸⁷ As such, the courts are much more likely to reject the project or remand it back to the agency for further analysis and consideration. Although this would not solve the environmental problems that the HFI and HFRA pose, it would help stop some of the projects that seek economic gain at the expense of the environment, and it may cause agencies to think twice about the environmental impacts that their proposed projects could have. An example of the benefits such judicial review can have is *Sierra Club v. Bosworth*, in which the Ninth Circuit enjoined the application of NEPA's categorical exclusions.

In *Bosworth*,⁸⁸ the Ninth Circuit took on a challenge to the Fuels CE where the plaintiffs argued that the Forest Service failed to assess properly the significance of the Fuels CE, and thus failed to demonstrate that it made a "reasoned decision" in promulgating the CE based on relevant facts and information. Reviewing this challenge under the arbitrary and capricious standard,⁸⁹ the Ninth Circuit held that the Forest Service's promulgation of the Fuels CE was arbitrary and capricious because it

failed to consider adequately the unique characteristics of the applicable geographic areas, the degree to which effects on the quality of the environment were controversial or the risks were unknown, the degree to which the CEs might establish a precedent for future actions with significant effects or represented a decision in principle about future considerations, the degree to which the actions might affect endangered species, and whether there existed cumulative impacts from other related actions.⁹⁰

Although the Forest Service did perform studies, and did make findings on some of these considerations, it did so only after promulgating the CE and, in some cases, did so only on a project-level.⁹¹

In order to avoid NEPA's EA or EIS requirement, "[t]he record of decision must contain a 'useful analysis of the cumulative impacts of past, present, and future projects,' which requires 'discussion of how [future] projects together with the proposed . . . project will affect [the environment.]'"⁹² The court stated that because the Fuels CE is "nationwide in scope and has the potential to impact a

87. See e.g., *Bosworth*, 510 F.3d at 1026.

88. *Id.* at 1018.

89. *Id.* at 1022 (citing *Alaska Ctr. for the Env't v. U.S. Forest Serv.*, 189 F.3d 851, 853–54 (9th Cir. 1999)).

90. *Id.* at 1027 (citing 40 C.F.R. § 1508.27(b)).

91. See *id.*

92. *Id.* at 1027–28 (quoting *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 810 (9th Cir. 1999)) (alterations in original).

large number of acres,” it is especially important for an impacts analysis to be conducted.⁹³ Moreover, the court found that projects created under the Fuels CE will have “potential significant effects, such as effects on soil and water quality from mechanical treatments, thinning operations, fire rehabilitation activities, and temporary road construction.”⁹⁴ Other effects recognized by the court “include displacement of wildlife from noise and activity caused by mechanized equipment, and habitat modification (changes in food sources, thermal and hiding cover) from changes in vegetation composition, invasive weed species, and reduced vegetation density.”⁹⁵

In the end, the Ninth Circuit found that the plaintiffs had made the requisite showing for injunctive relief and so ordered the district court to issue an injunction for all projects approved after the filing of this lawsuit.⁹⁶ However, recognizing that the Fuels CE was promulgated a year before the lawsuit and that many projects had thus already been approved and initiated, the Ninth Circuit gave the district court discretion to determine which already-approved projects should also be enjoined and which should be excluded due to the fact that they were at or near completion.⁹⁷ Most importantly, the Ninth Circuit ordered the district court to preclude the Forest Service from implementing the Fuels CE until an adequate assessment of the significance of the NEPA categorical exclusion had been completed.⁹⁸

This decision is important because it illustrates one of the only examples of a court finding a NEPA categorical exclusion to be arbitrary and capricious and issuing an injunction to halt its use. It is also important because the Ninth Circuit’s injunction on the implementation of the Fuels CE still stands, and the Forest Service’s use of the Fuels CE is halted “unless and until the agency complies” with the Ninth Circuit’s requirements.⁹⁹ As such, the Ninth Circuit, by probing deeper into the Forest Service’s decision-making process, provided environmental protection despite the lax standards allowed by HFRA and the HFI.

If more courts were to probe into the agency’s true intentions, like the Ninth Circuit did in *Bosworth*, more NEPA categorical exclusions could potentially be enjoined, and thus, more environmental protections could potentially be seen under the HFI and HFRA. However, because many more courts do not fully consider the potential environmental impacts of a project and simply

93. *Id.* at 1028.

94. *Id.* at 1029.

95. *Id.*

96. *Id.* at 1033–34.

97. *Id.* at 1034.

98. *Id.*

99. FOREST SERVICE HANDBOOK § 1909.15(32.2)(10) (2014), https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3826583.pdf. In the 2014 amendments to Chapter 30 of the Forest Service Handbook, the most recent amendments to this chapter, the Fuels CE is crossed-out and a note has been inserted, describing the holding of *Bosworth* and its resulting injunction. *Id.*

defer to the agency's determination of no significant impacts,¹⁰⁰ this would not be enough. Change also needs to come from the executive and legislative branches of government if the future threat of wildfire is to be more adequately addressed.

IV. FEDERAL WILDFIRE MANAGEMENT LAWS AND POLICIES SHOULD FOCUS ON AN ADAPTIVE RESILIENCE APPROACH

In addition to judicial review of agency action, wildfire management should shift away from fuel reduction efforts and towards enhancement of forest environments. That is, instead of continuing to vacillate between management approaches focusing on fire suppression and fuel reduction, federal wildfire management should focus on an adaptive resilience approach. An adaptive resilience approach can take many forms, but it essentially focuses on enhancing local environments to better withstand the inevitable wildfire as well as to naturally rebuild after the fire passes. Such an approach would be in better harmony with federal environmental laws and would more adequately address the threat of wildfire—a threat that is only increasing due to climate change and population growth within the wildland-urban interface. In the context of wildfire management, this Note suggests two strategies: prescribed burning and a core policy focus on state and local levels. This Part outlines ways in which federal wildfire managers can adopt an adaptive resilience approach. First, it briefly summarizes the impact of climate change and population growth within the wildland-urban interface on the wildfire threat. Second, it explores the two strategies for adapting an adaptive resilience approach to federal wildfire management mentioned above.

A. CLIMATE CHANGE AND THE EVER-INCREASING POPULATION LIVING WITHIN THE WILDLAND-URBAN INTERFACE WORSEN THE THREAT POSED BY WILDFIRES

There are two major issues worsening the future threat of wildfires: climate change and the increasing number of people living in the wildland-urban interface. Forest ecologists and climate scientists both agree that climate change is worsening the threat of wildfire by increasing the frequency and duration of drought, raising ambient temperatures, and increasing forest dryness by reducing the availability of water.¹⁰¹ Recently, “a study found that human-induced climate change accounted for about half the observed increase in fuel aridity, or forest dryness, in the western U.S. since 1979 and had nearly doubled the area of the

100. See *e.g.*, *Lands Council v. McNair*, 629 F.3d 1070, 1079 (9th Cir. 2010) (holding that a Forest Service decision to thin 277 acres of old-growth forest did not violate NEPA and NFMA under an arbitrary and capricious standard of review).

101. See *Firefighting Costs*, *supra* note 8; *Longer, Fiercer Fire Seasons*, *supra* note 24; STRATEGIC ISSUES PANEL ON FIRE SUPPRESSION, *supra* note 34, at 10, 13.

U.S. West affected by forest fires since 1984.”¹⁰² In short, climate change is only going to worsen the threat of wildfires, so effective wildfire management laws and policies will become only more necessary.

As more people move into the wildland-urban interface, combating wildfires in the interface will become more important and complicated. The “wildland-urban interface” (“WUI”) generally refers to the area where private properties meet the forests, grasslands, or shrublands.¹⁰³ Since 1960, there has been more than a 720% increase in the number of people living in the WUI and now, over 40% of all homes are located within it.¹⁰⁴ The presence of private property complicates wildfire management efforts by increasing the values at risk and putting pressure on fire managers to “extinguish fires at all costs, regardless of the futility of the effort.”¹⁰⁵ This “complicates hazardous fuel[] reduction projects and retards the use of fire as a management tool in these areas.”¹⁰⁶ Demographic trends indicate that people will continue moving into the WUI in the upcoming years,¹⁰⁷ so it is both more important and more complicated than ever for federal agencies to manage wildfires before they reach the WUI. As such, an adaptive resilience approach, which utilizes nature to help fight nature, is the best approach for addressing the increasing threat of wildfires.

B. AN ADAPTIVE RESILIENCE APPROACH IS BEST SUITED TO ADDRESS CURRENT AND
FUTURE WILDFIRE THREATS

Considering the additional challenges that climate change and the increasing number of people in the wildland-urban interface pose, an adaptive resilience approach to federal wildfire management better addresses both the current and future threat of wildfires. A 2017 study of wildfires in the Western United States argues that wildfire management should focus on promoting natural, adaptive resilience to wildfire.¹⁰⁸ “Resilience can be defined as the capacity of a system to absorb disturbance, re-organize, and keep functioning in much the same way as before.”¹⁰⁹ Tania Schoennagel—a researcher at the University of Colorado, the main author of the 2017 study, and a frequent author of papers on federal wildfire ecology and management—explains that “[f]ire can be used as a tool for

102. *Firefighting Costs*, *supra* note 8.

103. See BRACMORT, *supra* note 2, at 1.

104. Dan W. Bailey, *The Wildland-Urban Interface Crisis, Is There a Solution?*, 1, 5 (2007).

105. STRATEGIC ISSUES PANEL ON FIRE SUPPRESSION, *supra* note 34, at 13.

106. *Id.*

107. *Id.*

108. See Tania Schoennagel et al., *Adapt to More Wildfire in Western North American Forests as Climate Changes*, 114 PROC. NAT’L ACAD. SCIS. 4582, 4582 (2017).

109. David E. Calkin et al., *Negative Consequences of Positive Feedbacks in US Wildfire Management*, 2 FOREST ECOSYSTEMS 1, 7 (2015), <https://perma.cc/3AXN-2RGK> (internal quotation marks omitted) (citation omitted).

ecosystems to adapt to a changing climate . . . It can allow species to migrate and help species keep pace with climate change.”¹¹⁰

An adaptive resilience approach can use many of the same tools used in current and historical fire suppression and fuel reduction approaches, but it changes the balance of their use and has a different goal in mind. Instead of trying to stop all fires in their tracks or take away all kindling, an adaptive resilience approach focuses on enhancing the natural ecosystems so that they can better withstand fire.¹¹¹ This Note suggests two ways in which federal wildfire managers can adopt an adaptive resilience approach to federal wildfire management. First, the Western United States should follow in the footsteps of the Southeastern United States and control hazard fuels using prescribed burning. Second, fire-planning should shift from being federally focused to being more state and locally focused.

1. Federal Wildfire Management Should Increase Use of Prescribed Burning Instead of Mechanical Thinning

From an adaptive resilience point of view, one of the best fuel management tools is prescribed burning, and as such, its use should be at the forefront of federal hazardous fuel reduction efforts. Although the HFI authorizes a wide variety of approaches aimed at reducing the buildup of hazardous fuels, including prescribed burning, it in practice almost exclusively relies on mechanical thinning.¹¹² Mechanical thinning is an approach in which small diameter trees and the lower branches of larger trees are removed in an attempt to prevent a relatively small, ground-level fire—called a surface fire—from becoming a massive, treetop-level conflagration—called a crown fire.¹¹³ It is called “mechanical” thinning because the removal is accomplished using mechanical devices like chainsaws.¹¹⁴ Forest managers may never admit it, but one reason why mechanical thinning is preferred over prescribed burning is because the removed trees and branches are then harvested for fuel or timber.¹¹⁵

However, mechanical thinning often does not work as it was intended to. Mechanical thinning ignores wood scraps and other kindling, leaving them behind on the forest floor.¹¹⁶ Studies on the effects of various fuel reduction treatments have found that forests treated by mechanical thinning experience high-intensity fires, whereas forests treated by prescribed fires experience reduced fire

110. *Climate Change*, *supra* note 8.

111. *See Climate Change*, *supra* note 8; Calkin et al., *supra* note 109, at 7–8.

112. *See Climate Change*, *supra* note 8.

113. ECOLOGICAL RESTORATION INST., N. ARIZ. UNIV., *Ecological Restoration Versus Thinning* [hereinafter *ER vs Thinning*], <https://perma.cc/3XL4-ZVUS> (last visited Dec. 7, 2017).

114. *Id.*

115. *See id.*; *cf.* Calkin et al., *supra* note 109, at 9.

116. *See* ECOLOGICAL RESTORATION INST., N. ARIZ. UNIV., *Effects of Forest Thinning Treatments on Fire Behavior*, <https://perma.cc/K3H3-44KH> (last visited Dec. 7, 2017).

severity.¹¹⁷ The objective of using prescribed fires is quite similar to that of mechanical thinning: remove low-lying, easily burnable materials to reduce the chances that small surface fires become uncontrollable crown fires.¹¹⁸ However, instead of achieving this using chainsaws and ignoring wood scraps and other kindling, prescribed burning removes these fuels using frequent, low-intensity fires.¹¹⁹ Aside from better fire protection, prescribed burning provides additional benefits to the forests. For example, prescribed burning cycles nutrients from the burned fuels back into the soils for plants to use by burning instead of removing fuels.¹²⁰ Based on both the increased success of prescribed burning at reducing fire severity and the additional benefits it provides, wildfire managers should allow fire to fight fire.

The potential long-term beneficial impact of prescribed fires can be seen in the Southeastern United States. Unlike fire management in the West, “the Southeastern US has effectively used prescribed burning to lower wildfire risk and mitigation costs.”¹²¹ The Southeast has implemented a program of prescribed fire management on federal, state, and private lands since the early twentieth century.¹²² In 1943, the Chief of the U.S. Forest Service gave the Florida national forests permission to use prescribed fires to manage the buildup of hazardous fuels.¹²³ This policy recognized that managing the landscape with fire has been practiced for thousands of years by Native Americans and early European settlers.¹²⁴ As Aldo Leopold stated in 1933, “Fire has always been part and parcel of the evolutionary background of our present species in many regions.”¹²⁵

As a result of the long-time use of prescribed fires, wildlife species in the Southeast have adapted to the presence of wildfires, reducing the total impacts of each burn.¹²⁶ This is exactly the type of adaptive resilience approach and wildlife response that would help the Western United States to better address the threat of wildfire. The long-time use of prescribed fires in the Southeast has both reduced the severity of individual fires and allowed wildlife in the area to adapt to the presence of fire. Because climate change is only going to increase the frequency and intensity of wildfires, such an approach would be both more effective and more environmentally beneficial than the HFI.

117. *Id.*

118. *See ER vs Thinning, supra* note 113.

119. *Id.*

120. *See id.*

121. Calkin et al., *supra* note 109, at 9.

122. Scott L. Stephens et al., *U.S. Federal Fire and Forest Policy: Emphasizing Resilience in Dry Forests*, 7 *ECOSPHERE* 1, 2 (2016); *see* L.A. Brennan et al., *Whither Wildlife Without Fire?* Transactions of the 63rd North American Wildlife and Natural Resources Conference 403 (Mar. 20–25, 1998), <https://perma.cc/7T4P-ZVDV>.

123. FIRE AND AVIATION MANAGEMENT, *supra* note 20.

124. *Id.*

125. Brennan et al., *supra* note 122, at 403.

126. *See id.* at 404, 412.

2. Fire-Planning and At Least Some Funding Should Shift to State and Local Levels

An adaptive resilience approach should also shift fire-planning and a much larger portion of funding for wildfire management efforts to the state and local levels. In theory, protecting homes, especially those within the WUI, is the responsibility of the state and local governments.¹²⁷ The federal government is only supposed to help, depending on “the relative values to be protected and the costs of protection.”¹²⁸ In practice, however, the Forest Service and other federal agencies end up fighting almost all the fires that threaten homes and private property—even on non-federal lands.¹²⁹ This means that it is mainly the federal fire managers who are in charge of funding and performing wildfire management. However, this results in incentives that are completely misaligned; the people who bear the risks of living in fire-prone areas should be the ones to bear the planning and firefighting costs. By having state and local governments and the local communities who oversee zoning and approving residential construction bear the costs of the risks of living in the WUI and other fire-prone areas, the incentives are better balanced.

In sum, an adaptive resilience approach that increases the use of prescribed burning and requires state and local governments to bear more of the cost and responsibility of wildfire management can better prepare the United States for the future increased threat of wildfire.

CONCLUSION

Although the Healthy Forests Initiative and the fuel reduction approach it advocates seems logical in the face of a long history of fire suppression management creating a dangerous buildup of fuel in federal forest lands, it is not an adequate approach to federal wildfire management. Multiple lawsuits and scientific studies indicate that the HFI’s fuel reduction advocacy and its categorical exclusions from NEPA requirements have significant negative impacts on the environment. Moreover, a few studies suggest that these approaches do not adequately address the landscapes that are most prone to wildfire, instead focusing on those from which an economic profit can be harvested. In place of the HFI, federal wildfire management should focus on an adaptive resilience approach, which uses prescribed burning to effectuate simultaneous fire suppression and fuel reduction and shifts management planning and costs onto the jurisdictions that approve local zoning and the people who choose to live in fire-prone areas. Such an approach would better address future wildfire risks, especially in the face of climate change and the ever-growing number of people living in the wildland-urban interface.

127. See Bailey, *supra* note 104, at 8.

128. *Id.* (emphasis omitted) (citation omitted).

129. *Id.*