

FOREST SERVICE DISCRETION: A GAME OF WOOD YOU RATHER? THE CHOICE TO ADDRESS CARBON STORAGE, LOGGING, AND WILDFIRES IN A WORLD OF CLIMATE CHANGE

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INTRODUCTION

National Forests provide Americans with several benefits, including world-class recreational opportunities, clean water, wildlife, and timber production.¹ The statutory scheme does not require any one specific use.² The United States Forest Service (Forest Service) is tasked with managing national forests for these uses.³ One of the most daunting challenges confronting both the nation and the Forest Service is human-driven climate change. Climate change effects—such as drought, beetle infestations, and wildfires—have the potential to interfere with almost every national forest “use” prescribed by the Forest Service.⁴ No single government agency has the jurisdiction to address or solve the climate change crisis alone. So, while climate change is driven primarily by carbon emissions from burning fossil fuels (which does not necessarily occur on Forest Service land), and will require an all-of-government approach to tackle, the Forest Service has management jurisdiction over millions of acres of National Forest System (NFS) lands with carbon-storing potential that can be used to help address climate change. The Forest Service can address these problems by working toward improving the health and carbon-storage potential of the forest ecosystems it oversees. The Forest Service manages these NFS lands for multiple uses, and the Forest Service’s statutory scheme implies that each of these purposes are valued equally.⁵

Another challenge in managing the NFS to address the climate change crisis is the Forest Service’s heavy reliance on commercial logging operations on and offlands designated for timber harvesting.⁶ This reliance is premised on, among other things, the idea that logging provides revenue, and commercial mechanical thinning reduces wildfire risks and restores forest ecology.⁷ However, rather

1. See KATIE HOOVER & ANNE A. RIDDLE, CONG. RSCH. SERV., R46976, U.S. FOREST OWNERSHIP AND MANAGEMENT: BACKGROUND AND ISSUES FOR CONGRESS 27–28 (2021); see also U.S. FOREST SERV., BENEFITS TO PEOPLE AT A GLANCE REPORT (2018), <https://www.fs.fed.us/emc/economics/documents/at-a-glance/benefits-to-people/nfs/BTP-NationalForestSystem.pdf>.

2. See *infra* Part I.A.

3. *Meet the Forest Service*, U.S. FOREST SERV., <https://www.fs.usda.gov/about-agency/meet-forest-service> (last visited Nov. 12, 2022).

4. See discussion *infra* notes 41–44 (discussing climate change consequences) and Part I.A.

5. See Organic Administration Act of 1897, 16 U.S.C. §§ 473–82, 551; Multiple Use Sustained Yield Act (MUSYA) of 1960, 16 U.S.C. §§ 528–531; National Forest Management Act (NFMA) of 1976, 16 U.S.C. § 1601 (Forest Service enabling statute).

6. See *Timber Sales on the National Forests*, U.S. Forest Serv., fs.usda.gov/managing-land/forest-management/products/timber-sales (last visited Nov. 12, 2022) (interactive map).

7. See Susan J. Prichard, Paul F. Hessburg, R. Keala Hagmann, Nicholas A. Povak, Solomon Z. Dobrowski, Matthew D. Hurteau et al., *Adapting Western North American Forests to Climate Change and Wildfires: 10 Common Questions*, 31 ECOLOGICAL APPLICATIONS, Dec. 2021, at 1, 10 (“[A]lthough the efficacy of thinning alone as a fuel reduction treatment is

than slowing or reducing the intensity of fires, commercial logging has the potential to reduce carbon storage and could increase fire intensity.⁸ The Forest Service should use non-formal rulemaking, such as an interpretive rule, to interpret its governing statutes and regulations. This action would bolster its role in protecting carbon storage to combat climate change, reassess its reliance on commercial timber companies, and take a proactive approach to managing the ongoing wildfire crisis. Competing statutory mandates mean the Forest Service faces challenging decisions regarding often paradoxical management objectives.⁹ The Forest Service faces the challenge of squaring timber sales with ecological integrity promised by its implementing regulation known as the 2012 Planning Rule (2012 Rule).¹⁰ Timber companies profit by selling harvested trees from forest restoration or fire-risk-reduction activities.¹¹ Engaging in these activities can create potential conflicts of interest that could prevent ecological integrity from ever being achieved, putting the Forest Service in a bind.¹²

Logging is one of the oldest industries in the United States.¹³ The large-scale cutting and clearing of North American forests began when Europeans colonized the land in the 1600s.¹⁴ After the once-abundant forests of the East were denuded of their large old-growth trees, logging companies ventured West.¹⁵ Today, however, many timber companies are multigenerational and are uninterested in seeing their livelihood run dry.¹⁶

questionable and site dependent, there exists widespread agreement that combined effects of thinning plus prescribed burning consistently reduces the potential for severe wildfire across a broad range of forest types and conditions.”).

8. See CHAD. T. HANSON, *SMOKESCREEN: DEBUNKING WILDFIRE MYTHS TO SAVE OUR FORESTS AND OUR CLIMATE* 45 (2021).

9. 16 U.S.C. § 528.

10. *Infra* Part I.A.

11. See Sophie Quinton, *Communities Want Trees Thinned. Timber Companies Want Contracts. So What's the Problem?*, PEW (Oct. 24, 2018), <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/10/24/communities-want-trees-thinned-timber-companies-want-contracts-so-whats-the-problem>.

12. When a timber company profits from trees harvested during a fire-mitigation project, it may be inclined to cut more trees than necessary, which imperils the goal of ecological integrity. See, e.g., Chad T. Hanson, *Opinion, Logging in Disguise: How Forest Thinning is Making Wildfires Worse*, GRSIT: FIX SOLUTIONS LAB (Aug. 24, 2021), <https://grist.org/fix/opinion/forest-thinning-logging-makes-wildfires-worse/> (explaining that the logging industry has used different terminology associated with wildfire mitigation to continue the same logging practices that harm the environment).

13. See JOHN G. FRANZEN, *THE ARCHAEOLOGY OF THE LOGGING INDUSTRY* 1 (2020).

14. *Id.*

15. *Id.*

16. Matthew Brown, *Climate Change, Logging Collide—And a Forest Shrinks*, ASSOCIATED

In 1897, Congress created the National Forest Reserve System¹⁷ with the purpose of “improv[ing] and protect[ing] the condition of forested areas of the United States” and “furnish[ing] a continuous supply of timber for use . . . of the people of the United States.”¹⁸ In 1905, Congress created the Forest Service within the U.S. Department of Agriculture to manage these new National Forests to provide quality waterflow and timber for the nation.¹⁹ Today, the Forest Service’s mission “is to sustain the health, diversity, and productivity of the nation’s forests and grasslands to meet the needs of present and future generations.”²⁰

The first commercial logging in the NFS occurred in 1899 in Black Hills National Forest in South Dakota.²¹ Originally focused on silviculture to allow for timber production, the Forest Service cultivated an unfettered relationship with the timber industry for the first century of its existence.²²

PRESS (Sept. 15, 2021), <https://apnews.com/article/fires-climate-environment-and-nature-forests-business-0cc8e3391c93a3ad8e77346f0610c4f0>.

17. Organic Administration Act of 1897, 16 U.S.C. §§ 473–82, 551. Prior to enacting the Organic Act, Congress gave the President the power to create forest reserves via Executive Order in 1891; Congress terminated this power in 1976. KATIE HOOVER & ANNE A. RIDDLE, CONG. RSCH. SERV., R43872, NATIONAL FOREST SYSTEM MANAGEMENT: OVERVIEW, APPROPRIATIONS, AND ISSUES FOR CONGRESS 1–2 (2019) [hereinafter NATIONAL FOREST SYSTEM MANAGEMENT]. The Weeks Act of 1911 created several national forests in the eastern United States through the acquisition of previously logged private lands for the purpose of reforestation. *Id.* at 2; Weeks Act, 16 U.S.C. § 516.

18. TONGASS NAT’L FOREST, U.S. FOREST SERV., CHRONOLOGY OF NATIONAL FOREST MANAGEMENT LAWS AND REGULATIONS (2016), https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd530507.pdf.

19. 16 U.S.C. § 475. The forest reserves were renamed National Forest in 1907. *Agency Organization*, FOREST HIST. SOC’Y, <https://foresthistor.org/research-explore/us-forest-service-history/policy-and-law/agency-organization/> (last visited Nov. 12, 2022). In this Comment, the terms “national forest” and “National Forest System” (NFS) are used refer to forests managed by the U.S. Forest Service (the Forest Service).

20. *Meet the Forest Service*, *supra* note 3. The Forest Service’s core values include “service, conservation, interdependence, diversity, and safety.” *Living Our Values—This is Who We Are*, U.S. FOREST SERV. (Mar. 15, 2019), <https://www.fs.usda.gov/inside-fs/leadership/living-our-values-who-we-are>.

21. JOHN F. FREEMAN, BLACK HILLS FORESTRY 21 (2015). Prior to the first timber sale, loggers cut more than 1.5 billion board feet of timber in the Black Hills. *Id.* A board foot is “a unit of quantity for lumber equal to the volume of a board 12 x 12 x 1 inches.” MERRIAM-WEBSTER DICTIONARY, <https://www.merriam-webster.com/dictionary/board%20foot> (last visited Nov. 12, 2022).

22. GEORGE C. COGGINS, CHARLES F. WILKINSON, JOHN D. LESHY, ROBERT L. FISCHMAN, FEDERAL PUBLIC LAND AND RESOURCES LAW 651 (7th ed. 2014) (noting that silviculture refers to tending to and growing trees, a practice favored by Forest Service “founder” Gifford Pinchot).

In the years following World War II, timber harvesting skyrocketed.²³ After years of robust growth, the timber industry began to decline in the 1990s,²⁴ opening the door for other uses to expand on NFS lands. Today, the timber industry accounts for six percent of the United States' gross domestic product, which is equivalent to that of the U.S. auto-industry.²⁵ There are approximately 766 million acres of forestlands in the United States, fifty-eight percent of which are privately owned; the remaining forty-two percent are owned and managed by federal, state, and local governments.²⁶ The NFS covers 193 million acres of land, which includes 154 national forests.²⁷ The Forest Service manages 144.9 million acres of forest, 96.1 million (sixty-six percent) of which is timberland suitable for logging.²⁸ Over time, forests have changed, but logging rates in many forests have remained the same.²⁹ In the western United States, tree harvesting has decreased, while in the eastern United States, it has increased.³⁰ Timber harvesting varies across regions but harvesting on federal lands mirrors harvesting on private lands in each respective region.³¹ Moreover, the Forest Service reports that clearcutting has increased, while partial cutting of forests has decreased.³²

23. *Id.* at 651–52.

24. *Id.* at 651.

25. U.S. FOREST SERV., FS-1035, U.S. FOREST RESOURCE FACTS AND HISTORICAL TRENDS, at 36–37 (2014) [hereinafter FACTS & HISTORICAL TRENDS].

26. Jocelyn Durkay & Jennifer Schultz, *The Role of Forests in Carbon Sequestration and Storage*, NAT'L CONF. OF STATE LEGISLATURES (Jan. 2016), <https://www.ncsl.org/research/environment-and-natural-resources/the-role-of-forests-in-carbon-sequestration-and-storage.aspx>.

27. U.S. FOREST SERV., FY 2022 BUDGET JUSTIFICATION, at 5 (2021) (explanatory notes).

28. ANNE A. RIDDLE, CONG. RSCH. SERV., R45688, TIMBER HARVESTING ON FEDERAL LANDS at 1, 3 (2021).

29. *See generally* FACTS & HISTORICAL TRENDS, *supra* note 25 (background information).

30. *Id.* at 40.

31. RIDDLE, *supra* note 28, at 9–10.

32. FACTS & HISTORICAL TRENDS, *supra* note 25, at 41. Clearcutting has been defined in different ways, even by the Forest Service—for example, compare *Glossary of Forest Engineering Terms*, U.S. FOREST SERV., <https://www.srs.fs.usda.gov/forestops/glossary/> (last visited Nov. 12, 2022), which defines clearcutting as felling “[a]ll merchantable trees” in an area designated for logging, with *Reforestation Glossary*, U.S. FOREST SERV., <https://web.archive.org/web/20220324052149/https://www.fs.fed.us/restoration/reforestation/glossary.shtml>, which defines it as “[a] regeneration or harvest method that removes *essentially all* trees in a stand.” (emphasis added). This second definition offers a more traditional and commonly accepted definition of clearcutting. *See, e.g.*, DAVID MERCKER, UNIV. OF TENN., W 248, A GLOSSARY OF COMMON FORESTRY TERMS, at 3 (2017) (defining “clearcut” in part as “[a] regeneration technique removing all the trees (regardless of size) on an area in one operation.”). For pros and cons of clearcutting see Kateryna Sergieieva, *Clear-Cutting Pros & Cons and Its Effects on Forests*, EOS DATA ANALYTICS: BLOG (Sept. 24, 2021),

Trees absorb carbon dioxide from the atmosphere and store the carbon in their above- and below-ground biomass.³³ The nation's forests sequester eleven to sixteen percent of carbon emissions in the United States.³⁴ Since 1990, forests have been a net carbon sink, meaning they stored more carbon than they released.³⁵ In 2020, U.S. forests stored 58.7 billion metric tons of carbon.³⁶ Carbon naturally fluctuates and cycles through the atmosphere.³⁷ Humans also contribute to the carbon cycle; humans became the main driver of climate change beginning in the 1800s during the industrial revolution by burning fossil fuels like coal, oil, and natural gas, which release carbon in the form of gas into the atmosphere.³⁸ Burning fossil fuels releases gases—known as greenhouse gases—like carbon dioxide and methane into the atmosphere.³⁹ These gases get trapped in the atmosphere and act as a blanket warming the planet.⁴⁰ Climate change effects include not only warmer temperatures, but also more severe weather events, fires, and droughts.⁴¹ Human-driven climate change contributed to “over half of the

<https://eos.com/blog/clear-cutting/>.

33. KATIE HOOVER & ANNE A. RIDDLE, CONG. RSCH. SERV., R46313, U.S. FOREST CARBON DATA: IN BRIEF, at 3 (2021) [hereinafter CARBON DATA].

34. See Jocelyn Durkay & Jennifer Schultz, *The Role of Forest in Carbon Sequestration and Storage*, NAT. CONF. OF STATE LEGISLATURES (2016), <https://www.ncsl.org/research/environment-and-natural-resources/the-role-of-forests-in-carbon-sequestration-and-storage.aspx>; see also *Growing Trees—And Capturing Carbon*, U.S. FOREST SERV. (Aug. 31, 2021), <https://www.fs.usda.gov/features/growing-trees-and-capturing-carbon> (noting terrestrial carbon storage by forests amounted to an eleven percent offset of total U.S. greenhouse gas emissions in 2019); U.S. FOREST SERV., FS-1187a, CONFRONTING THE WILDFIRE CRISIS A STRATEGY FOR PROTECTING COMMUNITIES AND IMPROVING RESILIENCE IN AMERICA'S FORESTS, at 16–17 (2022) [hereinafter WILDFIRE CRISIS STRATEGY].

35. CARBON DATA, *supra* note 33, at 3.

36. *Id.*

37. See *What is the Carbon Cycle?*, NAT'L OCEAN SERV., <https://oceanservice.noaa.gov/facts/carbon-cycle.html> (last visited Nov. 12, 2022); see also *What is Climate Change?*, UNITED NATIONS, <https://www.un.org/en/climatechange/what-is-climate-change> (last visited Nov. 12, 2022).

38. *What is Climate Change?*, *supra* note 37.

39. *Id.*

40. *Id.* According to the United Nations, Earth is 1.1°C warmer than it was in the 1800s, and greenhouse gas concentrations reached new highs in 2019 at 148 percent of pre-industrial levels. *Climate Action Fast Facts*, UNITED NATIONS, <https://www.un.org/en/climatechange/science/key-findings> (last visited Nov. 12, 2022). Moreover, the decade of 2010 to 2019 was the warmest on record. *Id.* Experts from around the world agree that limiting the global temperature rise to no more than one and a half degrees Celsius is necessary to ensure the planet is livable and to avoid the worst effects of climate change. See *What is Climate Change?*, *supra* note 37.

41. *What is Climate Change?*, *supra* note 37; see also WILDFIRE CRISIS STRATEGY, *supra* note 34, at 16–17. In addition to those consequences stated above, catastrophic storms, rising sea

documented increases in fuel aridity since the 1970s and doubled the cumulative forest fire area since 1984.”⁴² This increase in forest fire activity has exacerbated forest mortality, increased carbon emissions, extended periods of poor air quality, and substantially increased fire suppression costs.⁴³

The threat of wildfires presents one of the predominant challenges to managing forests. Climate change affects how the Forest Service manages forests and responds to wildfires.⁴⁴ Wildfires threaten not only forests but also nearby communities that have moved closer to forested areas in recent decades.⁴⁵ As people move closer to wildlands, areas known as wildland–urban interfaces (WUI) increase, leading to increased calls for forest management in and around those areas.⁴⁶

level, melting polar ice, and declining biodiversity are among the ramifications of climate change. See *What is Climate Change?*, *supra* note 37; see also *What’s the Difference Between Climate and Weather?*, NAT’L OCEANIC & ATMOSPHERIC ADMIN., <https://www.noaa.gov/explainers/what-s-difference-between-climate-and-weather> (last visited Nov. 12, 2022) (noting climate and weather both describe the “state of the atmosphere” in a given location but on different time scales). For information on the different types of severe weather caused by climate change, see *Extreme Weather*, NAT’L CLIMATE ASSESSMENT, <https://nca2014.globalchange.gov/highlights/report-findings/extreme-weather> (last visited Nov. 12, 2022), which catalogues the findings of the Third National Climate Assessment completed in 2014.

42. John T. Abatzoglou & A. Park Williams, *Impact of Anthropogenic Climate Change on Wildfire Across Western US Forests*, 113 PNAS 11,770, 11,770 (2018).

43. See *id.*

44. WILDFIRE CRISIS STRATEGY, *supra* note 34, at 16 (“In the West, climate change is making the fire and fuels problem worse by reducing snow and rainfall and by increasing the frequency and scale of high winds and hot dry weather.”).

45. See, e.g., Nadja Popovich & Brad Plumer, *As Wildfires Grow, Millions of Homes are Being Built in Harm’s Way*, N.Y. TIMES (Sept. 9, 2022), <https://www.nytimes.com/interactive/2022/09/09/climate/growing-wildfire-risk-homes.html>; John Muyskens, Andrew Ba Tran, Naema Ahmed & Anna Phillips, *1 in 6 Americans Live in Areas with Significant Wildfire Risk*, WASH. POST (May 17, 2022), <https://www.washingtonpost.com/climate-environment/interactive/2022/wildfire-risk-map-us/>.

46. For a statutory definition of wildland-urban interface (WUI), see 16 U.S.C. § 6511(16)(A)–(B)(iii). See also *What is the WUI?*, U.S. FIRE ADMIN., <https://www.usfa.fema.gov/wui/what-is-the-wui.html> (last visited Nov. 12, 2022) (“The WUI is the zone of transition between unoccupied land and human development. It is the line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.”). See generally Gabrielle Canon, *What the Numbers Tells Us About a Catastrophic Year of Wildfires*, GUARDIAN (Dec. 25, 2021, 6:00 PM), <https://www.theguardian.com/us-news/2021/dec/25/what-the-numbers-tells-us-about-a-catastrophic-year-of-wildfires> (discussing 2021 fire season); *Facts + Statistics: Wildfires*, INS. INFO. INST., <https://www.iii.org/fact-statistic/facts-statistics-wildfires> [<https://web.archive.org/web/20220225122542/>] (discussing recent

Forest thinning is a common solution to the wildfire threats on public and private land.⁴⁷ Thinning is a method of reducing “fuel” in a forest that is at risk for wildfire;⁴⁸ however, it often closely resembles clearcutting because timber companies (contracted by governments) often want to cut the larger, more profitable trees under the guise of reducing fuel.⁴⁹ Some public and privately owned forests are managed through mechanical thinning and controlled burns with the understanding that these treatments will help reduce the risk of wildfires encroaching on communities in WUI zones.⁵⁰ The Forest Service not only fights fires in forested areas but also defends communities as fires approach the WUI.⁵¹ Furthermore, fire management consumes proportionally more of the Forest Service’s budget each year.⁵² As a result, funds intended for forest management and restoration are used to

fire seasons, including the Dixie, Camp, and Tubbs fires).

47. See *Healthy Forests Are Responsibly Managed*, WASH. FOREST PROT. ASS’N, <https://www.wfpa.org/sustainable-forestry/restore-healthy-forests-reduce-wildfire-risk/> (last visited Nov. 12, 2022).

48. See *Glossary of Forest Engineering Terms*, *supra* note 32 (defining several types of thinning including commercial thinning—for economic gain—and thinning, generally, as “[c]uttings made in immature stands in order to stimulate the growth of the trees that remain and to increase the total yield of useful material from the stand”).

49. Randi Spivak, Opinion, *Trump Turned California’s Tragic Fires into a Shameless Logging Campaign*, THE HILL (Nov. 30, 2018, 9:30 AM), <https://thehill.com/opinion/energy-environment/419070-trump-turned-californias-tragic-fires-into-a-shameless-logging?rl=1> (discussing usefulness of thinning and logic of timber companies cutting big trees); see also George Cameron Coggins & Parthenia Blessing Evans, *Multiple Use, Sustained Yield Planning on the Public Lands*, 53 U. COLO. L. REV. 411, 441 (1982) (noting that Congress expressly permitted clearcutting in NFMA as a response to the Court holding it was not permitted under the Organic Administration Act). For definitions of clearcutting see *supra*, note 32.

50. See Spivak, *supra* note 49. Although a private company actively managed the forest surrounding the town of Paradise, California, the Camp Fire burned through areas where the company had previously conducted post-fire logging and federal salvage logging. *Id.* Unfortunately, none of those efforts saved the town from burning. *Id.*

51. See Ryan Richards, *Defining Success for Wildfire Funding Fix*, CTR. FOR AM. PROGRESS (June 13, 2018), <https://www.americanprogress.org/article/defining-success-wildfire-funding-fix/> (noting that protecting communities and private property is expensive, leading to an ever-increasing taxpayer burden).

52. See Press Release, U.S. Dep’t. of Agric., Forest Service Wildland Fire Suppression Costs Exceed \$2 Billion (Sept. 14, 2017) (noting an increase in suppression costs from fifteen percent to fifty-five percent in recent years); see also Richards, *supra* note 51 (noting that in nine out of ten years between 2007 and 2016, the Forest Service relied on emergency appropriations or funds diverted from other activities).

fight fires.⁵³ In 2021, the Forest Service spent over \$3.7 billion on fire suppression, making it the most expensive fire season on record.⁵⁴

Poor forest management, including lack of thinning, standing dead trees, and overly-dense forests, is often cited as the driver of forest fires; however, changes in climate, including hotter temperatures, less rain, and more extreme wind events are the ultimate drivers of hotter, more intense, and more frequent fires.⁵⁵ Logging alone will not prevent wildfires because wildfires are ultimately driven by climate—temperature and aridity—so it is often not a matter of whether a forest has been logged or thinned, but rather whether conditions are ripe when an ignition occurs.⁵⁶ Eliminating all forms of logging activity is unrealistic; clearly a balance must be struck between managing NFS lands for health and logging them for profit.

Until the 1970s, the Forest Service had a national policy of “fire exclusion,” a practice of extinguishing a fire as soon as it started.⁵⁷ This policy was originally rooted in the desire to protect timber for harvesting or production, just as national forests were primarily intended for timber production.⁵⁸ The goals of this policy were to prevent fires from starting in the first place and to suppress fires that did start as quickly as possible.⁵⁹ Though the Forest Service abandoned the policy in recognition of the positive ecological role of fire in forests, the agency still commits significant resources—seasonal staff and funds—to fighting fires each year.⁶⁰

53. See Richards, *supra* note 51.

54. *Suppression Costs*, NAT'L INTERAGENCY FIRE CTR., <https://www.nifc.gov/fire-information/statistics/suppression-costs> (last visited Nov. 12, 2022). The Forest Service spent \$3,741,000,000 on fire suppression in 2021, which was a significant increase from the previous two years and an all-time high. *Id.* The Forest Service's five-year spending average for fire suppression costs between 2017 and 2021 was \$2,336,084,200. *Id.* In 2019 and 2020 the Forest Service spent \$1,150,000,000 and \$1,764,000,000, respectively, on suppression costs. *Id.*

55. See HANSON, *supra* note 8, at 45; Abatzoglou & Williams, *supra* note 42, at 11,770.

56. See HANSON, *supra* note 8, at 45–46.

57. WILDFIRE CRISIS STRATEGY, *supra* note 34, at 14. Around 1911, the federal government stopped using “ground fires to keep landscapes open” and in 1935 the Forest Service implemented “a policy of extinguishing all wildland fires by the morning after they were first detected.” *Id.*

58. *U.S. Forest Service Fire Suppression*, FOREST HIST. SOC'Y, <https://foresthstory.org/research-explore/us-forest-service-history/policy-and-law/fire-u-s-forest-service/u-s-forest-service-fire-suppression/> (last visited Nov. 12, 2022).

59. *Id.* The Forest Service introduced the “10:00 A.M. policy,” which called for firefighters to suppress every fire by ten o'clock in the morning the next day. *Id.* The Forest Service also created the well-known Smokey the Bear character to help deliver this fire prevention message. *Id.*

60. See *supra* notes 53–54 and accompanying text.

The Forest Service's current policy allows some fires to burn when they do not pose a threat to human infrastructure or safety.⁶¹ This "let it burn policy" allows certain *good* fires to burn for "resource benefit."⁶² However, in August 2021, the Forest Service temporarily suspended this policy due to the unprecedented western fire season driven by extreme drought conditions.⁶³ The decision constituted a temporary policy change given the conditions at the time.⁶⁴ The change concerned some because its blanket nature was reminiscent of early fire suppression efforts.⁶⁵ Critics in the scientific community lamented the decision as the same type of across-the-board fire suppression that led to an excessive amount of fuel buildup over the past century, which created an unnatural fire regime.⁶⁶ Moreover, the decision to temporarily forego the use of "good fire" could provide precedent to do so again when faced with a similar situation—a likely situation given what is known about climate change.⁶⁷ Lastly, blanket policy decisions like this should be grounded in science rather than responsive to political pressure.⁶⁸

When fires occur, the Forest Service must address the damage caused. For example, burned trees along forest roads may pose a threat to public safety, especially in areas designated for recreation.⁶⁹ However, the Forest Service's

61. See FOREST HIST. SOC'Y, *supra* note 58.

62. Madison Wade, *Does the U.S. Forest Service Have a 'Let It Burn' Policy?*, ABC 10 (Aug. 6 2021), <https://www.abc10.com/article/news/verify/does-us-forest-service-have-let-it-burn-policy-verify/103-aeb1e8b-3989-4f64-a10b-4d5ccce7ef77>. The term "let it burn" oversimplifies the Forest Service's policy; politicians often use it to express politically expedient critiques of the Forest Service during times of high stress. See Anita Chabria, *Forest Service Changes 'Let It Burn' Wildfire Policy After Criticism from Politicians*, OREGONIAN (Aug. 5, 2021, 7:17 PM), <https://www.oregonlive.com/wildfires/2021/08/forest-service-changes-let-it-burn-wildfire-policy-after-criticism-from-politicians.html> (quoting California Governor Newsom criticizing the "wait and see" idea).

63. Lauren Sommer, *With Extreme Fires Burning, Forest Service Stops 'Good Fires' Too*, NPR (Aug. 10, 2021, 1:03 PM), <https://www.npr.org/2021/08/09/1026137249/with-extreme-fires-burning-forest-service-stops-good-fires-too>.

64. U.S. FOREST SERV., CHIEF'S WILDLAND FIRE DIRECTION (Aug. 2, 2021), <https://www.gov.ca.gov/wp-content/uploads/2021/08/8.2.21-USDA-letter.pdf>.

65. Letter to Chief Randy Moore from Fire and Forest Scientists (Aug. 10, 2021), http://www.hurteaulab.org/uploads/3/8/7/3/38731639/chief_moore_letter_10aug2021.pdf.

66. Sommer, *supra* note 63 (quoting Crystal Kolden, University of California, Merced fire scientist); Letter to Chief Randy Moore, *supra* note 63 ("Fire exclusion, along with historic logging that removed larger fire-resistant trees, are [sic] in part responsible for our current fire and forest management challenges, with changing climate increasingly acting as a force multiplier.").

67. Letter to Chief Randy Moore, *supra* note 65.

68. See Sommer, *supra* note 63 (expressing fears regarding the politicization of the fire suppression issues).

69. See, e.g., Cassandra Profita, *Environmental Groups Sue Over Post-Wildfire Roadside Logging Plans*, OPB (Aug. 19, 2021, 8:43 PM), <https://www.opb.org/article/2021/08/19/enviro>

response can fall short of procedural requirements. For instance, after a fire burned through a timber sale area in the Willamette National Forest in 2020, the Forest Service changed the contractually-allowed type of post-fire logging without public input.⁷⁰ The area had previously been designated for thinning and prescribed burn.⁷¹ After the fire, the entire area along a 404-mile stretch of forest road was redesignated for salvage logging, including clearcutting.⁷² The lawsuits filed due to the handling of the timber contracts could have been avoided if the Forest Service conducted a transparent National Environmental Policy Act (NEPA) analysis.⁷³

This Comment will address the Forest Service's discretion in its efforts to mitigate climate change through the management of forest resources, its relationship with the timber industry, its wildfire-fighting efforts, and how the Forest Service can improve its policies to align with the Biden Administration's climate change goals. Part I of this Comment discusses the statutory scheme and legal issues faced by the Forest Service and argues that parts of the Forest service are at risk of regulatory capture. Part II discusses

nmental-groups-sue-over-post-wildfire-roadside-logging-plans/.

70. See *Cascadia Wildlands v. U.S. Forest Serv.*, No. 6:21-cv-01225-AA, 2021 WL 6112546, at *1, *3–4, *6–7 (D. Or. Dec. 27, 2021) (noting timber sale contracts were modified to salvage logging and granting environmental group's request for preliminary injunction); *Cascadia Wildlands v. Warnack*, 570 F. Supp. 3d 983, 991, 993 n.3 (D. Or. 2021) (noting commercial logging will have more than a minimal environmental impact and requires a more searching review); Profita, *supra* note 69; Eddy Binford-Ross & Zach Urness, *Federal Judge Halts Post-Fire 'Salvage Logging' in Willamette National Forest*, SALEM STATESMAN J. (Dec. 3, 2021, 4:03 PM), <https://www.statesmanjournal.com/story/news/2021/12/03/post-fire-logging-willamette-national-forest-halted-federal-judge/8858142002/> (discussing modified logging contract lawsuit).

71. Binford-Ross & Urness, *supra* note 70; see generally Profita, *supra* note 69 (describing the Forest Service's post-wildfire logging plans).

72. See Binford-Ross & Urness, *supra* note 70; Profita, *supra* note 69. The Forest Service has defined "salvage logging" or "cutting" differently over time, for example compare a recent definition found in a Forest Service glossary, *Glossary of Forest Engineering Terms*, *supra* note 32, which defines it as a "cleanup operation" utilized to collect timber that is not easily handled by bigger equipment, with the definition found in a glossary taken offline during the drafting of this Comment, *Reforestation Glossary*, *supra* note 32, which defines it as "[t]he removal of dead trees or trees being damaged or dying due to injurious agents...to recover *value* that would otherwise be lost." (emphasis added). See also Alexandro B. Leverkus, Lena Gustafsson, David B. Lindenmayer, Jorge Castro, José María Rey Benayas, Thomas Ranius et al., *Salvage Logging Effects on Regulating Ecosystem Services and Fuel Loads*, 18 FRONTIERS ECOLOGY & ENV'T 391, 391 (2020) (noting the primary motivations for salvage logging as recovering economic value and risk reduction).

73. See discussion *infra* Part I.B; National Environmental Policy Act (NEPA), 42 U.S.C. § 4332 (dictating federal agency environmental review policies); *Cascadia Wildlands v. Warnack*, 570 F. Supp. 3d 983 (D. Or. 2021); *Cascadia Wildlands v. U.S. Forest Serv.* 21-cv-01225, 2021 WL 6112546 (D. Or. Dec. 27, 2021).

the Biden Administration's environmental and climate related aspirations as they relate to the Forest Service. Finally, Part III recommends steps the Forest Service can take to address each issue.

I. LOGGING, THE HEART OF THE FOREST SERVICE

A. *Forest Service Laws and Regulations*

The Forest Service manages national forests in accordance with several land management statutes.⁷⁴ The Multiple Use Sustained Yield Act (MUSYA) of 1960⁷⁵ changed the fundamental management purposes of NFS lands⁷⁶ from solely protecting water flow and producing timber, to protecting a variety of uses.⁷⁷ The idea grew out of the notion that after World War II, forests were drained of their finite resources too rapidly, and other resources, such as recreation, were pushed aside in favor of timber needs.⁷⁸ MUSYA authorizes the Secretary of Agriculture to “develop and administer the renewable surface resources of the national forests for multiple use and sustained yield of the . . . [forests’] products and services”⁷⁹ MUSYA also instructs the Secretary to give “due consideration . . . to the relative values of the various resources in particular areas.”⁸⁰ In addition to defining a new management directive, Congress also redefined the purposes of the national forests.⁸¹ Whereas under the Organic Act Congress dictated that the national forests’ primary purpose was timber production and protecting forest and water flow, under MUSYA Congress expanded the primary purpose to include “outdoor recreation, range, timber, watershed, and wildlife and fish purposes.”⁸² MUSYA defines “multiple use” as using the

74. Organic Administration Act of 1897, 16 U.S.C. §§ 473–82, 551 (establishing National Forest Reserves to protect and improve natural areas and preserve timber supplies); MUSYA, 16 U.S.C. §§ 528–531 (expanding the purpose of national forest administration to include sustainable development of water, recreation, and wildlife); NFMA, 16 U.S.C. §§ 1601, 1604 (mandating a systematic, interdisciplinary approach with public engagement for developing and revising forest plans).

75. § 528.

76. *See infra* note 82 and accompanying text.

77. *Compare* § 475 (forest protection, water supply, and timber), *with* § 528 (outdoor recreation, timber, watershed, and wildlife and fish).

78. *See* U.S. FOREST SERV., FS-650, THE USDA FOREST SERVICE—THE FIRST CENTURY, 55 (2005).

79. § 529.

80. *Id.*

81. § 528.

82. *Id.*

“various renewable surface resources” in the combination that will best meet the needs of the American people.⁸³ Multiple use considers the relative value of resources but does not require maximizing dollar values, nor does it require that an area be managed for all or most of the uses.⁸⁴ It defines “sustained yield” as using the resources to achieve and maintain, “in perpetuity of a high-level annual or regular periodic output, of the various renewable resources . . . without impair[ing] the productivity of the land.”⁸⁵ This significant mandate-change signaled that timber production was one possible use for NFS lands, rather than the only, or even the most important use.⁸⁶ While providing for several uses, MUSYA’s lofty language also “breathe[s] discretion at every pore,” allowing the Forest Service to take nearly any action it chooses.⁸⁷

Realizing the lack of an implementation directive in MUSYA, Congress enacted the Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974.⁸⁸ RPA calls for the Forest Service to plan and assess the renewable resources within national forests every ten years.⁸⁹ Shortly thereafter, Congress enacted the National Forest Management Act (NFMA) of 1976,⁹⁰ which amended RPA and mandated the creation of land management plans.⁹¹ NFMA dictates that the Forest Service revise these plans every fifteen years “to address changing conditions, management goals, and public use,” but if the Forest Service fails to revise the plans within that period, it is not a violation of RPA or NFMA.⁹² NFMA calls on the Secretary of Agriculture (Secretary) to promulgate a planning rule “that set[s] out the process for the development and revision of the land management plans, and the guidelines and standards” of the Act.⁹³

83. § 531(a) (providing for periodic adjustments).

84. § 529.

85. § 531(b).

86. *See* § 528.

87. *Strickland v. Morton*, 519 F.2d 467, 469 (9th Cir. 1975).

88. Forest and Rangeland Renewable Resources Planning Act (RPA), 16 U.S.C. § 1601.

89. *Id.*

90. § 1604.

91. *Id.* In national forests, these land management plans are often called “forest plans.” *See* U.S. FOREST SERV., A CITIZEN’S GUIDE TO NATIONAL FOREST PLANNING 9 (2016) [hereinafter CITIZEN’S GUIDE] (public-facing guide to forest planning). This Comment will refer to these plans as “forest management plans.”

92. *See* NATIONAL FOREST SYSTEM MANAGEMENT, *supra* note 17, at 5, 5 n.18 (noting that annual appropriation bills have to include provisions to exempt the Forest Service from complying with this requirement); *see also infra* note 94 and accompanying text.

93. § 1604(g).

The most recent planning rule was promulgated in 2012⁹⁴ and amended in December 2016.⁹⁵ The 2012 Rule is an implementing regulation that establishes “an adaptive, three-phase planning framework to emphasize ecological sustainability, landscape-scale restoration, and science-based decisions informed by public values” that also accounts for potential climate change effects.⁹⁶

NFMA and the 2012 Rule require the Forest Service to use the “best available scientific information” (BASI), which is science that, at a minimum, is “available, accurate, reliable, and relevant.”⁹⁷ The 2012 Rule also calls for an emphasized role for ecosystem services.⁹⁸ Additionally, NFMA and the 2012 Rule both call on the Forest Service to consider climate change in each forest management plan.⁹⁹ The Forest Service has acknowledged that “[f]orest protection and management represent an important opportunity to reduce impacts of future climate change.”¹⁰⁰

Courts have dismissed cases challenging the 2012 Rule on justiciability grounds, finding that pro-logging plaintiffs do not have standing.¹⁰¹ Because the 2012 Rule is “akin to a charter” or “an amalgamation of first principles . . . that the Forest Service must follow” when creating forest management plans, there are several intervening decisions that will be made before a plaintiff might possibly be injured.¹⁰²

94. 36 C.F.R. § 219 (2018) (2012 Planning Rule); *see also* CITIZEN’S GUIDE, *supra* note 91, at 20.

95. NATIONAL FOREST SYSTEM MANAGEMENT, *supra* note 17, at 6, 6 n.25 (discussing 36 C.F.R. § 219); *see also* Amendment to the 2012 Planning Rule, U.S. FOREST SERV., <https://www.fs.usda.gov/detail/planningrule/home/?cid=fseprd520491> (last visited Nov. 12, 2022) (explaining the amendment only provides technical clarifications). The current planning rule, though amended in 2016, is still referred to as the 2012 Planning Rule (2012 Rule). *See id.*

96. NATIONAL FOREST SYSTEM MANAGEMENT, *supra* note 17, at 6. As of 2019, eighty-five out of 130 plans needed revision, and fifty-four were over fifteen years old. *Id.*

97. 36 C.F.R. § 219.3; CITIZEN’S GUIDE, *supra* note 91, at 15 (“Generally, [the best available scientific information (BASI)] is high-quality information that: results from well-developed and appropriate methods, draws logical conclusions based on reasonable assumptions, explains information gaps and inconsistencies, has been appropriately peer-reviewed, is placed in the proper context within the body of knowledge, and cites references. However, not all information needs to meet all of these characteristics to be considered best available scientific information.”).

98. *See* CITIZEN’S GUIDE, *supra* note 91, at 24 (defining ecosystem services as “current and future benefits people and communities obtain from the national forests.”).

99. *See* 16 U.S.C. § 1604; 36 C.F.R. §§ 219.5(a), 219.6(b)(3).

100. CITIZEN’S GUIDE, *supra* note 91, at 36.

101. *See, e.g.*, Fed. Forest Res. Coal. v. Vilsack, 100 F. Supp. 3d 21, 37 (D.D.C. 2015) (concluding plaintiffs did not demonstrate that the 2012 Rule caused or imminently will cause an injury-in-fact, nor did plaintiffs establish a procedural injury).

102. *Id.* at 39.

The 2012 Rule lays out the requirements for forest management plans, including development, amendment, and revision criteria.¹⁰³ It also includes requirements for forest “plan components and other content,”¹⁰⁴ and calls for BASI to be used in assessment and planning.¹⁰⁵ But what qualifies as BASI is determined by the “responsible [Forest Service] official,” leaving considerable room for discretion.¹⁰⁶ The 2012 Rule balances this discretion by requiring forest management plans to consider public input.¹⁰⁷ The 2012 Rule emphasizes that creating forest management plans is an “iterative” process that should account for changing conditions, including climate change.¹⁰⁸ The 2012 Rule requires the official responsible for a region to conduct an assessment of “existing information” prior to the revision or development of a plan.¹⁰⁹ Existing information includes ecosystems and watersheds, air and water quality, ecological processes, and stressors such as fire regimes and climate change, carbon stocks, social, economic and cultural conditions, recreation, and “multiple uses.”¹¹⁰

Additionally, the 2012 Rule lays out requirements for timber harvesting to be included in forest management plans.¹¹¹ For logging, forest management plans describe where timber may be harvested and include measures of sustainable harvest levels.¹¹² The Forest Service uses these plans as guides for individual timber sales within a forest, which in turn create revenue.¹¹³ In drafting forest management plans, the Forest Service must identify lands “not suited for timber production,” which means, by default, all other lands are considered suitable or available for timber harvesting.¹¹⁴ It must also define the “allowable sale quantity,” or

103. 36 C.F.R. § 219.1(a).

104. *Id.*

105. § 219.3.

106. *Id.* (requiring documentation of how BASI was determined and a reason for determination and relevance).

107. § 219.4.

108. § 219.5(a).

109. § 219.6(a)(1); *see also* § 219.19 (stating that assessments are intended to provide “current information on select topics relevant to the [NFS lands covered by the plan] in the context of the broader landscape,” but are not decisionmaking documents).

110. § 219.6(b)(1)–(15); *see also* CARBON DATA, *supra* note 33, at 2 fig. 1 (defining carbon stock as “[t]he quantity of carbon in a pool, reported as measure of mass or weight” and carbon pool as “[a] system that has the capacity to accumulate or release carbon.”).

111. § 219.11 (timber requirements).

112. RIDDLE, *supra* note 28, at 4.

113. *Id.* at 4–5.

114. *See id.* at 5.

the measure of how much timber can be removed annually over a ten-year period, without impairing future yield.¹¹⁵

In addition to the 2012 Rule, the Forest Service promulgated rules for the sale of timber contracts that take place on NFS lands per NFMA.¹¹⁶ These regulations provide that timber contracts longer than two years “shall provide for cancellation” in the event the contract is “significantly inconsistent” with a forest management plan, or to avoid “serious environmental damage.”¹¹⁷ Contracts can also be modified to prevent environmental damage or to bring them in line with forest management plans that the Forest Service revised after issuing the contract.¹¹⁸

Further, NFMA provides criteria for terms and conditions of timber contracts. If the Secretary finds that the better use of a resource is timber harvesting, the Secretary can extend a timber contract for more than ten years; but if there is a better use, the contract cannot be extended beyond ten years.¹¹⁹ The statute also vests decisionmaking discretion in the Secretary regarding additional time to complete a contract when there are “time delays caused by an act of an agent of the United States or by other circumstances beyond the control of the purchaser.”¹²⁰ This means that the Secretary can choose not to issue a permit if there is a better use and can choose not to extend any given timber contract based on the proper findings, including “overriding public interest.”¹²¹

Each national forest is managed differently under its own forest management plan.¹²² Some areas are designated only for logging, while others are designated for other uses or for multiple uses.¹²³ Further, not every timber contract is identical; timber contracts vary in the amount and type of logging permitted and the size of area designated for logging activities.¹²⁴

115. *Id.*

116. *See* 16 U.S.C. § 472a(h) (timber sales on NFS lands).

117. 36 C.F.R. § 223.40 (2018) (cancellation for environmental protection or inconsistency with plans). Contract purchasers are entitled to reasonable compensation. *Id.*

118. 36 C.F.R. § 223.116 (cancellation); 5 WEST’S FED. ADMIN. PRAC. § 6126 (July 2022).

119. 16 U.S.C. § 472a(c). These terms provide that “[t]he Secretary shall not extend any contract period with an original term of two years or more unless [the Secretary] finds (A) that the purchaser has diligently performed in accordance with an approved plan of operation or (B) that the substantial overriding public interest justifies the extension.” *Id.*

120. *Id.*

121. *Id.*

122. NATIONAL FOREST SYSTEM MANAGEMENT, *supra* note 17, at 6. Some forest management plans cover multiple NFS units; the Forest Service has developed 130 plans for 110 administrative forest units. *Id.*

123. *Supra* notes 82–85 and accompanying text.

124. 36 C.F.R. § 223.30 (2018) (consistency with plans, environmental standards, and

The Forest Service sometimes issues timber contracts for purposes other than logging or timber production, such as forest restoration or post-fire cutting and salvage logging.¹²⁵ Further, the Forest Service occasionally revises the allowed activity after a timber sale occurs¹²⁶ Whether it be creating forest management plans or issuing timber contracts, the Forest Service has discretion in every decision it makes.¹²⁷

B. Legal Battles: Timber, Environmentalists, and the Forest Service

For each national forest, the Forest Service must create a forest management plan.¹²⁸ Under *Ohio Forestry Ass'n v. Sierra Club*,¹²⁹ forest management plans are generally not legally enforceable because certain parts of the plans require further agency action prior to implementation.¹³⁰ In not reaching the merits, the Court analyzed the ripeness of plaintiff Sierra Club's challenge to the Wayne National Forest Management Plan.¹³¹ The Court concluded that the plan did not affect the plaintiff's legal rights or obligations, nor did it cause practical harm, because there were other administrative hurdles prior to permitting logging.¹³²

Since its inception, the Forest Service has relied on the timber industry to produce timber from NFS lands.¹³³ The Forest Service also relies on those same timber companies to maintain healthy forests and manage fires.¹³⁴ Timber companies cut trees to make a profit, regardless of whether they do so in designated timberlands, or in other areas to address forest resiliency or

other management requirements).

125. See, e.g., Maya Earls, *Forest Service Sued After Changing Logging Plans Post-Wildfires*, BL (Aug. 19, 2021, 11:14 AM), <https://news.bloomberglaw.com/environment-and-energy/forest-service-sued-after-changing-logging-plans-post-wildfires?context=search&index=3> (claiming permitted logging activity changed from restoration thinning to post-fire clearcutting and salvage).

126. See *id.*; *Cascadia Wildlands v. Warnack*, 570 F. Supp. 3d 983, 987 (D. Or. 2021); *Cascadia Wildlands v. U.S. Forest Serv.*, 21-CV-01225, 2021 WL 6112546, at *1 (D. Or. Dec. 27, 2021).

127. See *supra* note 87 and accompanying text.

128. NATIONAL FOREST SYSTEM MANAGEMENT, *supra* note 17, at 5.

129. 523 U.S. 726 (1998).

130. *Id.* at 737. But see generally Amanda C. Cohen, *Ripeness Revisited: The Implications of Ohio Forestry Association, Inc. v. Sierra Club for Environmental Litigation*, 23 HARV. ENV'T L. REV. 547, 552–55 (1999) (arguing that pre-implementation judicial review of forest management plans is still available in certain instances).

131. *Ohio Forestry*, 523 U.S. at 728 (claiming the plan allowed “too much logging and too much clearcutting”).

132. *Id.* at 733.

133. See *supra* Introduction.

134. *Id.*

fire suppression and risk reduction.¹³⁵ While the Forest Service claims to rely on timber sales as a source of revenue, it actually loses out economically.¹³⁶ The Forest Service has shifted its focus from justifying logging on the grounds that it helps sustain the timber industry, to justifying logging on the grounds that it helps achieve ecological goals.¹³⁷ However, the timber industry remains a main economic driver in many communities around national forests that produce timber, and any change in that way of life creates uncertainty and fear.¹³⁸ Climate change has forced public land agencies, including the Forest Service, to change the way they think about managing national forests, which is not something the timber industry has had to consider.¹³⁹

For example, the creation of a new forest management plan for Black Hills National Forest inflamed a contentious debate.¹⁴⁰ To understand this debate, it is important to understand the history of the Black Hills. In the waning days of his administration, President Grover Cleveland invoked the Forest Reserve Act to create Black Hills National Forest and twelve other new forest reserves.¹⁴¹ Black Hills locals adamantly opposed that action because they feared the closure of the forest to future developments.¹⁴² In reality, the opposite occurred—development persisted—yet the feelings of fear and distrust of the government endured, especially when it comes to

135. *Id.*

136. See generally John Talberth, *Destructive Federal Timber Sale Program Loses Nearly \$2 Billion a Year*, CTR. FOR SUSTAINABLE ECON. (May 21, 2019), <https://web.archive.org/web/20190805132140/https://sustainable-economy.org/destructive-federal-timber-sale-program-loses-nearly-2-billion-a-year/> (arguing logging is an inefficient use of forest lands).

137. John Talberth & Ernest Niemi, *Environmentally Harmful Subsidies in the U.S. Issue #1: The Federal Logging Program*, CTR. FOR SUSTAINABLE ECON., at 8 (2019).

138. See Jaci Conrad Pearson, *'This is Critical' County Officials Ask for Alternatives to 50-60% Timber Production Reduction*, BLACK HILLS PIONEER (Oct. 28, 2021), https://www.bhpioneer.com/local_news/this-is-critical/article_e57fab4-3810-11ec-8de2-23cb5636e60e.html (“‘We need to find a way to sustain the industry,’ Deibert said. ‘Because we need them so desperately. If we [do not] have a multiple use forest because industry leaves, we lose all the revenue and we lose, more importantly, we lose a healthy forest . . . [we have] got to get moving on this because in six to nine months, industry could leave. This is critical.’”).

139. See Dennis Knight, *The Rest of the Black Hills Forestry Story*, COUNTY17 (Oct. 12, 2021), <https://county17.com/2021/10/12/wyofile-the-rest-of-the-black-hills-forestry-story/> (arguing that federal policymakers must consider climate change in forest management).

140. See *supra* Introduction. See generally Nick Reynolds, *Wyo Loggers Fear Extinction as Federal Forest Policy Evolves*, WYOFILER (Sept. 28, 2021), <https://wyofile.com/wyo-loggers-fear-extinction-as-federal-forest-policy-evolves/> (noting Black Hills National Forest holds a special place in history as the site of the first federal timber sale in 1899).

141. Forest Reserve Act of 1891, 16 U.S.C. § 471 (repealed 1976); FREEMAN, *supra* note 21, at 30.

142. FREEMAN, *supra* note 21, at 30.

changing the way forests are managed.¹⁴³ The debate over acceptable logging levels predates the current forest management planning process that the Forest Service initiated on October 15, 2021 with a Notice of Intent in the Federal Register.¹⁴⁴ The Black Hills Forest Management Plan is not the only plan in need of revision.¹⁴⁵ Twenty percent of forest management plans have not been finalized within the fifteen-year period called for in NFMA.¹⁴⁶

The dynamic among the Forest Service, the timber industry, and small-town economies is unsustainable. Just as the Forest Service has attempted to adapt to changing conditions, the timber industry must adapt. Much of the current debate focuses on short-term economics and profits, which does not account for the long-term impacts of climate change.¹⁴⁷ One key problem is that proponents and opponents of logging, and the Forest Service to some extent, all disagree on what science should be used to evaluate the feasibility of logging.¹⁴⁸ Further, courts have unequivocally deferred to the Forest Service when determining what science to use.¹⁴⁹ This deference is strong, as “an agency has discretion to choose among scientific studies, ‘even if . . . a court might find contrary views more persuasive.’”¹⁵⁰

Current methods for challenging forest management plans (other than NFMA challenges) include litigation under environmental laws like NEPA¹⁵¹ and the Endangered Species Act (ESA).¹⁵² NEPA is a procedural law that requires an analysis of environmental impacts of all major federal actions

143. *Id.*; see also Reynolds, *supra* note 140 (noting some Black Hills locals fear their way of life is in peril).

144. See Notice of Initiating the Assessment Phase of the Land Management Plan Revision for the Black Hills National Forest, 86 Fed. Reg. 57,408 (Oct. 15, 2021).

145. See KRISTEN HITE, CONG. RSCH. SERV., NATIONAL FOREST SYSTEM PLANNING: LEGAL CONSIDERATIONS (2021).

146. *Id.* (noting that as of February 2021, the Forest Service had not updated twenty-five forest management plans within the statutorily required timeframe).

147. See, e.g., Reynolds, *supra* note 140 (citing concerns that profits prevail over science).

148. See, e.g., *id.* (discussing a disagreement over forest growth rates).

149. *Earth Island Inst. v. Gould*, 14-CV-01140, 2014 WL 4082021, at *7 (E.D. Cal. Aug. 19, 2014). “[C]ourts should be . . . most deferential when reviewing scientific judgments and technical analyses within [an] agency’s expertise And [w]hen specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if . . . a court might find contrary views more persuasive.” *Id.* (quoting *Lands Council v. McNair*, 629 F. 3d 1070, 1074 (9th Cir. 2010)) (alteration in original) (internal quotation marks omitted).

150. See *id.*

151. NEPA, 42 U.S.C. §§ 4331–32.

152. Endangered Species Act (ESA), 16 U.S.C. § 1531.

significantly impacting the human environment.¹⁵³ The statute requires federal decisionmakers to consider environmental impacts but does not require any particular substantive result that favors the environment.¹⁵⁴ The ESA prevents federal actions from significantly degrading threatened or endangered species or their habitats.¹⁵⁵ Like challenges to agency actions under NFMA, section 706 of the Administrative Procedure Act (APA) governs challenges to NEPA and ESA.¹⁵⁶ Generally, under each of these statutes, the Forest Service prevails because courts see plaintiffs' claims as scientific disagreements¹⁵⁷ and accord substantial deference to the agency.¹⁵⁸ The procedural nature of these laws makes it difficult, but not impossible, for plaintiffs to challenge the Forest Service's decisions regarding NFS lands.

As a federal land management agency, the Forest Service conducts various activities that are required to comport with NEPA. The Forest Service uses categorical exclusions¹⁵⁹ to accomplish much of its work.¹⁶⁰ There has been a "dramatic decline" in the number of NEPA analyses done by the Forest

153. 42 U.S.C. § 4332(c).

154. See 42 U.S.C. § 4332(c); see also *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350–51 (1989) (holding NEPA "does not mandate a particular result, but simply prescribes the necessary process" and that NEPA "prohibits uninformed rather than unwise" decisions).

155. 16 U.S.C. § 1536. The ESA, 16 U.S.C. § 1540(g), also includes a citizen suit provision.

156. See Administrative Procedure Act (APA), 5 U.S.C. § 706 (judicial review); *Lands Council v. McNair*, 629 F.3d 1070, 1074 (9th Cir. 2010).

157. See e.g., *Unite the Parks v. U.S. Forest Serv.*, 121-CV-00518, 2021 WL 2188139, slip op. (E.D. Cal. May 28, 2021) (denying injunction), *aff'd in part, rev'd in part*, 21-16238, 2022 WL 229172, at *1 (9th Cir. Jan. 25, 2022) (affirming district court's denial of a preliminary injunction related to use of fire science study, vacating and remanding on NEPA claims based on need for additional analysis and remanding some ESA claims based on failure to use data); see also *id.* at *3 (plaintiff sued in district court under ESA, NEPA and APA regarding fisher habitat in a national forest); *id.* at *16, *19 (denying the injunction on the grounds that Plaintiff's claims amounted to a scientific disagreement, demonstrating the difficulty of mounting a challenge to the Forest Service's science).

158. See, e.g., *Mountain Cmty. for Fire Safety v. Elliott*, 19-CV-6539, 2020 WL 2733807, at *5, *7 (C.D. Cal. May 26, 2020) (deferring to the Forest Service's judgment and rejecting plaintiff's NEPA and NFMA claims on grounds that the agency's actions were not arbitrary and capricious).

159. 24 C.F.R. § 58.35 (2021) ("[R]efers to a category of activities for which no environmental impact statement or environmental assessment and finding of no significant impact under NEPA is required, except in extraordinary circumstances . . ."); 36 C.F.R. § 220.6 (2021) (Forest Service-specific categorical exclusions).

160. Carl Segerstrom, *Facing Future Wildfires, A Community Fights for its Forest*, HIGH COUNTRY NEWS (June 1, 2021), <https://www.hcn.org/issues/53.6/north-wildfire-and-a-forest-worth-fighting-for-community-idaho> ("[B]etween 2005 and 2018, more than [eighty percent] of Forest Service projects were approved with categorical exclusions.").

Service.¹⁶¹ Additionally, as with other areas of forest planning, there is broad autonomy and discretion, and significant variation among individual forest units when it comes to the level and number of NEPA analyses initiated.¹⁶²

At the other end of the spectrum, timber industry groups mount challenges to forest management plans because they perceive environmental protections included in forest management plans as cutting into their bottom lines.¹⁶³ For example, in *California Forestry Ass'n v. Bosworth*,¹⁶⁴ a forest industry group challenged a forest management plan that covered eleven national forests in the Sierra Nevada, claiming it favored wildlife and protected old-growth trees over timber harvesting.¹⁶⁵ The court held that the allowable timber sale quantity in the forest management plan was a ceiling rather than a quota for harvesting.¹⁶⁶ In other words, the Forest Service could permit the amount prescribed in the plan, or it could decide to allow less logging in the forest.

Key to the problem of forest management is that no one—timber industry groups or forest-town residents, environmental or conservation groups, or Forest Service officials—agrees. Each group maintains its own interests and views of how forests should be managed, which creates tension and leads to few solutions.¹⁶⁷

161. Forrest Fleischman, Cory Struthers, Gwen Arnold, Mike Dockry & Tyler Scott, *U.S. Forest Service Implementation of the National Environmental Policy Act: Fast, Variable, Rarely Litigated, and Declining*, 118 J. FORESTRY 403, 404 (2020).

162. *See id.*

163. *See, e.g.*, *Cal. Forestry Ass'n v. Bosworth*, 05-CV-00905, 2008 WL 4370074, at *4 (E.D. Cal. 2008) (forest industry challenge to plan).

164. *Id.*

165. *Id.* at *9. Pro-timber plaintiffs challenged the 2004 Sierra Nevada Forest Plan Amendment (commonly known as the 2004 Sierra Nevada Framework), which had previously been completed in 2001. *Id.* at *14. Critics on this side of the debate feared the Framework would drastically reduce logging and grazing opportunities and exacerbate the wildfire risks. *See* Francis P. Garland, *New U.S. Forest Service Chief Faces Deep-Rooted Issues*, RECORDNET.COM (Apr. 14, 2001, 12:00 AM), <https://www.recordnet.com/story/news/2001/04/14/new-u-s-forest-service/50792622007/>. However, environmental groups challenged the hotly debated Framework as well. *Compare The Sierra Nevada Framework Revisions*, SIERRA FOREST LEGACY (Oct. 20, 2014), https://www.sierraforestlegacy.org/FC_LawsPolicyRegulations/KFSP_FrameworkRevisions.php (expressing group's preference for earlier plan), *with* Garland, *supra* (describing concerns of timber industry and other retractive industries). Environmental groups' challenges lasted thirteen years. *See* Press Release, U.S. Forest Serv., Sierra Forest Legacy & Center for Biological Diversity, U.S. Forest Service and Conservation Groups Reach Agreement (Oct. 23, 2014) (announcing settlement deal between Forest Service and environmentalists).

166. *Cal. Forestry Ass'n*, 2008 WL 4370074, at *9.

167. *See supra* note 165; *see, e.g.*, Segerstrom, *supra* note 160. The Forest Service proposed two projects that would fall under NEPA categorical exclusions, and neither the

C. *Lost in the Woods: The Forest Service on the Verge of Regulatory Capture*

The Forest Service and the logging industry have mutually benefited from their relationship since the inception of the NFS in the 1890s.¹⁶⁸ While the Forest Service has several competing MUSYA mandates, its traditional focus has been timber production.¹⁶⁹ Critics have decried the agency as too slow to react to climate change and as too responsive to the timber industry.¹⁷⁰

Regulatory capture is the notion that an agency may intentionally or inadvertently decide to regulate in a way that benefits the industry it regulates rather than regulate in a manner that is consistent with the public's best interest.¹⁷¹ When Congress enacted MUSYA in 1960, it explicitly created new mandates for the Forest Service.¹⁷² Despite these new mandates, the Forest Service continued to focus on one mandate, timber, rather than embracing its various other congressionally mandated goals like maintaining biological diversity.¹⁷³ This shortcoming indicates that the Forest Service preferred to continue bolstering the timber industry as its primary mandate.¹⁷⁴

This capture originated with Congress's creation of the Forest Service at the behest of Gifford Pinchot. Pinchot directed that all forest reserve resources "are for *use*" and instructed the agency to focus on timber production.¹⁷⁵ Additionally, the Forest Service's acquiescence to timber needs has been propelled by political pressure from the Executive Branch

environmental groups nor the local, pro-logging groups liked the plans. Segerstrom, *supra* note 160. Forest Service officials scrapped the plans, and some commercial logging took place in the forest under the guise of fire-risk-reduction. *Id.*

168. See *supra* note 17 and accompanying text.

169. Christopher Carrigan & Lindsey Poole, *Structuring Regulators: The Effects of Organizational Design on Regulatory Behavior and Performance*, PENN PROGRAM ON REGUL., at 20 (2015).

170. Brown, *supra* note 16. "The timber industry is pulling the strings now. The Forest Service has lost its way" according to Dave Mertz, former government natural resource officer. *Id.* "The service's former deputy chief, Jim Furnish, criticized the agency as too focused on timber production and too slow to react to climate change, to the detriment of the forest." *Id.*

171. Carrigan & Poole, *supra* note 169, at 10.

172. 16 U.S.C. § 528; see Eric Biber, *Too Many Things to Do: How to Deal with the Dysfunctions of Multiple Goal Agencies*, 33 HARV. ENV'T L. REV. 1, 17–18 (2009).

173. Biber, *supra* note 172, at 19 ("Throughout the late 1970s and 1980s, the Forest Service continued to increase timber production on its lands, often at substantial environmental cost."); see also *supra* Introduction (discussing original goals of protecting waterflow and producing timber).

174. Biber, *supra* note 172, at 20–21. For example, a survey of Forest Service employees in the 1990s found that the employees believed the agency "was heavily focused on timber production versus other goals." *Id.* The Forest Service "regularly used assumptions that favored the production of more timber" in the in the 1970s and 80s. *Id.*

175. *Id.* at 23.

and Congress.¹⁷⁶ For instance, attempts during the Trump Administration to increase the number of NEPA categorical exclusions are examples of deferring to industry interests of speeding up the administrative process as a whole.¹⁷⁷ While these actions indicate an inkling of capture, the entire agency remains relatively independent, though it may arguably have been captured at some point in history. A fairer assessment is that industry interests have, to various extents, captured certain forest units or regions. Alaska's Tongass National Forest serves as an example: a regional audit found the industry pressured local forest management groups to meet timber sale quotas.¹⁷⁸

II. THE BIDEN ADMINISTRATION'S ACTIONS AND ASPIRATIONS

A. *Climate Change Executive Orders and the "America the Beautiful" Plan*

At the beginning of his term, President Biden proclaimed his administration would "listen to science."¹⁷⁹ President Biden's executive

176. See *id.* at 27–28.

177. Nick Bowlin, *Forest Service Might Limit Public Comments*, HIGH COUNTRY NEWS (June 27, 2019) <https://www.hcn.org/issues/51.12/u-s-forest-service-might-limit-public-comments>. Under the Trump Administration, the Forest Service sought to expand categorical exclusions for logging activities, meaning they would not require any sort of environmental assessment under NEPA. *Id.* One controversial exclusion proposed was for projects of up to 7,300 acres that included logging on more than half those acres. *Id.*

178. See U.S. FOREST SERV., 2018-FCOB-002, ALASKA REGION TIMBER SALES PROGRAM REGION 10 (Aug. 18, 2020), <https://www.fs.usda.gov/sites/default/files/2021-07/AK%20Timber%20Sale%20Audit%20Report%20Final.pdf> (Alaska region audit report finding pressure from industry to meet timber sale quotas); Joe Viechnicki, *U.S. Forest Service Mismanaged Tongass Timber Sales, Report Says*, KTOO (Feb. 2, 2021), <https://www.ktoo.org/2021/02/02/us-forest-service-mismanaged-tongass-timber-sales-report-says/>; Ryan Richards, *Fraud in the Tongass*, CTR. FOR AM. PROGRESS (Oct. 3, 2018), <https://www.americanprogress.org/article/fraud-in-the-tongass/> (discussing unsuccessful attempts to transition the management of Tongass National Forest away from old-growth timber harvesting due to the timber lobby's and state's advocacy for logging).

179. Ted Zukoski, Opinion, *The Forest Service is Flunking Biden's Science Test*, THE HILL (May 11, 2021, 5:00 PM), <https://thehill.com/opinion/energy-environment/552824-forest-service-is-flunking-bidens-science-test>. "Listen to science" was clearly a political rallying cry in direct response to the Trump Administration, but perhaps there is merit in valuing scientific research, especially when it comes to agency decisionmaking.

orders on climate change¹⁸⁰ and his America the Beautiful Plan,¹⁸¹ when taken together, could read as a “blueprint” for forest management; however, none of the documents provide specific direction to the Forest Service.¹⁸² The executive orders proclaim that “climate considerations shall be an essential element of United States foreign policy and national security,”¹⁸³ and that the “[g]overnment must be guided by the best science and be protected by processes that ensure the integrity of Federal decision-making.”¹⁸⁴ Meanwhile, the America the Beautiful Plan is an ambitious proposal that champions the “need to fight climate change with the natural solutions that our forests . . . provide.”¹⁸⁵

The executive orders and plan exemplify the Biden Administration’s position on climate change and environmental policy, which starkly contrasts with that of the Trump Administration.¹⁸⁶ For instance, in 2019, President Trump issued an Executive Order aimed at curbing the threat of wildfires; however, the executive order also increased timber contract sales by thirty-one percent from 2017 levels.¹⁸⁷ When compared to the recent past guidance to the Forest Service, the America the Beautiful Plan calls on the Forest Service to take action to achieve its

180. Exec. Order 13,990, 86 Fed. Reg. 7,037 (Jan. 20, 2021) (Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis); Exec. Order 14,008, 86 Fed. Reg. 7,619 (Jan. 27, 2021) (Tackling the Climate Crisis at Home and Abroad).

181. DEP’T OF THE INTERIOR, CONSERVING AND RESTORING AMERICA THE BEAUTIFUL 6 (2021) [hereinafter AMERICA THE BEAUTIFUL], <https://www.doi.gov/sites/doi.gov/files/report-conserving-and-restoring-america-the-beautiful-2021.pdf>.

182. Susan Jane M. Brown, *A Blueprint for National Forest Management in the Biden Administration*, ABA (Apr. 12, 2021) [hereinafter *Blueprint*], https://www.americanbar.org/groups/environment_energy_resources/publications/fr/20210204-a-blueprint-for-national-forest-management/; see Sarah Kaplan & Juliet Eilperin, *A Narrow Path for Biden’s Ambitious Land Conservation Plan*, WASH. POST (May 6, 2021, 3:12 PM), <https://www.washingtonpost.com/climate-environment/2021/05/06/biden-conservation-30x30/>.

183. Tackling the Climate Crisis at Home and Abroad, Exec. Order No. 14,008, 86 Fed. Reg. at 7,619.

184. Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, Exec Order No. 13,990, 86 Fed. Reg. at 7,037.

185. AMERICA THE BEAUTIFUL, *supra* 181 (calling for action from all levels of government and private actors).

186. See Promoting Active Management of America’s Forests, Rangeland, and Other Federal Lands to Improve Conditions and Reduce Wildfire Risk, Exec. Order No. 13,855, 84 Fed. Reg. 45 (Dec. 21, 2018).

187. *Id.*; Darryl Fears & Juliet Eilperin, *Trump’s Executive Order Will Aggressively Cut More Forest Trees*, WASH. POST (Jan. 14, 2019, 8:22 AM), <https://www.washingtonpost.com/energy-environment/2019/01/14/trumps-executive-order-will-cut-more-forest-trees-some-publics-tools-stop-it/>.

climate change-related goals, despite providing no explicit direction for the Forest Service.¹⁸⁸ Further, both the Plan and the Biden Executive Orders call for scientific integrity in government decisionmaking, which is an important consideration in Forest Service decisions.¹⁸⁹

Looking to Black Hills National Forest, the Forest Service conducted research that determined timber was extracted from the forest at an unsustainable rate.¹⁹⁰ Unsustainable extraction is an explicit violation of the Forest Service's governing statutes and regulations.¹⁹¹ The research led the Forest Service to set aside its own scientific research.¹⁹² Rather than changing course to address the over-logging, Forest Service officials announced that the scientific research demonstrating the unsustainable logging would be weighed with other factors, including socioeconomic factors, as the agency revises the forest's management plan over the next several years.¹⁹³ This decision to overlook its own scientific research that indicated overharvesting demonstrates the broad discretion the Forest Service relies on, as well as the more localized decisionmaking discretion that is common in the Forest Service. It also suggests that units of the Forest Service are willing to pick and choose the scientific research most expedient to achieving locally favored goals. The Biden Executive Orders and the America the Beautiful Plan do not go far enough to provide clear guidance to mitigate the regulatory capture and overwhelming discretion Forest Service officials regularly face.

188. See AMERICA THE BEAUTIFUL, *supra* note 181.

189. See *id.*; Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, Exec. Order No. 13,990, 86 Fed. Reg. at 7,037; Tackling the Climate Crisis at Home and Abroad, Exec. Order No. 14,008, 86 Fed. Reg. 7,619, 7,622 (Jan. 27, 2021).

190. See generally RUSSELL T. GRAHAM, MIKE A. BATTAGLIA & THERESA B. JAIN, U.S. FOREST SERV., RMRS-GTR-422, A SCENARIO-BASED ASSESSMENT TO INFORM SUSTAINABLE PONDEROSA PINE TIMBER HARVEST ON THE BLACK HILLS NATIONAL FOREST (2021) (finding it necessary to reduce harvesting by at least fifty percent to improve sustainability).

191. See 16 U.S.C. § 1604. An agency should presumably follow its own scientific research as means of complying with BASI. See *supra* note 97 and accompanying text.

192. Zukoski, *supra* note 179.

193. See *id.*; Nathan Thompson, *Timber Harvest Needs to be Reduced to Sustain Black Hills National Forest, Scientists Say*, RAPID CITY J. (Apr. 7, 2021), https://rapidcityjournal.com/news/local/timber-harvest-needs-to-be-reduced-to-sustain-black-hills-national-forest-scientists-say/article_90d4fe30-e1c7-5cb2-9047-0dcf860892d6.html.

B. *Inflation Reduction Act of 2022*

In August 2022, President Biden signed the Inflation Reduction Act of 2022, a budget reconciliation bill, into law.¹⁹⁴ Industry-adjacent groups and environmental groups touted the law an important step in addressing climate change.¹⁹⁵ The law includes \$5 billion in funding for forest conservation on private and public lands, \$2 billion of which are for Forest Service work on NFS lands including funding for hazardous fuel reduction and vegetation management.¹⁹⁶

III. RECOMMENDATIONS

The timber industry is an integral part of the U.S. economy and sustains many small-town economies across the country.¹⁹⁷ However, climate change-related challenges, including wildfires, will only worsen without concentrated efforts to address them.¹⁹⁸ The U.S. government must act now. A balanced and flexible approach will be necessary because each forest presents different challenges and the government must consider the lives and livelihoods of those who rely on NFS lands when making policy changes, even when operating within existing authority.¹⁹⁹

One of the key products created from timber is lumber for construction. Recently, lumber prices reached an all-time high and lumber shortages

194. Inflation Reduction Act of 2022, Pub. L. 117-169.

195. See, e.g., Press Release, Sustainable Forestry Initiative, SFI Applauds Passage of the Inflation Reduction Act (Aug. 15, 2022), <https://forests.org/sfi-applauds-passage-of-the-inflation-reduction-act/> (independent industry standards group expressing approval of forestry funding provided by the law); Juliet Grable, *How the Inflation Reduction Act Helps Forests Help Us*, SIERRA CLUB (Sept. 21, 2022), <https://www.sierraclub.org/sierra/how-inflation-reduction-act-helps-forests-help-us> (commending the law's "forestry-related programs," which "will mitigate climate change, create jobs, and make life better (and safer) for millions of people.").

196. See JIM MONKE, KELSI BRACMORT, MEGAN STUBBS & KATIE HOOVER, CONG. RSCH. SERV., IN11978, INFLATION REDUCTION ACT: AGRICULTURAL CONSERVATION AND CREDIT, RENEWABLE ENERGY, AND FORESTRY, at 3 (2022) (noting that the Act is a substitute for the Biden Administration's unsuccessful marquee Build Back Better legislation).

197. See, e.g., Sarah Farmer, *Projecting Lumber Demand in the U.S. and Abroad*, U.S. DEP'T. OF AGRIC. (Aug. 2, 2021), <https://www.usda.gov/media/blog/2018/09/07/projecting-lumber-demand-us-and-abroad> (discussing models of gross domestic product growth and the housing sector as key drivers of demand for wood products).

198. Brad Plumer & John Schwartz, *These Changes are Needed Amid Worsening Wildfires, Experts Say*, N.Y. TIMES, <https://www.nytimes.com/2020/09/10/climate/wildfires-climate-policy.html> (May 19, 2021).

199. See *supra* Introduction.

occurred across the nation because of the COVID-19 pandemic.²⁰⁰ But these shortages were not caused by a dearth of trees to cut.²⁰¹ A majority of timber production occurs on private land rather than on lands owned by states or the federal government.²⁰² Thus, timber harvesting on NFS lands likely had little to do with the recent lumber shortages. One argument in response to increased prices and supply shortages is to increase the amount of timber production on NFS lands to fill the gap in supply, similar to how production increased after World War II.²⁰³ However, a myriad of factors led to this supply shortage including workforce shortages, production slowdowns, and cost and tariff increases on logs imported from Canada, all of which coincided with an exorbitant increase in demand, primarily from the home improvement industry and housing market.²⁰⁴ Further, reducing, or even eventually ending, timber harvesting on federal lands would likely have little impact on the overall timber market in the future because NFS lands supply a relatively small portion of timber in the United States.²⁰⁵

In areas that depend on the NFS for economic livelihood, there are other, perhaps more profitable, options available to bolster local economies in lieu of logging. There is evidence that NFS lands are more valuable to taxpayers when used for resources other than timber production.²⁰⁶ Recreation is by

200. See, e.g., Marcy Nicholson & Jen Skerritt, *Pricey Lumber Is Back Boosted by Supply Cuts, Labor Shortage*, BLOOMBERG (Oct. 26, 2021, 1:29 PM), <https://www.bloomberg.com/news/articles/2021-10-26/expensive-lumber-is-back-boosted-by-supply-cuts-labor-shortages>; see also, e.g., Hallie Miller, *'We're in the Fog of War': Soaring Lumber Prices are Contributing to Rising Home Costs in Maryland and Beyond*, BALTIMORE SUN (June 7, 2021 5:00 AM), <https://www.baltimoresun.com/business/bs-bz-lumber-prices-maryland-homes-20210607-yz44xnq5ajcghctfytirvrhfoi-story.html> (noting that while some trends contributing to shortages predate the Pandemic, COVID-19 pushed the shortages “over the edge.”).

201. Andrew Moore, *Ask an Expert: Why Is There a Lumber Shortage?*, COLL. NAT. RES. NEWS (May 19, 2021), <https://cnr.ncsu.edu/news/2021/05/lumber-shortage/> (noting that in North Carolina, ninety-five percent of timber is harvested on privately own land).

202. *Id.*

203. See source cited and text accompanying *supra* note 23.

204. Angela Cunningham, *Lumber Shortage, Rising Prices Cause Issues in the Construction Industry*, WZZM (May 25, 2021), <https://www.wzzm13.com/article/news/lumber-shortage-rising-prices-cause-issues-in-the-construction-industry/69-5624c6f9-5dfe-4000-b116-5b578d847f2>; Nicholson & Skerritt, *supra* note 200; Moore, *supra* note 201.

205. RIDDLE, *supra* note 28, at 1, 3 (noting NFS land accounted for eleven percent of total U.S. timber harvesting in 1991, five percent in 1997, and two percent in 2011).

206. See generally Talberth & Niemi, *supra* note 137 (making an economic case for ending logging on NFS lands considering their value when used for other functions, such as carbon storage, recreation, and water filtration).

far the number one use of NFS lands today.²⁰⁷ If localities that have thrived on logging federal lands shift their economic focus, they may even see higher economic yield.²⁰⁸ Another option would be for those who work in the logging industry to instead work for, or with, the Forest Service in its forest health and fire management initiatives.²⁰⁹ While this sort of fundamental lifestyle and livelihood change would not be easy, it may be required in the future to combat the challenges associated with ever-worsening climate change. This Comment makes three modest recommendations that the Forest Service could implement to better meet the challenges of the future.²¹⁰ It recommends the Forest Service promulgate an interpretive rule to clarify its intent and increase carbon storage; use its existing authority to decrease the number of timber contracts; and take a proactive approach to firefighting by providing better mapping of potential fires and increasing its year-round workforce capacity.

A. *Promulgate an Ecological Integrity Interpretive Rule*

The definitions and understandings of “multiple use” and “sustained yield” are broad. Multiple use calls for the “management of *all* the various renewable surface resources” of the NFS.²¹¹ In managing the NFS, the Forest Service must follow NFMA and the 2012 Rule, which includes creating guidelines for how each resource will be managed in each national forest.²¹² Inherent in those “surface resources” are trees and their ecosystems, and because trees and ecosystems store carbon above and below ground, carbon is a surface resource that can be managed.²¹³

The Forest Service should use its discretion to include managing forests for increased carbon storage as a means of achieving ecological integrity. To

207. NATIONAL FOREST SYSTEM MANAGEMENT, *supra* note 17, at 7.

208. *See id.* at 7–8, 10.

209. *See infra* Part III.C.

210. In July 2022, the Forest Service Release its Climate Adaptation Plan, which was mandated in Executive Order 14,008. U.S. FOREST SERV. FS-1196, USDA FOREST SERVICE CLIMATE ADAPTATION PLAN, 8 (2022) (describing climate “risks to the agency’s mission, responsibilities, and operations and outlin[ing] key actions to manage these risks.”). This guidance document represents an important step for the Forest Service in addressing climate change and may include information relevant to this Comment; however, because it was released after publication of this Comment began, it is not specifically addressed nor was it considered when making recommendations.

211. 16 U.S.C. § 531 (emphasis added); *see supra* Part I.A.

212. *See supra* Part I.A.

213. *Id.*

achieve this goal, it should promulgate an interpretive rule.²¹⁴ Not only would an ecological integrity interpretive rule be in line with the Biden Administration's goals,²¹⁵ but the Forest Service would be exempt from the procedural hurdles of notice-and-comment rulemaking, and the rule would not be binding on the agency.²¹⁶ While public comment would provide transparency, it would not be required. Moreover, issuing an interpretive rule would send a clear message that, as an agency, the Forest Service seriously values its own regulation, the call for ecological integrity, and the Biden Administration's commitment to addressing the environment and climate change.²¹⁷

The 2012 Rule calls for the "collaborative and science-based" creation and revision of forest management plans that "promote the ecological integrity" of NFS lands.²¹⁸ However, beyond vaguely calling for ecological integrity, it calls for NFS lands to contribute to "social and economic sustainability."²¹⁹ Further, the 2012 Rule states that forest management plans that promote ecological integrity should provide communities with "ecosystem services" including a "range of social, economic, and ecological benefits" both presently and in the future.²²⁰ An interpretive rule would help address BASI issues by elaborating on the terms in the 2012 Rule, providing Forest Service personnel a better idea of the scientific outcomes the Forest Service aims to achieve. It would also help cement the role of ecological integrity in all Forest Service actions.²²¹

In promulgating an interpretive rule, the Forest Service will need to expand on terms loosely defined by the 2012 Rule, particularly those described in this Comment including ecological integrity, sustainability, and ecosystem service.²²² Broadly speaking, ecological integrity is "most commonly understood as a holistic concept and framework that focuses on conserving

214. *Blueprint*, *supra* note 182; 5 U.S.C. § 553(b)(A) ("general statements of policy, or rules of agency organization, procedure, or practice").

215. *See supra* Part II.A.

216. *Blueprint*, *supra* note 182; *see also* 5 U.S.C. § 553(b)(A) (allowing the option for "general statements of policy, or rules of agency organization, procedure, or practice" to not be published in the Federal Register).

217. 36 C.F.R. § 219.1(c) (2021); Exec. Order 13,990, 86 Fed. Reg. 7,037 (Jan. 20, 2021).

218. 36 C.F.R. § 219.1(c); *see supra* Part I.A (planning rule discussion).

219. *Id.* § 219.1(c). Because ecologic integrity is incorporated into the Forest Service's purview through regulations, there remains a danger that a future administration could decide to remove it from the Planning Rule.

220. *Id.* § 219.1(c) ("These benefits include clean air and water; habitat for fish, wildlife, and plant communities; and opportunities for recreational, spiritual, educational, and cultural benefits.").

221. *See Blueprint*, *supra* note 182.

222. *See* 36 C.F.R. § 219.19.

native biodiversity, using the natural or historic range of variation as a reference point, and promoting resilience.”²²³ The concept of sustainability implies doing something that will have a lasting impact into the future.²²⁴ Ecosystem services describe benefits that ecosystems provide to people.²²⁵

Sequestering and storing carbon is an ecosystem service that would provide social and economic benefits to communities, and forests are efficient at aiding in the reduction of carbon in the atmosphere.²²⁶ The Forest Service will be able to accomplish multiple goals by valuing forest resources for their sequestration ability and potential. The process of carbon sequestration by forests leads to the subsequent storage of carbon, releases oxygen, and helps purify the air, providing clean air, which is one of the benefits listed in the 2012 Rule.²²⁷

To make ecological integrity truly meaningful, the Forest Service would need to outline specific guidelines expanding on its general definition and apply them to all agency actions.²²⁸ Specifying an interpretive rule that will guide the Forest Service’s approach to ecological integrity in every decision it makes would benefit the agency even if it chooses to continue timber extraction.²²⁹ Finally, the processes that will maximize carbon storage on NFS lands will also generate healthy forest ecosystems that are more resilient to wildfire.

223. Zachary Wurtzebach & Courtney Schultz, *Measuring Ecological Integrity: History, Practical Applications, and Research Opportunities*, 66 *BIOSCIENCE* 446, 447 (2016). One popular definition of ecological integrity:

The ability of an ecological system to support and maintain a community of organisms that has species composition, diversity, and functional organization comparable to those of natural habitats within a region. An ecological system has integrity when its dominant ecological characteristics (e.g., elements of composition, structure, function, and ecological processes) occur within their natural ranges of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human disruptions.

Id. (citing Jeffery D. Parrish, David P. Braun & Robert S. Unnasch, *Are We Conserving What We Say We Are? Measuring Ecological Integrity Within Protected Areas*, 53 *BIOSCIENCE* 851, 852 (2003)).

224. See 36 C.F.R. § 219.19 (defining sustainability as “[t]he capability to meet the needs of the present generation without compromising the ability of future generations to meet their needs.”).

225. *Id.* (defining ecosystem services); see *More About Ecosystem Services*, U.S. FOREST SERV., https://www.fs.fed.us/ecosystems-services/About_ES/ (last visited Nov. 12, 2022).

226. 36 C.F.R. § 219.19 (defining ecosystem services to include carbon storage); see also *supra* notes 33–37 and accompanying text.

227. See 36 C.F.R. § 219.1(c); discussion *supra* notes 33–44.

228. See *Blueprint*, *supra* note 182.

229. Wurtzebach & Schultz, *supra* note 223, at 455 (“Identifying key attributes of ecological integrity may also help managers design specific management strategies for resource uses, such as timber production, that conserve key compositional and structural attributes of ecological integrity, or mimic natural disturbance processes.”) (citation omitted).

B. The Forest Service Should Use Its Existing Authority Under NFMA And Its Regulations to Decrease the Number of Timber Contracts

National forests account for approximately two percent of timber production in the United States.²³⁰ This fact, coupled with the need to revise a vast majority of forest management plans, should be used to justify a reduction or elimination of logging on NFS lands.²³¹ NFMA does not require every possible use in every forest management plan; timber harvesting is just one possible use that could be included in new or revised forest management plans.²³² As the Forest Service revises its plans, it should implement policies that allow for phasing out timber harvesting in national forests.²³³ As timber harvesting is phased out, new plans should account for how land designated for timber should be restored and eventually used.

Including this type of scheme in new forest management plans would likely be controversial. Those who benefit financially from timber extraction on NFS lands, including through massive timber subsidies²³⁴ and low-cost commercial contracts, will likely oppose schemes to reduce timber contracts.²³⁵ The scheme would also likely face legal challenges from the timber industry because of feared loss of profits and livelihood. However, precedent shows that the Forest Service is not required to include all uses in all forest plans, so challenges may be unsuccessful so long as the Forest Service is procedurally sufficient.²³⁶ Moreover, courts afford considerable discretion to Forest Service decisions on what uses to include in the plans as long as the Forest Service “provides a reasoned basis for them.”²³⁷ Finally, forest management plans generally are not justiciable until implemented.²³⁸ Once implemented, the Forest Service’s discretion would likely receive the aforementioned deference when faced with challenges brought under NFMA pursuant to the APA.²³⁹ Thus, if the Forest Service

230. RIDDLE, *supra* note 28, at 8.

231. *Supra* note 92 and accompanying text.

232. *Supra* Part I.A.

233. See Hayley Smith & Alex Wigglesworth, *As California Burns, Some Ecologists Say It’s Time to Rethink Forest Management*, L.A. TIMES (Aug. 21, 2021, 5:00 AM), <https://www.latimes.com/california/story/2021-08-21/california-burning-is-it-time-to-rethink-forest-management>.

234. Talberth & Niemi, *supra* note 137, at 4.

235. *Id.* at 18.

236. See text accompanying notes 84–87.

237. See *supra*, Part I.A.; HITE, *supra* note 145.

238. See *Ohio Forestry Ass’n v. Sierra Club*, 523 U.S. 726, 737 (1998); see text accompanying *supra* notes 130–132.

239. See HITE, *supra* note 145 (noting that under the arbitrary and capricious standard of review, “courts have determined that forest planning laws afford considerable

complies with the procedural forest planning requirements of NFMA, the procedural requirements of NEPA, and the consultation requirements of ESA, it should be able to withstand legal challenges.²⁴⁰

In terms of renewing timber contracts that already exist under valid forest management plans, the Forest Service should use its authority and discretion under NFMA to forego renewing those contracts.²⁴¹ There is no renewal requirement in NFMA, and the Forest Service could validly reject any application for renewal.²⁴² The Forest Service could even cancel timber contracts outright.²⁴³ Finally, timber contracts may not be in the public's best interest with increasing climate change threats. Reducing the number of Forest Service-issued timber contracts has the potential to create benefits for not just the land and planet but also people.

C. *A Proactive Approach to Fighting and Managing Fires*

In January 2022, the Forest Service announced its new wildfire crisis strategy, “Confronting the Wildfire Crisis: A Strategy for Protecting Communities and Improving Resilience in America’s Forests” (Wildfire Crisis Strategy).²⁴⁴ The strategy aims to address the ever-growing size and duration of wildfires, and it calls for a “paradigm shift in land management across jurisdictional boundaries to reduce risk and restore fire-adapted landscapes.”²⁴⁵ This strategy, though it illuminates few details on how the Forest Service will actually tackle the crisis, is the first step to a more proactive approach to fire management.²⁴⁶ The Forest Service has already identified many of the tools it needs, or already has, to proactively address the threats of wildfire.²⁴⁷ It must do more than merely publish a barebones, inert

discretion to the [Forest Service] to prioritize specific uses, provided the agency follows the appropriate [decisionmaking] process.”).

240. *See id.* (“Some have suggested that the persistent delays in forest plan updates could be mitigated by reducing the scope of the [Forest Service’s] discretion or by reducing the types of environmental factors or alternatives the [Forest Service] must consider.”); *supra* notes 153–160 and accompanying text.

241. *See* discussion *supra* Part I.A.

242. *Id.*

243. *Id.*

244. WILDFIRE CRISIS STRATEGY, *supra* note 34.

245. *Id.* at 3.

246. *Id.* at 44. The strategy identifies the need to “[b]uild[] on existing relationships and create new partnerships to place fuels and forest health treatments in the right places and at the pace and scale needed to change the trajectory of wildfire risk to people, communities, and natural resources and to restore forest health and resilience” but is sparse in terms of specific actions. *Id.*

247. *See id.* at 4 (“[W]e now have the science and tools we need . . .”).

strategy to ensure forest health restoration and adequate fire management.²⁴⁸

Current public-facing Forest Service maps show with sparse specificity risk to homes, exposure type and likelihood of fire.²⁴⁹ Additionally, the National Interagency Fire Center publishes short-term seasonal fire potential outlooks based on weather and climate conditions.²⁵⁰ Studies have modeled and predicted where extreme fires are likely to occur.²⁵¹ Predictive mapping of fires is a daunting challenge for the scientific field,²⁵² and so too is publicly acknowledging areas likely to burn. The Forest Service has the expertise to develop predictions of where major fires will occur and provide more specific maps of where fires are most likely to occur during fire season. Publishing detailed predictions would allow the Forest Service to better inform communities and assist with preparation.

The Forest Service is in a difficult position because forests are unhealthy and prone to disastrous wildfires, in part due to nearly 100 years of aggressive logging and fire suppression. The Forest Service can assuage environmental groups by focusing on forest health restoration. By reframing its work through the implementation of practices that support ecological integrity,²⁵³ the Forest Service can safeguard forests from the most extreme fires. This may be difficult due to congressional funding whims; however, Congress has recently taken steps to begin addressing the dearth of funding needed to deal with the wildfire crisis.²⁵⁴ WUI growth in the last several years poses an additional challenge.²⁵⁵

248. *See generally id.* The Forest Service already does many of the things included in the strategy document, including partnering with state local and other federal agencies, and fuels reduction. The plan, however, does call for increasing the amount of land treated in conjunction with partners. *Id.*

249. *See Explore Risk*, U.S. FOREST SERV., <https://wildfirerisk.org/explore/> (last visited Nov. 12, 2022) (interactive map).

250. *See generally, e.g.*, NATIONAL INTERAGENCY FIRE CENTER, NATIONAL SIGNIFICANT WILDLAND FIRE POTENTIAL OUTLOOK (2022), https://www.predictiveservices.nifc.gov/outlooks/outlooks_archive-YTD.html (outlook period February to May 2022).

251. *See* Alan A. Ager, Michelle A. Day, Fermin J. Alcasena, Cody R. Evers, Karen C. Short & Isaac Grenfell, *Predicting Paradise: Modeling Future Wildfire Disasters in the Western US*, 784 SCI. TOTAL ENV'T, Apr. 13, 2021, at 1. Some groups have started mapping fire danger more precisely. *See* Andrew Freedman, *Where Homes Will Face the Most Wildfire Risk in Next 30 Years*, AXIOS (May 16, 2022), <https://www.axios.com/2022/05/16/wildfire-risk-map-climate-change> (citing *The 5th National Risk Assessment Fueling the Flames*, First Street Found. (May 16, 2022)); *Find Your Home's Risk Factors*, RISK FACTOR, riskfactor.com (interactive interface showing fire risks individualized by street address).

252. *Id.*

253. *See supra* Part III.A.

254. *See* sources cited *supra* note 52.

255. Volker C. Radeloff, David P. Helmers, H. Anu Kramer, Miranda H. Mockrin, Patricia M. Alexandre, Avi Bar-Massada, et al., *Rapid Growth of the US Wildland-Urban Interface*

In years like 2021, when the fire season was exceptionally severe, the Forest Service necessarily focused its finite resources on fires that posed threats to communities and infrastructure surrounding national forests.²⁵⁶ While necessary—in reality no one can fault the Forest Service for prioritizing human safety—this prioritization is a far cry from the purpose of the Forest Service.²⁵⁷ Thus, partnerships with local communities, especially in WUI areas, are essential to lessen the burden on the Forest Service.

In addition to improving tools that predict fires, the Forest Service should invest in its workforce. Currently, most Forest Service firefighters are seasonal employees who must be rehired each year.²⁵⁸ Moreover, the Forest Service's permanent non-fire staff, who play an essential role in preparing and managing NFS lands for fire, declined by approximately 7,000 people between 1995 and 2015.²⁵⁹ Addressing both seasonal fire staffing and permanent support staffing will be critical if the Forest Service intends to effectuate the “paradigm shift” it calls for in its Wildfire Crisis Strategy.²⁶⁰

To implement this “shift,” the Forest Service will undoubtedly need to increase its workforce capacity.²⁶¹ The Forest Service should look to local communities impacted by fires and to communities where logging is the main driver of the economy.²⁶² By pairing this recommendation with the recommendation to reduce timber contracts, the Forest Service would be helping to solve the question of where people whose families have been in the logging industry for generations go to look for work. Whether employed directly by the Forest Service, or even as contractors, individuals who have relied on NFS lands for their livelihoods could continue to do so. While some would need convincing, this is a viable option because fuel loads and forest health must be addressed regardless of who does the actual work. By having locals work on fire management during the fire season and restoration and forest health initiatives in the off season, the Forest Service could create buy-in and a sense of ownership over the forest from its potential new employees. It could be argued that many in the timber industry already manage forest health; however, current management practices are distorted by incentives

Raises Wildfire Risk, 115 PNAS 3,314, 3,314 (2018) (finding that the WUI grew from forty-one percent in terms of number of houses and thirty-three percent in terms of land area).

256. Wade, *supra* note 62 (quoting Forest Service statement on 2021 fire season management).

257. See generally *supra* Part I.A.

258. WILDFIRE CRISIS STRATEGY, *supra* note 34, at 10.

259. Richards, *supra* note 51.

260. WILDFIRE CRISIS STRATEGY, *supra* note 34, at 3.

261. See *id.* at 4.

262. See, e.g., Quinton, *supra* note 11 (noting “collaboration can help defuse tension” and “[w]hen work is done on a local scale, everyone knows one another, . . . it’s easier to find a middle ground . . .”).

to over-cut, or even clearcut, when logging. Removing the private industry profit-potential from the individual trees within the forest while still providing competitive salaries and benefits for employees could allow the Forest Service to solve multiple problems at once. Moreover, by employing more of the crews who manage the forests for health and restoration directly, the Forest Service would reduce its risk of capture by outside influences.²⁶³

In its Wildfire Crisis Strategy, the Forest Service committed itself to investing in its workforce by increasing base pay, converting more than 1,000 seasonal firefighter positions to permanent positions, and establishing a new firefighter job series.²⁶⁴ The Forest Service employs more than 10,000 people in its wildland fire program,²⁶⁵ however less than half of those positions are permanent full-time positions.²⁶⁶ As the fire seasons protract, particularly in the western United States, there is a need for larger year-round firefighting crews.²⁶⁷ Moreover, many seasonal firefighters do not live near the fires they are called on to fight, which is compounded by other rigors of the job; this leads many to leave the firefighting profession after only a few seasons.²⁶⁸ Surely, the prospect of benefits and long-term employment would incentivize people to continue working in fire management. Proactive fire management, including better mapping of trees and an increased workforce, will help the Forest Service maintain positive relations with public including in communities where the timber industry has been dominant for decades.

CONCLUSION

Human-driven climate change is altering the planet, and climate change-driven wildfires are occurring more frequently and burning more intensely. The Forest Service, as a land management agency tasked with caring for large swaths of federally owned forests, is uniquely positioned to tackle these challenges. However, to make an impact, the Forest Service must take a hard look at its own regulations and policies.

263. *See supra* Part I.C.

264. WILDFIRE CRISIS STRATEGY, *supra* note 34, at 10.

265. *Careers In Wildland Fire*, U.S. FOREST SERV., <https://www.fs.usda.gov/working-with-us/jobs/fire> (last visited Nov. 12, 2022) (including firefighters, dispatchers, prevention specialists, and fuels management technicians).

266. Anastasia Selby, *The Forest Service Should Embrace a Full-Time Workforce*, HIGH COUNTRY NEWS (June 15, 2020), <https://www.hcn.org/issues/52.7/south-wildfire-the-forest-service-should-embrace-a-full-time-workforce>.

267. *Id.*

268. *See id.* Seasonal employees lack access to continuous health insurance and retirement, creating little incentive to remain in the industry. *Id.* Moreover, they are often called on to do dangerous, and sometimes deadly work. *Id.*

Courts have afforded the Forest Service an enormous amount of discretion; the Forest Service should be able to shift its course with an eye toward climate change mitigation so long as it does not act in a way that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.”²⁶⁹ First, the Forest Service should promulgate an interpretive rule expanding on the meaning of and means of achieving “ecological integrity,”²⁷⁰ including utilizing forests for carbon storage to improve their health and climate resilience. Second, the Forest Service should use its already existing authority under NFMA and its regulations to reduce the number of timber contracts it awards and renews.²⁷¹ Finally, the Forest Service should be even more proactive about how it manages and plans fires on NFS lands, including producing more specific fire predictions, and increasing its workforce capacity by hiring permanent, locally based crews to fight fires and restore forest health.²⁷² In adopting these recommendations, the Forest Service may meaningfully address the ever increasing challenges climate change poses to national forests, while building relationships and maintaining working relationships with environmental groups and timber communities.

269. 5 U.S.C. § 706(2)(A); *see also* Strickland v. Morton, 519 F.2d 467, 469 (9th Cir. 1975).

270. *See supra* part III.A; 36 C.F.R. § 219.1(c) (2021).

271. *See supra* part III.B.

272. *See supra* part III.C.