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A Critical 21st Century Role for Public Land Management: Conserving 30% of the Nation's Lands and Waters Beyond 2030

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A Critical 21st Century Role for Public Land Management: Conserving 30% of the Nation's Lands and Waters Beyond 2030

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I. Introduction

We have been here before.¹ In 1964, Congress proclaimed that “the public land laws of the United States . . . may be inadequate to meet the current and future needs of the American people.”² To address those inadequacies, Congress established a Public Land Law Review Commission³ to study existing statutes, regulations, policies, and practices concerning management and use of the public lands, compile data necessary to determine future demands on the public lands, and

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¹ Or as New York Yankee great Yogi Berra is purported to have said, “it’s déjà vu all over again.” In Douglas E. Abrams, “Yogi-Isms” in the Courts, 77 J. MO. B. 310 (Nov.-Dec. 2021).

² Pub. L. No. 88-606, § 2, 78 Stat. 982 (1964).

³ *Id.* § 3.

recommend modifications that would best serve the policy of managing the public lands in ways that provide “the maximum benefit for the general public.”⁴

The Commission issued its iconic report to the President and Congress—*One Third of the Nation’s Land*—in 1970.⁵ On the first page of its report, the Commission referred to the American people’s “almost desperate need to determine the best purposes to which their public lands and the wealth and opportunities of those lands should be dedicated.”⁶ The Commission attributed this need to “an enlarging population, burgeoning growth, and expanding demand for land and natural resources.”⁷ It bemoaned “hasty action based on preconceived determinations instead of being based on careful land use planning.”⁸ Further, it noted “the ever-growing concern by the American people about the deterioration of the environment” and its own fear that existing laws would not prevent endangerment of quality of life by activities on federally owned lands.⁹ The Commission’s “fundamental” operating premises were that:

- Environmental values must be protected as permanent elements of public land policy.
- Public lands must be available to meet a diversity of expanding needs without environmental degradation and, where possible, with enhancement of the environment.
- Better planning will provide increased efficiency in resource allocation and investment.
- Guidelines must be established to provide for priorities in reducing conflicts among users and resolving conflicts when they arise.¹⁰

The Commission also recognized the importance of the public lands to the integrity of ecological systems, though it did not use that precise terminology. Rather, it placed the public lands “at the heart of maintaining environmental quality in large areas of the United States,”¹¹ and characterized them as “great national assets that deserve protection from degradation, regardless of the specific local conditions.”¹²

In terms strikingly familiar today, the Commission warned about “the existing uncertainty as to the long-term effects of land use on the ability of the ecosystem to meet future demands....”¹³ It expressed particular concern over the “lack of clear policy direction” for areas where “various uses of the lands and its resources are permitted,”¹⁴ and called for giving maintenance and enhancement

⁴ *Id.* §§ 1, 4(a).

⁵ PUBLIC LAND LAW REVIEW COMMISSION, ONE-THIRD OF THE NATION’S LAND: A REPORT TO THE PRESIDENT AND TO THE CONGRESS BY THE PUBLIC LAND LAW REVIEW COMMISSION (1970), <https://leg.mt.gov/content/Committees/Interim/2013-2014/EQC/Meetings/September-2013/one-third-of-nation.pdf>.

⁶ *Id.* at 1.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.* at 3.

¹⁰ *Id.* at 7.

¹¹ *Id.* at 67.

¹² *Id.* at 68.

¹³ *Id.*

¹⁴ *Id.*

of environmental quality “the attention it deserves on the public lands.”¹⁵ Finally, the Commission pointed to “the central factor[] of ecology”:

Everything is connected to everything else. It is this fact that may make effective environmental quality goals and controls on the remote public lands meaningful in fighting the environmental degradation that has already occurred. . . .¹⁶

More than fifty years later, the Commission’s concerns seem either remarkably prescient or depressingly familiar and unresolved. The environmental stresses that plague our nation’s public lands are not precisely the same as those that evoked the Commission’s worries. If anything, they may present even more intractable management problems. Today, climate change has already wrought significant damage to federal lands and resources.¹⁷ In addition, threats to the viability of species that were likely enjoying robust health in 1964, and to the integrity of their habitats, have grown, partly but not entirely due to climate change.¹⁸

Yet, despite recognition by scientists of new or previously hidden threats to the continued vibrancy of federal lands and resources, the issues facing policymakers have not diverged much from those that caught the attention of Congress in 1964 and the Commission in 1970. Environmental deterioration, on and off the federal lands, continues to pose threats, some of which may be existential, to our quality of life. Due to climate change, the uncertainty about the future condition of federal lands and resources is even greater than it was when the Commission issued its report. Planning by federal land managers is still incomplete and at times problematic.¹⁹ The statutes that govern the principal federal land management agencies were all adopted decades ago, prompting legitimate concerns that they are not capable of addressing the novel and unprecedented problems facing public land management officials.²⁰ And, perhaps more than ever, everything remains connected to everything else, which means that activities on the federal lands will affect lands not owned by the federal government, and vice versa.²¹

Put differently, we find ourselves at a crossroads, similar to the one the Public Land Law Review Commission addressed in the late 1960s. As former Interior Solicitor John Leshy said more than

¹⁵ *Id.* at 70.

¹⁶ *Id.* at 88.

¹⁷ *See infra* Part III.

¹⁸ *See, e.g.*, Cristian Román Palacios & John J. Wiens, *Recent Responses to Climate Change Reveal the Drivers of Species Extinction and Survival*, 117 PROC. NAT’L ACAD. SCI. 4211, 4211 (2020) (recognizing that climate change is a major threat to global biodiversity).

¹⁹ *See, e.g.*, Pub. L. No. 115-12, 131 Stat. 76 (2017) (invalidating the Bureau of Land Management’s first comprehensive update to its planning regulations in decades); *infra* note 248 and accompanying text (describing the joint congressional resolution that overturned those planning regulations).

²⁰ *See* Robert L. Glicksman, *Management of Federally Owned Grasslands in the Climate Change Era*, 26 KAN. J.L. & PUB. POL’Y 324, 326 (2017) (identifying “daunting” challenges presented by changes in ecological functioning of federal grasslands). *See generally* Alejandro E. Camacho & Robert L. Glicksman, *Legal Adaptive Capacity: How Program Goals and Processes Shape Federal Land Adaptation to Climate Change*, 87 U. COLO. L. REV. 711, 724 (2016) (discussing how legal adaptive capacity can shape agency efforts to respond to novel challenges and changing ecological circumstances).

²¹ “What’s the First Law of Ecology? It’s that *everything is connected to everything else.*” Zygmunt J.B. Plater, *Foreword-Forward ...*, 44 B.C. ENV’T AFF. L. REV. 219, 220 (2017).

a decade ago, “a reexamination of the value of federal lands is timely, especially given some unprecedented challenges ahead.”²² Another public land law giant, Charles Wilkinson, made a similar point a decade after publication of the Commission’s report, when he wrote about potentially catastrophic threats to wildlife that “[t]he constant development of unprecedented problems requires a legal system capable of fluidity and pliancy.”²³

This Article assesses one of the Biden Administration’s efforts to reshape public land law to meet a pressing need—to conserve 30 percent of the nation’s lands and waters by 2030 in order to promote biodiversity and climate resilience. Specifically, we address the implications of the Biden Administration’s 30 by 30 Initiative for the multiple-use lands managed by the U.S. Forest Service and the Bureau of Land Management (BLM). We focus on the multiple-use lands rather than lands that are managed predominantly for conservation purposes, such as the National Park System and the National Wildlife Refuge System, for four key reasons. First, unlike National Parks and Refuges, which are already off limits to most forms of high-impact resource development, the multiple-use lands hold tremendous promise for newly expanded conservation-based management strategies. Second, the federal laws governing the multiple-use lands are peppered with provisions that provide the land management agencies with greater discretion than that afforded within the National Parks and Refuges; this discretion yields opportunities for either conservation or for exploitation, depending on the priorities set by any given administration. Third, the multiple-use lands will bear the brunt of renewable energy development that is so critical to the nation’s climate-resilient goals. Finally, the sheer size of the multiple-use lands is significant: 441 million acres, which amounts to about 69% of the federal lands.²⁴

Part II of the Article describes the 30 by 30 Initiative in the United States and around the world. Part III discusses the impacts of climate change on the public lands, and the lands’ potential for biodiversity conservation and climate mitigation and adaptation. We begin with one of the oldest systems of public lands, the National Forest System, and then turn to Bureau of Land Management (BLM) lands. Parts IV and V trace the meaning of “conservation” as applied to National Forests and BLM lands, and analyze the existing statutory and regulatory tools, including some that may have been overlooked or whose potential to achieve conservation goals has not been sufficiently tested, that may help the Forest Service and the BLM promote 30 by 30 goals. In particular, we highlight planning, landscape-scale ecosystem management, areas of critical environmental concern, the statutory duty to prevent unnecessary or undue degradation, public interest provisions, the National Landscape Conservation System, and the neglected authority to manage public lands for watershed protection. The trade-offs that arise between renewable energy development on the public lands and biodiversity conservation are assessed in Part VI. Part VII concludes by emphasizing the theme of watershed protection that is woven throughout public lands law and policy as a normative principle and overarching priority.

²² John D. Leshy, *Federal Lands in the Twenty-First Century*, 50 NAT. RESOURCES J. 111, 111 (2010).

²³ Charles F. Wilkinson, *The Public Trust Doctrine in Public Lands Law*, 14 U.C. DAVIS L. REV. 269, 308-09 n.182 (1980) (quoting JEROME FRANK, *LAW AND THE MODERN MIND* 12-13 (1930)).

²⁴ The federal government owns about 640 million acres, 193 million acres of which are managed by the Forest Service and 248 million acres by the BLM. James L. Huffman, *American Prairie Reserve: Protecting Wildlife Habitat on A Grand Scale*, 59 NAT. RESOURCES J. 35, 37 (2019). The combined 441 million acres is 68.9% of 640 million.

II. 30 by 30

During his first week in office, President Biden issued an executive order establishing a national goal of conserving 30 percent of U.S. lands, water, and oceans by 2030.²⁵ By then, a global movement was already underway to protect 30 percent of the Earth's lands and waters from human exploitation by 2030 as a means of combatting climate change and slowing the pace of species extinction.²⁶

The dual threats of biodiversity loss and climate change are closely intertwined.²⁷ The scientific community has reached widespread agreement on two things: (1) the imperative of preventing temperatures from increasing more than 2 degrees Celsius (3.6 Fahrenheit) in order to sustain life on earth,²⁸ and (2) the need to protect large undeveloped areas where vital ecological processes can occur with little human intervention in order to prevent mass extinction.²⁹ While species had been able to move to more suitable habitat during past climate swings, “in the current climate crisis and with reduced connectivity of natural landscapes, species may be unable to move fast enough to track shifting climatic envelopes or at all.”³⁰

Internationally, the 30 by 30 concept is the centerpiece of the Global Deal for Nature, a companion pact to the Paris Climate Agreement,³¹ and it has also been embraced by the International Union for the Conservation of Nature (IUCN).³² Meanwhile, in the lead-up to its Conference of the Parties, the Secretariat of the UN Convention on Biological Diversity (CBD) issued a global

²⁵ Exec. Order No. 14008, § 216(a), Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619 (Jan. 27, 2021). See Sandra B. Zellmer, *Charting a Course to Conserve 30% of Freshwaters by 2030*, 64 WM. & MARY L. REV. (forthcoming) (providing details on 30 by 30 as related to freshwater resources).

²⁶ Masha Kalinina, *More Than 100 Countries Call for Protecting at Least 30% of the Global Ocean by 2030*, PEW (Sept. 22, 2021), <https://www.pewtrusts.org/en/research-and-analysis/articles/2021/09/22/more-than-100-countries-call-for-protecting-at-least-30-percent-of-the-global-ocean-by-2030>.

²⁷ Ramon Pichs Madruga, *Linking Climate and Biodiversity*, 374 SCIENCE 511 (Oct. 28, 2021); Sarah J. Adams-Schoen et al., *A Response to the IPCC Fifth Assessment*, 45 ENVTL. L. REP. NEWS & ANALYSIS 10027, 10044-45 (2015).

²⁸ IPCC, Special Report: Global Warming of 1.5C, Summary for Policymakers (2018), at <https://www.ipcc.ch/sr15/chapter/spm/>. See J.B Ruhl & James Salzman, *What Happens When the Green New Deal Meets the Old Green Laws?*, 44 VT. L. REV. 693, 700 (2020) (“Recent scientific studies reveal that some effects of climate change are coming online faster and harder than previous models suggested. . . . There is no time to waste.”).

²⁹ See Jocelyn L. Aycrigg et al., *Completing the System: Opportunities and Challenges for a National Habitat Conservation System*, 66 BIOSCI. 774, 776 (2016); Robert B. Keiter, *Toward A National Conservation Network Act: Transforming Landscape Conservation on the Public Lands into Law*, 42 HARV. ENVTL. L. REV. 61, 90 (2018). Edward O. Wilson proposed dedicating half the Earth's surface to conservation. See E.O. Wilson Biodiversity Found., *Half-Earth: Our Planet's Fight for Life*, <https://eowilsonfoundation.org/half-earth-our-planet-s-fight-for-life/> (last visited May 18, 2022) (citing EDWARD O. WILSON, *HALF-EARTH: OUR PLANET'S FIGHT FOR LIFE* (2016)).

³⁰ E. Dinerstein et al., *A Global Deal For Nature: Guiding Principles, Milestones, and Targets*, 5 SCIENCE ADVANCES No. 4, DOI: 10.1126/sciadv.aaw2869 (Apr. 19, 2019), <https://advances.sciencemag.org/content/5/4/eaaw2869>.

³¹ *Id.*

³² *Id.* (citing IUCN Resolution: WCC-2016-Res-050-EN).

biodiversity framework aimed at conserving at least 30% of land and sea areas by 2030, especially ecologically representative and well-connected systems of protected areas.³³

Going forward, Biden’s 30 by 30 executive order directed officials of the federal land- and water-managing agencies to prepare a preliminary report on how the 30 by 30 goal could be met.³⁴ The report, called *America the Beautiful*, describes a “ten-year, locally led campaign to conserve and restore the lands and waters upon which we all depend, and that bind us together as Americans.”³⁵

Among other things, *America the Beautiful* calls upon federal agencies to develop an American Conservation and Stewardship Atlas.³⁶ The Atlas is intended to reflect the contributions of farmers, ranchers, forest owners and other private landowners and of fishery management councils, and to incorporate the full array of conservation designations across federal, state, Tribal, and private lands.³⁷ It will supplement existing federal databases, including USDA’s Natural Resources Inventory and Forest Inventory and Analysis programs,³⁸ the U.S. Geological Survey (USGS)’s Protected Area Database (PAD),³⁹ and the National Oceanic and Atmospheric Administration (NOAA)’s Marine Protected Areas Inventory.⁴⁰ The Atlas could be an important step toward synthesizing disparate inventories and data sources, which in turn will help inform the conservation effort.⁴¹

Although the 30 by 30 Initiative reaches across jurisdictional boundaries, and encompasses far more than the federal lands, it has significant implications for public lands management. If the federal land management agencies are going to make a significant contribution to biodiversity conservation and climate resilience, Forest Service and BLM decisions will necessarily play a large part in that effort. The public lands include many of the nation’s intact, functioning

³³ CBD, *A New Global Framework* (June 7, 2021), <https://www.cbd.int/article/draft-1-global-biodiversity-framework>. The global biodiversity framework is expected to be adopted at COP-15 in Oct. 2022. CBD, *UN Biodiversity Conference: COP-15*, <https://www.cbd.int/conferences/2021-2022> (visited June 17, 2022).

³⁴ See Executive Order 14008, *supra* note 25, § 216(a) (directing the Interior Secretary to provide recommendations on achieving 30 by 30 conservation goals); *id.* § 201 (seeking “bold, progressive action” by “every level of government, and every sector of our economy”).

³⁵ CONSERVING AND RESTORING AMERICA THE BEAUTIFUL 6, 9-10 (2021), <https://www.doi.gov/sites/doi.gov/files/report-conserving-and-restoring-america-the-beautiful-2021.pdf>.

³⁶ *Id.* at 17.

³⁷ *Id.*

³⁸ USDA, *NRCS Inventory*, <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/nra/nri/>; USDA, *Forest Inventory*, <https://www.fia.fs.fed.us>.

³⁹ PAD includes open space lands owned in fee by all federal agencies, many state and local entities, and some nonprofits, plus conservation easements. The “GAP Status Codes” of these lands indicate their degree of protection. USGS, *Protected Areas*, <https://www.usgs.gov/programs/gap-analysis-project/science/protected-areas>. GAP 1 and 2 represent the most protected areas, such as National Parks, Wildlife Refuges, and Wilderness areas, while GAP 3 represents multiple-use lands, where extractive activities may occur. *Id.*

⁴⁰ NOAA, *MPA Inventory*, https://marineprotectedareas.noaa.gov/helpful_resources/inventory_sup.html.

⁴¹ See Alexander K. Fremier et al., *A Riparian Conservation Network for Ecological Resilience*, 191 *BIO. CONSERV.* 29 (2015) (discussing attributes of “protected” areas).

ecosystems.⁴² Between thirty to sixty percent of endangered and threatened species in the U.S. utilize the public lands for shelter, migration, and sustenance.⁴³ Moreover, the federal agencies have expansive power over what happens on the public lands, so long as their decisions comport with their statutory authority.⁴⁴

By the same token, increased emphasis on low- or zero-emission energy sources to reduce the nation's carbon footprint may be creating a "green clash" between renewable energy development and biodiversity goals.⁴⁵ Alongside 30 by 30, the Biden Administration has vowed to nearly double renewable capacity on the public lands by the end of 2023.⁴⁶ Absent careful planning and mitigation measures, it seems likely that future solar, wind, and geothermal development will have adverse effects on wildlife and its habitat.⁴⁷ Reconciling these potentially conflicting strands of public lands policy presents significant challenges.

III. Implications of Climate Change for the Multiple-Use Lands

This Part begins by addressing the impacts of climate change on the National Forest System, and the role of forests in mitigating and adapting to a changing climate. It then turns to the public lands managed by the BLM.

A. National Forests

The Forest Service's National Roadmap for Responding to Climate Change recognized that maintaining a diverse array of functioning forest and grassland ecosystems reduces our vulnerability to the impacts of climate change.⁴⁸ According to the Roadmap:

Rising air temperatures mean less snow, along with faster and earlier snowmelts. Greater variability in the volume and timing of precipitation means more floods and droughts. Warmer water . . . alters critical fish habitat, while increased evapotranspiration leads to drier vegetation and more fire, insects, and pathogens.⁴⁹

⁴² Bobby McGill, *America's Best Climate Defense Lies in Public Lands*, SCI. AM. (Mar. 12, 2015), <https://www.scientificamerican.com/article/america-s-best-climate-defense-lies-in-public-lands/>.

⁴³ Bruce Stein et al., *Federal Lands and Endangered Species: The Role of Military and Other Federal Lands in Sustaining Biodiversity*, 58 BIOSCIENCE 339–347 (2008).

⁴⁴ Martin Nie et al., *Fish and Wildlife Management on Federal Lands: Debunking State Supremacy*, 47 ENV'T L. 797, 932 (2017) (citing *Kleppe v. United States*, 426 U.S. 529, 545 (1976)).

⁴⁵ Blair M. Warner, *Overhauling ESA Private Land Provisions in Light of the Renewable Energy Boom on Federal Public Lands*, 89 NOTRE DAME L. REV. 1875, 1875–76 (2014).

⁴⁶ Jennifer A. Dlouhy, *Biden Seeks to Almost Double Renewables Capacity on Public Land*, BLOOMBERG, Apr. 20, 2022, <https://www.bnnbloomberg.ca/biden-seeks-to-almost-double-permitted-renewables-capacity-on-public-land-1.1754381>.

⁴⁷ See *infra* Part V.

⁴⁸ USDA Forest Service, National Roadmap for Responding to Climate Change (2011), <https://www.fs.fed.us/climatechange/pdf/Roadmapfinal.pdf>. The National Forest System includes 154 National Forests and 20 National Grasslands. USDA Forest Service, *By the Numbers* (2013), <https://www.fs.usda.gov/about-agency/newsroom/by-the-numbers>.

⁴⁹ *Id.* at 6.

Since the National Roadmap was issued in 2011, the Forest Service has prepared a number of studies and reports related to climate change.⁵⁰ Concern about drought is a recurring theme.⁵¹ According to the Forest Service, drought threatens the ecological services that flow from the Nation's forests and grasslands, and has severe effects on drinking water supplies.⁵² The agency explains:

The effects of drought on national forests are of particular concern because about 20 percent of the Nation's clean drinking water originates from national forests. In the U.S. about 180 million people rely on forested lands to capture and filter their drinking water.⁵³

The National Roadmap acknowledged that forests “play an increasingly vital role in protecting the Nation's watersheds . . . [as they] reduce erosion, recharge aquifers, regulate stream flows, moderate water temperatures, and protect water quality.”⁵⁴ Sustainably managed forests promote the uptake of atmospheric carbon and store carbon in vegetation and soils.⁵⁵ Forests can also reduce greenhouse gas (GHG) emissions, albeit indirectly, when carbon-neutral bioenergy is used to offset fossil fuel emissions and when wood is substituted for more fossil fuel-intensive building products.⁵⁶

As with many things, however, there are trade-offs. Overly dense forests can increase the risk of large wildfires, which emit carbon into the atmosphere, initially through smoke and then through the decomposition of dead trees.⁵⁷ Although recent studies have found that hotter and drier conditions “significantly increased fuel aridity during the fire season,” creating a more favorable environment for wildfires,⁵⁸ the causal connection between climate change and wildfire is not as

⁵⁰ See USDA Forest Service, Climate Tools and Data, <https://www.fs.usda.gov/managing-land/sc/data-dashboard> (last visited Apr. 22, 2022) (providing a “gallery of climate maps, tools and resources supporting environment analyses”).

⁵¹ See U.S. Forest Service Drought Gallery, <https://usfs.maps.arcgis.com/apps/MinimalGallery/index.html?appid=7406b90c8d42474284c9477c6a6356eb> (last visited Apr. 22, 2022) (providing maps, reports, and other tools related to drought).

⁵² USDA Forest Service, Sustainability and Climate, <https://www.fs.usda.gov/managing-land/sc> (last visited Apr. 22, 2022).

⁵³ *Id.*

⁵⁴ *Id.* See David Takacs, *Environmental Democracy and Forest Carbon (Redd+)*, 44 ENV'T L. 71, 76 (2014) (“Healthy forests help communities adapt to climate change through providing resilience by sustaining ecosystem services—including preventing erosion, increasing rainfall, buffering floods, cleansing drinking water, and harboring crop pollinators—and biodiversity crucial for human survival.”).

⁵⁵ Alice Favero et al., *Forests: Carbon Sequestration, Biomass Energy, or Both?* 6 SCI ADV. 13 (2020), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7096156/>. See National Roadmap, *supra* note 48, at 18 (describing the role of sustainably managed forests in climate change mitigation); *id.* at 20 (noting capacity of America's forests to offset carbon dioxide emissions).

⁵⁶ National Roadmap, *supra* note 48, at 18.

⁵⁷ *Id.* at 20.

⁵⁸ *Id.* at 122; John Abatxoglou & A. Park Williams, *Impact of Anthropogenic Climate Change on Wildfire Across Western US Forests*, 113 PROC. NAT'L ACAD. SCI. 11770, 11770 (2016).

clear as it is between climate change and other events such as heat waves.⁵⁹ Other factors play a role, in particular, the long history of fire suppression on the nation's public lands and the encroachment of human development in the Wildland Urban Interface (WUI).⁶⁰ Wind, humidity, solar radiation, and lightning also influence fire risk, and, in the arid West, unusually wet growing seasons stimulate more vegetation growth, which later dries out and becomes fuel that may feed more extreme fires.⁶¹

B. Public Lands Managed by the BLM

The public lands managed by the BLM have already encountered climate change.⁶² Average temperatures throughout the Intermountain West rose nearly 0.9° C between the periods 1895-1924 and 1989-2018.⁶³ In certain areas, average temperatures on the BLM public lands have risen by more than 2° C.⁶⁴ Increasing temperatures and other impacts of climate change will exacerbate existing threats to the public lands. In 2013, the Government Accountability Office reported that climate change may impair multiple use management by exacerbating existing stressors that include wildfires, invasive species, and droughts.⁶⁵

A more recent study by researchers at Utah State University published in 2020 concluded that climate change will pose dire threats to sustainable management of the public lands in the Intermountain West.⁶⁶ They found that some of the changes resulting from climate change are taking the form of “non-linear and irreversible transitions in ecosystems managed by the agency.”⁶⁷ Further, the research team found that climate-related impacts might increase conflicts among potential public lands users as the range of lands available for certain uses shrinks.⁶⁸

⁵⁹ IPCC, WORKING GROUP II CONTRIBUTION TO THE FIFTH ASSESSMENT REPORT OF THE IPCC, IMPACTS, ADAPTATION, AND VULNERABILITY 45 (2014) (expressing medium confidence that climate change increased wildfire activity, fire frequency, and duration in forests of Western U.S. and Canada).

⁶⁰ Dara Illowsky, *Fire Management in a Climate Changed World: Opportunities for the Biden Administration Under the National Environmental Policy Act*, 51 ENV'T L. 881, 889 (2021).

⁶¹ Michael Burger et. al., *The Law and Science of Climate Change Attribution*, 45 COLUM. J. ENV'T L. 57, 121 (2020).

⁶² See Joel B. Smith & William R. Travis, *Adaptation to Climate Change in Public Lands Management*, Resources for the Future Issue Brief 10-04, at 4 (2010), <https://media.rff.org/documents/RFF-IB-10-04.pdf>; Robert L. Beschta et al., *Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild, and Feral Ungulates*, 51 ENVTL. MGMT. 474, 474 (2013), <https://pubmed.ncbi.nlm.nih.gov/23151970/>.

⁶³ Brice et al., *Impacts of climate change on multiple use management of Bureau of Land Management land in the Intermountain West, USA*, 11 ECOSPHERE article e03286, at 4 (Nov. 2020), <https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/ecs2.3286>.

⁶⁴ *Id.*

⁶⁵ See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-253, CLIMATE CHANGE: VARIOUS ADAPTATION EFFORTS ARE UNDER WAY AT KEY NATURAL RESOURCES MANAGEMENT AGENCIES 16-17 (2013), <https://www.gao.gov/assets/gao-13-253.pdf>. The GAO surmised, for example, that droughts may limit the areas suitable for grazing.

⁶⁶ Brice et al., *supra* note 63, at 2.

⁶⁷ *Id.*

⁶⁸ *Id.* at 3.

Climate change will or may affect the public lands in a host of ways. Changes in vegetation composition may alter the suitability of lands for wildlife populations or render certain areas unsuitable for grazing.⁶⁹ Wildlife populations will shift northward and toward higher elevations in pursuit of more hospitable habitat than that previously occupied that has become hotter, drier, or both.⁷⁰ Such movement may create competition to newly arrived species and those already there.⁷¹ Wildlife species that include pika, salmonids, sage grouse, and spotted owls are at risk as they become exposed to invasive species threats, loss of ecosystem engineers, and anthropogenic land use changes.⁷² Warmer temperatures will make lands newly habitable by pests (such as bark beetles) that pose threats to both native flora and fauna.⁷³

Rising temperatures will reduce snowpack, which is the source of water for many areas in the Intermountain West.⁷⁴ They will also exacerbate droughts, which are likely to increase in frequency and duration and to cause desertification.⁷⁵ Increased wildfire activity will adversely affect plant and animal communities, such as by increasing erosion that will impair aquatic species conservation efforts.⁷⁶ Decreases in soil moisture and vegetative cover will reduce soil stability.⁷⁷

The Utah State researchers were troubled that they could not verify any comprehensive assessment of the impacts that climate change is having on BLM land uses and ecosystems.⁷⁸ They took a stab at summarizing the relationships among climate change impacts and various multiple uses for which the BLM is authorized to manage the public lands. They found negative impacts on conservation, ecosystem services, cultural values, recreation,⁷⁹ grazing, wildlife (especially wild horses and burros),⁸⁰ timber production, and mining and energy development.⁸¹ In other words,

⁶⁹ *Id.*

⁷⁰ Smith & Travis, *supra* note 62, at 4. Professor Camacho warns, however, that “[s]ome species vital to ecosystem functioning but with slow rates of dispersal. . . may be unable to keep up with the rate of climate change. Other species will be unable to shift their range because there is no suitable habitat to serve as a bridge to adequate ecological conditions.” Alejandro E. Camacho, *Assisted Migration: Redefining Nature and Natural Resource Law Under Climate Change*, 27 YALE J. ON REG. 171, 181–82 (2010) (footnote omitted).

⁷¹ See Smith & Travis, *supra* note 62 at 5.

⁷² Brice et al., *supra* note 63, at 12-13.

⁷³ See Smith & Travis, *supra* note 62, at 5; see also Beschta et al., *supra* note 62, (discussing insect outbreaks). Cf. Robert B. Keiter & Matthew McKinney, *Public Land and Resources Law in the American West: Time for Another Comprehensive Review?*, 49 ENV'T L. 1, 18 (2019) (“Recent warm temperatures have already sparked widespread bark beetle infestations on western forests, killing thousands of trees and increasing the likelihood of catastrophic wildfire events, thus transforming these forests into carbon emitters rather than carbon sinks.”).

⁷⁴ Brice et al., *supra* note 63, at 4; Beschta et al., *supra* note 62 (finding that “warming in western mountains is very likely to cause large decreases in snowpack, earlier snowmelt, more winter rain events, increased peak winter flows and flooding, and reduced summer flows”); Keiter & McKinney, *supra* note 73, at 18 (noting that reduced snowpack will impact water supplies and cold-water fish habitat).

⁷⁵ Beschta et al., *supra* note 62.

⁷⁶ Brice et al., *supra* note 63, at 13.

⁷⁷ Beschta et al., *supra* note 62.

⁷⁸ Brice et al., *supra* note 63, at 2.

⁷⁹ *Id.* at 16-17.

⁸⁰ *Id.* at 17.

⁸¹ *Id.* at 14.

climate change is likely to result in pervasive changes to the public lands, posing challenges to the BLM's efforts to make those lands available for virtually all of the multiple uses authorized by FLPMA. Unfortunately, the Utah State researchers' survey of existing resource management plans and other BLM documents demonstrated "lack of (1) explicit climate change management in BLM plans; (2) a clear directive of land uses and priorities in land use plans; and (3) science on climate change impacts on land uses."⁸²

Although climate change is impacting the public lands managed by both the BLM and the Forest Service, those same public lands play an important role in mitigating the adverse effects of a rapidly changing climate and in allowing humans and other living creatures to adapt to the changes being wrought by global warming. The law governing the management of these lands has profound implications for climate resilience and biodiversity, as described in detail in the next two Parts.

IV. The National Forest System

This Part begins by tracing the concept of "conservation" in national forest management. Next comes a discussion of forest planning for sustainability and multiple uses, including timber, watersheds, wildlife, recreation, and energy development. The Part ends with an assessment of how existing laws and regulations, particularly those related to planning, may be deployed to address potential multiple-use conflicts while promoting 30 by 30 goals.

A. "Conservation" in Early Forest Management: Watersheds and Timber

Early conservation efforts on federal forest lands took seed in the late-1800s, when Congress and the executive branch became concerned with both watershed values and timber supply.⁸³ Legal scholars and historians have observed that watershed protection may have been the predominant driver of forest conservation.⁸⁴ The Forest Service agrees: "A primary purpose for reserving Federal forest land at the turn of the 20th century was to protect watersheds."⁸⁵

According to Professor George Cameron Coggins, one of the earliest public lands statutes, the Timber Culture Act of 1873, "was motivated by a desire for reforestation in order to prevent the destructive floods that result from inadequate forest cover."⁸⁶ The Act allowed homesteaders to obtain an additional 160 acres of federal land if they planted trees on 40 acres of that land.⁸⁷ Not

⁸² *Id.* at 20; *see also id.* ("Currently, the rules and guidelines that dictate how the BLM manages public land do not provide adequate direction on how to manage for climate change.").

⁸³ George Cameron Coggins, *Watershed as a Public Natural Resource on the Federal Lands*, 11 VA. ENV'T L.J. 1, 4–5 (1991) [hereinafter Coggins, *Watershed*].

⁸⁴ *Id.* *See* ONE-THIRD OF THE NATION'S LAND, *supra* note 5, at 151 ("One of the reasons for the establishment of the national forests . . . was 'for the purpose of securing favorable conditions of water flows.'").

⁸⁵ USDA Forest Service, National Roadmap for Responding to Climate Change 6 (2011), <https://www.fs.fed.us/climatechange/pdf/Roadmapfinal.pdf>.

⁸⁶ Coggins, *Watershed*, *supra* note , at 5.

⁸⁷ Pub. L. No. 42-277, 17 Stat. 604 (1873) (repealed 1891).

only would trees combat erosion and flooding, they could serve as a wind break and provide timber for fuel and for building materials, especially on the Great Plains where timber was scarce.⁸⁸

Just a few years later, in 1876, a bill was introduced “for the preservation of the forests of the national domain adjacent to the sources of the navigable rivers and other streams of the United States.”⁸⁹ Supporters argued that deforestation was adversely affecting water supplies.⁹⁰ Although that particular bill did not pass, it paved the way for the Forest Reserve Act of 1891, which authorized the president to “set apart and reserve” public lands that are “wholly or in part covered with timber or undergrowth, whether of commercial value or not, as public reservations.”⁹¹ Although the Forest Reserve Act itself was silent about forest management or watersheds, its legislative history demonstrates that “its purpose was to preserve natural forest cover in an effort to maintain uniform water flows in streams.”⁹²

Within days of the Act’s passage, President Benjamin Harrison reserved one million forested acres in the Yellowstone Valley within the new state of Wyoming.⁹³ Shortly thereafter, the General Land Office (GLO), which was responsible for the public domain lands, commenced a systematic inventory of “all public lands in mountainous and other regions” where timber or undergrowth may “absorb and check” water flows for the use of downstream settlements.⁹⁴ This inventory informed the effort to reserve forest lands from exploitation.⁹⁵

⁸⁸ *Id.* In addition, popular belief had it that forests could generate rain in otherwise arid areas. David M. Emmons, *Theories of Increased Rainfall and the Timber Culture Act of 1873*, 15 FOREST HISTORY NEWSLETTER 6–14 (1971). Not only did tree planting fail to produce rain, the Act failed to accomplish many, if not any, of its other goals. History Nebraska, *Timber Culture Act of 1873*, <https://history.nebraska.gov/publications/timber-culture-act-1873> (last visited June 19, 2022) (noting that planting occurred “in such a haphazard way that there was little or no chance that the trees would grow to maturity”).

⁸⁹ Coggins, *Watershed*, *supra* note 83, at 5. See Charles Wilkinson & Michael Anderson, *Land and Resource Planning in the National Forests*, 64 OR. L. REV. 1, 202-04 (1985) (citing 17 Stat. 605 (1873) (repealed 1891); 26 Stat. 1103 (1891)).

⁹⁰ Coggins, *Watershed*, *supra* note 83, at 5. Gifford Pinchot was dramatic and succinct on this point--“No forests, no rivers.” Mary Ann King & Sally K. Fairfax, *Beyond Bucks and Acres: Land Acquisition and Water*, 83 TEX. L. REV. 1941, 1952 (2005) (citing THE FIGHT FOR CONSERVATION 53 (1911)).

⁹¹ Forest Reserve Act of 1891, Pub. L. No. 51-561, § 24, 26 Stat. 1095, 1103.

⁹² Coggins, *Watershed*, *supra* note 83, at 5. The Forest Reserve Act was also intended to curb the fraudulent use of the Timber Culture Act to acquire vast mineral and timber resources in the West. Jedediah Britton-Purdy, *Whose Lands? Which Public? The Shape of Public-Lands Law and Trump’s National Monument Proclamations*, 45 ECOLOGY L.Q. 921, 949 (2018).

⁹³ Richard Andrews, *MANAGING THE ENVIRONMENT, MANAGING OURSELVES: A HISTORY OF AMERICAN ENVIRONMENTAL POLICY* 105 (2nd ed. 2006).

⁹⁴ John D. Leshy, *America’s Public Lands--A Look Back, A Look Ahead*, 67 RMMLF-INST 1, 1-6 (hereinafter *America’s Public Lands*). The GLO was an independent agency from 1812 to 1849, when it was placed under the newly formed Department of the Interior, and then in 1946 it was merged with the U.S. Grazing Service to become the BLM. BLM History-Timeline, <https://www.blm.gov/about/history/timeline> (last visited June 14, 2022).

⁹⁵ Leshy, *America’s Public Lands*, *supra* note 94, at 1-6.

In a span of less than twenty years, presidents reserved around 170 million acres of forested lands.⁹⁶ President Teddy Roosevelt wielded his Reserve Act power with particular zeal.⁹⁷ In his 1901 annual message to Congress, Roosevelt reported “a widespread demand by the people of the West for the [forest lands’] protection and extension.”⁹⁸ Between 1902 and 1906, Roosevelt responded to that demand by reserving over 100 million acres of forest lands in the western states and territories—more than double the amount in place when he took office.⁹⁹

Although these forest lands were reserved from homesteading and other dispositions, they were not reserved from public use. Under the leadership of Gifford Pinchot, a key figure in the Roosevelt Administration and the first Chief of the U.S. Forest Service, “conservation” was steeped in utilitarianism.¹⁰⁰ In Pinchot’s view, “Where conflicting interests must be reconciled, the question shall always be answered from the standpoint of the greatest good of the greatest number in the long run.”¹⁰¹ This philosophy resonated with Pinchot’s fellow Progressives, who believed that the public resources should not be exploited for personal gain but rather devoted to the long-term public good through professional management, careful planning, and science.¹⁰²

While presidents of all stripes were busily creating forest reserves,¹⁰³ Congress added a layer to the statutory infrastructure by passing the Forest Service Organic Act of 1897.¹⁰⁴ The statute guides forest management, emphasizing watershed protection along with timber supplies. In it, Congress declared that forest reserves were “established . . . to improve and protect the forest within the boundaries and for the purposes of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States.”¹⁰⁵

Although Congress supported the notion of federal forest reserves, it eventually became alarmed at the executive branch’s exercise of virtually unbridled power to reserve forests from the public domain.¹⁰⁶ To rein in this discretion, Congress inserted a provision in a 1907 appropriations bill

⁹⁶ *Id.* at 1-10.

⁹⁷ *Id.* at 1-8.

⁹⁸ *Id.*

⁹⁹ *Id.* at 1-8 to 1-10.

¹⁰⁰ Sandra B. Zellmer, *The Roadless Area Controversy: Past, Present, and Future*, 48 RMMLF-INST. 21, 21.02[1] (2002).

¹⁰¹ Charles Wilkinson, “*The Greatest Good of the Greatest Number in the Long Run*”: TR, Pinchot, and the Origins of Sustainability in America, 26 COLO. NAT. RES., ENERGY & ENV’T L. REV. 69, 71-72 (2015). See Sandra B. Zellmer, *Mitigating Malheur’s Misfortunes: The Public Interest in the Public’s Public Lands*, 31 GEO. ENV’T L. REV. 509, 554 (2019); Sandra B. Zellmer, *Theodore Roosevelt*, in PIONEERS OF ENVIRONMENTAL LAW 59-60 (Laitos & Nagle eds. (2021) (discussing Pinchot’s views).

¹⁰² Wilkinson, *supra* note 101, at 71.

¹⁰³ Harrison represented the Whig Party; Grover Cleveland was a Democrat; William McKinley and Theodore Roosevelt were Republicans. U.S. House of Representatives, *Presidents, Vice Presidents, & Coinciding Sessions of Congress*, <https://history.house.gov/Institution/Presidents-Coinciding/Presidents-Coinciding/> (last visited June 28, 2022).

¹⁰⁴ 16 U.S.C. § 475.

¹⁰⁵ *Id.*

¹⁰⁶ Leshy, *America’s Public Lands*, *supra* note 94, at 1-9. For additional details, see JOHN D. LESHY, OUR COMMON GROUND 170-213, 227-244 (2022).

barring further executive additions to the reserves, effectively requiring congressional creation of national forests.¹⁰⁷ It did not, however, dismantle the Organic Act of 1897.¹⁰⁸

The Organic Act's use of the phrase "securing favorable conditions of water flows" has not received much judicial attention.¹⁰⁹ It seems to be synonymous with watershed protection, and according to the Act's sponsor, Congress used the phrase to promote its objective of the "preservation of forest conditions upon which water conditions and water flow are dependent."¹¹⁰

One of the few cases to consider the phrase dealt with federal reserved water rights, which is an area of the law fraught with tension between state-sanctioned water rights and federal prerogatives.¹¹¹ In *United States v. New Mexico*, the Supreme Court held that water was reserved to the United States "only where necessary to preserve timber or to secure favorable water flows for private and public uses under state law."¹¹² In an incredibly crabbed interpretation of the Organic Act, the majority opinion rejected the federal government's argument that Congress intended in the Organic Act to reserve minimum instream flows for aesthetic, recreational, and fish preservation purposes.¹¹³

The majority opinion found that Congress's primary purpose in enacting the Organic Act was conserving water for irrigation and domestic use, "as a means of enhancing the quantity of water that would be available to the settlers of the arid West."¹¹⁴ The dissent, however, pointed out that the United States could assert rights to minimum instream flows as "necessary for erosion control or fire protection" to support the explicitly recognized purposes of "watershed management and the maintenance of timber."¹¹⁵

Even if the provision narrowly construed by the Court in *New Mexico* did not provide significant conservation authority to the Forest Service in the context of water rights, a separate section of the Organic Act directed the Secretary of Agriculture to "make provisions for the protection against destruction by fire and depredations," and to "make such rules and regulations . . . as will insure the objects of such reservations, namely, to regulate their occupancy and use and to preserve the forests thereon from destruction. . . ."¹¹⁶ This provision was tested in a pair of cases that were

¹⁰⁷ Act of Mar. 4, 1907, ch. 2907, 34 Stat. 1256, 1271.

¹⁰⁸ 16 U.S.C. § 475.

¹⁰⁹ Coggins, *Watershed*, *supra* note 83, at 4-5.

¹¹⁰ *Id.*

¹¹¹ Justin Huber & Sandra Zellmer, *The Shallows Where Federal Reserved Water Rights Founder: State Court Derogation of the Winters Doctrine*, 16 U. DENV. WATER L. REV. 261, 262-263 (2013) (explaining that "western states, fearing the doctrine's potential effect on water rights acquired under state law, have met the federal government's exercise of its constitutionally-granted power with vehement resistance").

¹¹² 438 U.S. 696, 707, 718 (1978).

¹¹³ *Id.* at 705-11.

¹¹⁴ *Id.* at 713. That interpretation arguably ignores the Act's reference to "improv[ing] and protect[ing] the forest." These purposes are phrased as alternatives to protecting water flows and furnishing timber. *See* 16 U.S.C. § 465 (emphasis added) (stating that national forests may be established "to improve and protect the forest within the boundaries, or for the purpose of securing favorable conditions of water flow, and to furnish a continuous supply of timber").

¹¹⁵ 438 U.S. at 724-725 (Powell, J., dissenting).

¹¹⁶ Act of June 4, 1897, ch. 2, §1, 30 Stat. 35 (codified at 16 U.S.C. 551).

resolved on the same day by the Supreme Court in 1911. In *United States v. Grimaud*, the Court upheld the Secretary's authority to adopt and enforce rules requiring grazing permits in order to "insure [protection of] the objects of such reservation."¹¹⁷ In *Light v. United States*, the Court upheld a federal trespass action against a rancher who allowed his cattle to roam freely and graze upon the Holy Cross Forest Reserve.¹¹⁸ Together, "*Light and Grimaud* settled the constitutionality of the 1897 Organic Administration Act . . . and reaffirmed broad congressional power to manage federal lands under the Property Clause, including the ability to preempt conflicting state laws."¹¹⁹

That same year, Congress added another statutory layer to its protection for watersheds and timber by adopting the Weeks Act of 1911. The Weeks Act authorizes the Secretary to acquire "forested, cut-over, or denuded lands" in the eastern United States "within the watersheds of navigable streams as in his judgment may be necessary to the regulation of the flow of navigable streams or for the production of timber."¹²⁰ Although the Weeks Act promoted reforestation and watershed protection, its conservation implications were complicated by subsequent amendments that authorized sellers to retain mineral and timber rights on acquired lands.¹²¹

After World War II, demand for forest uses and products exploded and "unprecedented pressure was brought to bear on the managing agencies to balance competing demands and to protect the environment."¹²² Although Gifford Pinchot had impressed his multiple-use, sustained-yield philosophy on the Forest Service since the early 1900s,¹²³ it was not until 1960 that Congress gave the agency express statutory authority to manage the national forests for uses beyond timber and watersheds. The Multiple-Use Sustained-Yield Act of 1960 (MUSYA) states that the national forests are to be managed for a broad range of uses, including "outdoor recreation, range, timber, watershed, and wildlife and fish purposes."¹²⁴

Under MUSYA, resources are to be managed "so that they are utilized in the combination that will best meet the needs of the American people."¹²⁵ MUSYA directs the Forest Service to administer surface resources "for multiple use and sustained yield of the several products and services obtained therefrom," and requires it to give "due consideration" to the "relative values of the various resources in particular areas."¹²⁶ MUSYA also provides that "[t]he establishment and

¹¹⁷ 220 U.S. 506 (1911).

¹¹⁸ 220 U.S. 523 (1911).

¹¹⁹ Michael C. Blumm & Olivier Jamin, *The Property Clause and Its Discontents: Lessons from the Malheur Occupation*, 43 *ECOLOGY L.Q.* 781, 802 (2016).

¹²⁰ 16 U.S.C. § 515.

¹²¹ 16 U.S.C. § 520. See King & Fairfax, *supra* note 90, at 1953 (explaining that the Weeks Act was not a pure conservation "victory").

¹²² Charles L. Kaiser & Scott W. Hardt, *Fitting Oil and Gas Development into the Multiple-Use Framework: A New Role for the Forest?*, 62 *U. COLO. L. REV.* 827, 838 (1991).

¹²³ See *supra* note 100 (describing Pinchot's utilitarian stance).

¹²⁴ 16 U.S.C. § 528. The MUSYA mandate is supplemental to the timber and watershed purposes for which the national forests were created under the 1897 Forest Reserve Act. *United States v. New Mexico*, 438 U.S. 696, 712-16 (1978).

¹²⁵ 16 U.S.C. § 531(a).

¹²⁶ 16 U.S.C. § 529. Courts have held that the multiple-use concept "does not contemplate that every acre be managed for every multiple use; Congress recognized that 'some land will be used for less than all of the resources.'" 3 *GEORGE CAMERON COGGINS & ROBERT L. GLICKSMAN, PUBLIC NATURAL RESOURCES*

maintenance of areas of wilderness are consistent with the purposes and provision . . . of this title.”¹²⁷

As for non-renewable resources, MUSYA states that, “Nothing herein shall be construed so as to affect the use or administration of the mineral resources of national forest. . . .”¹²⁸ Mineral and energy development may occur in accordance with other applicable laws, but the Forest Service regulates the use of the surface estate to minimize impacts on surface resources.¹²⁹

MUSYA’s enactment did not prioritize any of the enumerated uses, nor did it preclude the Forest Service from promoting timber harvest over other uses. The courts found that, although MUSYA requires the agency to give “due consideration” to various multiple uses, the Forest Service has discretion in deciding which uses to allow and to what extent, so long as it considers all of the specified uses when making decisions.¹³⁰

B. Planning for Sustainability and Multiple Uses: Watersheds, Diversity, and Climate

A few years after MUSYA’s passage, the Commission issued *One-Third of the Nation’s Lands*, which made findings and recommendations on the management of the multiple-use lands.¹³¹ With regard to National Forests, the report stated that:

[W]e recognize that conflicts among competing uses is particularly high on public forest lands. . . . The diversity and intensity of use dictates that great care be taken on forest lands to assure that environmental values are not lost through poor forestry practices.¹³²

LAW § 30.3 (2d ed. 2007) (citing cases). *See also* ONE-THIRD OF THE NATION’S LANDS, *supra* note 5, at 51 (recognizing and affirming the practice of zoning within forests for a dominant use rather than all uses at all times).

¹²⁷ 16 U.S.C. § 529. Congress enacted the Wilderness Act, 16 U.S.C. §§ 1131-1136, in 1964, but the Forest Service had recognized administrative wilderness areas within the National Forest System before that time. *See Zellmer, The Roadless Area Controversy, supra* note 100, at § 21.02[1][b].

¹²⁸ 16 U.S.C. § 528.

¹²⁹ *See* 16 U.S.C. § 551 (general Organic Act authority); 30 U.S.C. § 1014(b) (geothermal leasing); *Clouser v. Epsy*, 42 F.3d 1522, 1529-30 (9th Cir. 1994) (concluding that the Forest Service has authority to regulate means of access to mining claims within national forests under the Organic Act); *United States v. Weiss*, 642 F.2d 296, 297 (9th Cir. 1981) (holding that the Forest Service may require prior approval to begin or continue mining operations so as “to minimize adverse environmental impacts on . . . surface resources”); *Duncan Energy Co. v. U.S. Forest Serv.*, 50 F.3d 584 (8th Cir. 1995) (holding that the Forest Service may impose reasonable conditions on use of the federal surface to access an underlying split estate, but cannot deny access completely) (citing the Organic Act and the Bankhead-Jones Farm Tenant Act, 7 U.S.C §§ 1010, 1011(f)).

¹³⁰ *Perkins v. Bergland*, 608 F.2d 803, 807 (9th Cir. 1979); *National Wildlife Fed’n v. U.S. Forest Serv.*, 592 F. Supp. 931, 938 (D. Or. 1984), *amended*, 643 F. Supp 653 (D. Or. 1984)); *Dorothy Thomas Found., Inc. v. Hardin*, 317 F. Supp. 1072, 1076 (W.D.N.C. 1970).

¹³¹ ONE-THIRD OF THE NATION’S LAND, *supra* note 5.

¹³² *Id.* at 91.

The Commission also found that “many of the individual problems that led to the creation of this Commission . . . have their roots in an inadequate planning process,” along with the lack of a “clear set of goals for the management and use of the public lands.”¹³³

The Commission’s report, along with problems associated with continued clear-cutting practices, motivated Congress to enact the Forest and Rangeland Renewable Resources Planning Act (RPA) in 1974 and the National Forest Management Act (NFMA) in 1976.¹³⁴ The RPA requires the Secretary to prepare a Renewable Resource Assessment every ten years, which includes an inventory of renewable resources and an analysis of present and anticipated uses, plus a recommended Renewable Resource Program every five years with program outputs based on multiple-use principles.¹³⁵ The RPA laid the groundwork for more robust forest planning, but it took NFMA to flesh out the substantive requirements.¹³⁶

NFMA was a pathbreaking piece of legislation for its time. In 1976, when Congress passed NFMA, it embraced a number of recommendations from a Committee of Scientists that had been convened for the purpose of reforming unsustainable practices on National Forest System lands.¹³⁷ Forests would no longer be managed as monoculture commodity crops; the extraction of minerals, oil, and gas would be tempered with a regard for ecological consequences and future generations; and decisions would no longer be made behind closed doors without public input and scientific analysis.¹³⁸

Sustained yields of timber, watershed protection, and other uses listed in MUSYA remain key to forest management, but wildlife conservation and ecological values were elevated in NFMA.¹³⁹ In contrast to earlier statutes, NFMA “requires Forest Service Planners to treat the wildlife resource as a controlling, co-equal factor in forest management and, in particular, as a substantive limitation on timber production.”¹⁴⁰ These requirements are accomplished through comprehensive planning and periodic plan revisions for all national forest units.¹⁴¹

¹³³ *Id.* at 41.

¹³⁴ 16 U.S.C. §§ 1601 *et seq.* Clear-cutting was enjoined by *West Virginia Div. of Izaak Walton League of America, Inc. v. Butz*, 367 F. Supp. 422 (N.D. W. Va. 1973), *aff’d*, 522 F.2d 945 (4th Cir. 1975) (*Monongahela*), under the Organic Act of 1897, 16 U.S.C. § 476, which authorized the sale of “dead, matured, or large growth of trees” and required timber to be marked prior to being sold. These provisions were rescinded by NFMA.

¹³⁵ 16 U.S.C. §§ 1601-1602.

¹³⁶ Kaiser & Hardt, *supra* note 122, at 850.

¹³⁷ Robert & Fischman, Christine A. Klein, Daniel J. Rohlf, & Sandra B. Zellmer, *Federal Public Lands Policy and the Climate Crisis*, in CLIMATE, ENERGY, AND JUSTICE: THE POLICY PATH TO A JUST TRANSITION FOR AN ENERGY-HUNGRY AMERICA (2020), <https://cpr-assets.s3.amazonaws.com/documents/Climate-Energy-Justice-Oct2020.pdf#page=37>.

¹³⁸ *Id.* (citing 16 U.S.C. § 1604(d)).

¹³⁹ Sandra Zellmer, Sarah Bates, & Jonah Brown, *Restoring Beavers to Enhance Ecological Integrity in National Forest Planning*, 33 NAT. RESOURCES & ENV’T, Winter 2019, at 43, 43–45.

¹⁴⁰ Wilkinson & Anderson, *supra* note 89, at 173 (citing 16 U.S.C. § 1604(g)(3)(B)).

¹⁴¹ Zellmer, Bates, & Brown, *supra* note 139, at 44.

In addition to its provision for wildlife and plant diversity,¹⁴² NFMA includes several other provisions relevant to healthy watersheds, ecological integrity, and climate sustainability, all of which may be utilized to promote the conservation values of the 30 by 30 Initiative.¹⁴³ As noted above, the focus on watersheds and forest protection goes back to the Organic Act of 1897,¹⁴⁴ and forest management has been guided by a congressionally mandated sustainability principle since 1960.¹⁴⁵

As for climate, remarkably, NFMA is the only federal public lands statute that explicitly addresses climate change.¹⁴⁶ The 1990 amendments require the Forest Service to analyze “the potential effects of global climate change on the condition of renewable resources on the forests and rangelands of the United States,”¹⁴⁷ and to “account for the effects of global climate change on forest and rangeland conditions, including potential effects on the geographic ranges of species, and on forest and rangeland products.”¹⁴⁸

Despite the latter provisions, the extent to which the analysis of climate change effects has had a direct impact on management decisions is unclear.¹⁴⁹ However, since 1990, the Forest Service has engaged in two noteworthy landscape-scale conservation initiatives that serve to mitigate the effects of climate change on biodiversity and on watersheds. First, in 1994, the agency, along with the BLM, adopted the Northwest Forest Plan to conserve imperiled northern spotted owls, salmon, and other species on 24 million acres of federal lands by prohibiting intensive logging and by protecting and restoring area watersheds.¹⁵⁰ The Northwest Forest Plan deserves landmark status as the first major federal ecosystem management plan and also because of its successes in

¹⁴² 16 U.S.C. § 1604(g)(3)(b).

¹⁴³ 16 U.S.C. § 1604(e)(1), (g)(3)(a), (g)(3)(e)(i), (g)(3)(F)(v).

¹⁴⁴ 16 U.S.C. § 475; *supra* notes 104-105 and accompanying text.

¹⁴⁵ 16 U.S.C. § 529. NFMA re-affirmed a commitment to “sustained yield” as the “achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the national forests without impairment of the productivity of the land.” *Id.*

¹⁴⁶ Jessica Wentz, *Planning for the Effects of Climate Change on Natural Resources*, 47 ENVTL. L. REP. NEWS & ANALYSIS 10220, 10244 (2017).

¹⁴⁷ 16 U.S.C. § 1601(a)(4). The Forest Service must also seek “rural and urban forestry opportunities to mitigate the buildup of atmospheric carbon dioxide and reduce the risk of global climate change.” *Id.* § 1601(a)(6).

¹⁴⁸ *Id.* § 1602(5)(F).

¹⁴⁹ Wentz, *supra* note 146, at 10231. *See id.* at 10233 (reporting that few of the planning documents reviewed by the Sabin Center for Climate Change Law “contained a detailed analysis of how climate change may affect resource yields and what should be done to address those impacts”). *See, e.g.,* High Country Conservation Advoc. v. U.S. Forest Serv., 52 F. Supp. 2d 1174, 1191 (D. Colo. 2014) (finding that an environmental impact statement that authorized mining exploration activities in a roadless area inadequately disclosed the effects of GHG emissions, and rejecting argument that new technology might reduce emissions from future coal combustion). For details on methodologies for quantifying the effects of GHGs, see Anthony R. Raduazo, *The CO₂ Monetization Gap: Integrating the Social Cost of Carbon into NEPA*, 118 COLUM. L. REV. 605, 620 (2018).

¹⁵⁰ *See* Sandra Zellmer, *A Preservation Paradox: Political Prestidigitation and an Enduring Resource of Wilderness*, 34 ENV'T L. 1015, 1073 (2004) (describing the Plan, which amended individual plans for 19 forests and seven BLM districts).

preventing destruction of old growth forests and aquatic ecosystems.¹⁵¹ Perhaps buoyed by its experiences with the Northwest Forest Plan, in 2001, the Forest Service issued a rule prohibiting road construction on 58 million acres of National Forest lands in order to “protect the social and ecological values and characteristics of inventoried roadless areas,” including high quality air, water, and soils, and habitat for wildlife and fish species.¹⁵² In light of its immense scope, and the range of activities that are not possible without roads, the roadless rule has been characterized as the “most significant land conservation initiative in nearly a century.”¹⁵³ The courts upheld the Forest Service’s authority to adopt both the Northwest Forest Plan¹⁵⁴ and the roadless conservation rule.¹⁵⁵

While neither the Northwest Forest Plan nor the roadless rule were aimed directly at climate mitigation or adaptation, on Earth Day 2022, President Biden issued an executive order specific to climate-resilient forest management. Executive Order No. 14072 directs the Secretaries of Agriculture and Interior to conduct inventories of mature and old-growth forests on the lands they manage and to “coordinate conservation and wildfire risk reduction activities, including consideration of climate-smart stewardship of [those] forests.”¹⁵⁶ The order also directs the Secretaries to “develop policies . . . to institutionalize climate-smart management and conservation strategies that address threats to mature and old-growth forests on Federal lands.”¹⁵⁷ This order complements President Biden’s 30 by 30 executive order; some of the efforts undertaken to conserve thirty percent of our lands and waters may also address threats to mature and old-growth federal forests.

One final set of statutory provisions warrants discussion here. The Healthy Forest Restoration Act (HFRA) of 2003 is intended to establish a comprehensive wildfire policy for the federal public lands.¹⁵⁸ Its purpose is “to reduce wildfire risk to communities, municipal water supplies, and other

¹⁵¹ Robert B. Keiter, *Breaking Faith with Nature: The Bush Administration and Public Land Policy*, 27 J. LAND RESOURCES & ENV’T L. 195, 225 (2007) (citing Jack Ward Thomas *et al.*, *The Northwest Forest Plan: Origins, Components, Implementation Experience, and Suggestions for Change*, 20 CONS. BIO. 277, 283 (2006)). Some argue that the Plan has been less effective at “promoting active restoration and adaptive management.” *Id.*

¹⁵² Roadless Area Conservation Rule, 66 Fed. Reg. 3245 (Jan. 12, 2001) (codified at 36 C.F.R. pt 294). At 58 million acres, the Roadless Rule envelopes one-third of the National Forest System.

¹⁵³ Zellmer, *Preservation Paradox*, *supra* note 150, at 1065. See also Robert L. Glicksman, *Traveling in Opposite Directions: Roadless Area Management Under the Clinton and Bush Administrations*, 34 ENV’T L. 1143 (2004).

¹⁵⁴ *Seattle Audubon Soc’y v. Lyons*, 871 F. Supp. 1291, 1325 (W.D. Wash. 1994), *aff’d*, 80 F.3d 1401 (9th Cir. 1996). See also *Seattle Audubon Soc’y v. Moseley*, 798 F. Supp. 1484, 1488 (W.D. Wash. 1992), *aff’d*, 998 F.2d 699 (9th Cir. 1993) (finding that the Forest Service has a duty to “plan[] for the entire biological community”).

¹⁵⁵ Robert L. Glicksman, *Wilderness Management by the Multiple Use Agencies: What Makes the Forest Service and the Bureau of Land Management Different?*, 44 ENV’T L. 447, 477 (2014) (citing *Wyo. v. U.S. Dep’t of Agric.*, 661 F.3d 1209, 1220 (10th Cir. 2011)).

¹⁵⁶ Exec. Order No. 14072, § 2(b), (c)(1), *Strengthening the Nation’s Forests, Communities, and Local Economies*, 87 Fed. Reg. 24851 (Apr. 22, 2022).

¹⁵⁷ *Id.* § 2(c)(iii).

¹⁵⁸ 16 U.S.C. §§ 6501-6591. See Steven Luther “Luke” Spencer II, Maj, USAF, *More Than a Rake: Toward a Statutory Solution for Wildfire Threats to Department of Defense Installations*, 62 NAT. RESOURCES J.

at-risk Federal land through a collaborative process of planning, prioritizing, and implementing hazardous fuel reduction projects.”¹⁵⁹ A controversial portion of the HFRA streamlined NEPA’s application to fuel-reduction projects, such as prescribed fire and mechanical treatments, on public lands that are at risk of wildfires due to disease, insect infestations, wind throw, blowdown, or ice-storm damage.¹⁶⁰ Moreover, in the WUI, the Forest Service is authorized to analyze the proposed project and only one other alternative.¹⁶¹ A more widely accepted amendment to the HFRA added the “good neighbor authority,” which permits the USFS and BLM to enter into cooperative agreements with states and local governments to perform forest, rangeland, and watershed restoration services on at-risk lands, plus “any other activities to restore or improve forest, rangeland, and watershed health, including fish and wildlife habitat.”¹⁶² Other provisions of the HFRA promote collaboration by providing priority funding to thin forests near communities that have adopted a Community Wildfire Protection Plan.¹⁶³

Although NFMA and subsequent amendments include fairly sophisticated sustainability requirements, including those related to climate resilience and biodiversity, the statutory framework still leaves a great deal to agency discretion.¹⁶⁴ The next section considers existing statutory and regulatory provisions that could be deployed to promote 30 by 30 goals.

C. Utilizing Existing Tools to Promote 30 by 30 Goals

NFMA added an essential tool for accomplishing forest management objectives: land and resource management plans (forest plans).¹⁶⁵ To implement its planning provisions, NFMA requires the Secretary to issue regulations for the development and revision of forest plans.¹⁶⁶ The regulations must specify management guidelines to achieve statutory goals. Importantly, logging may be authorized only where it is physically suitable for watershed conditions, soils, and slopes.¹⁶⁷

79, 103 (2022); Jeremy Martin, *Active Forest Management and the “New Normal”*: Advocating for an Integrative Wildfire Management Policy, 46 OHIO N.U. L. REV. 137, 142 (2018); Robert B. Keiter, *The Law of Fire: Reshaping Public Policy in an Era of Ecology and Litigation*, 36 ENV’T L. 301, 344 (2006).

¹⁵⁹ 16 U.S.C. § 6501(1).

¹⁶⁰ *Id.* §§ 6512-16; The Healthy Forests Interim Field Guide (2004), <https://www.fs.fed.us/projects/hfi/field-guide/web/index.php>.

¹⁶¹ 16 U.S.C. § 6514(d)(1). See Rachael E. Salcido, *Rationing Environmental Law in A Time of Climate Change*, 46 LOY. U. CHI. L.J. 617, 652 (2015) (concluding that, “[a]lthough only limited environmental review is conducted, the main components of transparency and public input are maintained”); *Defenders of Wildlife v. Salazar*, 842 F. Supp. 2d 181, 186 (D.D.C. 2012) (stating that streamlining NEPA had been beneficial to wildfire-related projects).

¹⁶² 16 U.S.C. § 2113a. Similarly, the Tribal Forest Protection Act authorizes tribes to enter into agreements with the Forest Service and BLM to reduce threats to their lands and resources posed by fire on federal land. Pub. L. No. 108-278, § 2(c), 118 Stat. 868 (July 22, 2004).

¹⁶³ Salcido, *supra* note 161, at 652.

¹⁶⁴ Wentz, *supra* note 146, at 10231; Oliver A. Houck, *On the Law of Biodiversity and Ecosystem Management*, 81 MINN. L. REV. 869, 933 (1997).

¹⁶⁵ 16 U.S.C. § 1604(g). See Michael C. Blumm & Sherry L. Bosse, *Norton v. SUWA and the Unraveling of Federal Public Land Planning*, 18 Duke Env’t L. & Pol’y F. 105, 108 (2007) (“Congress intended public planning to be the fulcrum of FLPMA and NFMA.”).

¹⁶⁶ 16 U.S.C. § 1604(g).

¹⁶⁷ *Id.* § 1604(g)(3)(E).

Moreover, forest plans must “provide for diversity of plant and animal communities to meet overall multiple-use objectives.”¹⁶⁸

To satisfy NFMA’s diversity provision, section 219.19 of the initial set of planning regulations, issued in 1982, stated that “fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area.”¹⁶⁹ This viability requirement was one of the most frequently litigated elements of the 1982 planning regulations.¹⁷⁰

The Forest Service turned to landscape-scale ecosystem management as a means of accomplishing the viability requirement of section 219.19 and, more broadly, ecological integrity and resilience.¹⁷¹ For management purposes, ecosystems may be identified at a variety of geographic scales, from watersheds to entire continents, but the key concept involves not just a single species, but “a community of organisms, interacting with one another, plus the environment in which they live and with which they also interact.”¹⁷² Because ecosystems transcend political boundaries, ecosystem management requires coordination and cooperation among landowners and governments.¹⁷³ In rejecting a challenge to the Northwest Forest Plan, a federal judge found that, “Given the current [degraded] condition of the forests, there is no way the agencies could comply with the environmental laws *without* planning on an ecosystem basis.”¹⁷⁴

Although ecosystem management gained traction with the BLM and other federal agencies, section 219.19 never regained favor.¹⁷⁵ Due in large part to controversies over section 219.19, the Clinton

¹⁶⁸ *Id.* § 1604(g)(3)(B).

¹⁶⁹ 36 C.F.R. § 219.19 (1982).

¹⁷⁰ See Courtney A. Schultz et al., *Wildlife Conservation Planning Under the United States Forest Service’s 2012 Planning Rule*, 77 J. OF WILDLIFE MGMT. 428 (2013).

¹⁷¹ R. Edward Grumbine, *What is Ecosystem Management?*, 8 CONSERVATION BIOLOGY 27-38 (1994); Houck, *On the Law*, *supra* note 164, at 952-53. For discussion of landscape-scale initiatives, see *supra* notes 150-155.

¹⁷² Grumbine, *supra* note 171, at 28.

¹⁷³ See Robert L. Glicksman, *Ecosystem Resilience to Disruptions Linked to Global Climate Change: An Adaptive Approach to Federal Land Management*, 87 NEB. L. REV. 833, 865 (2009) (“[E]cosystem management requires cooperation among agencies and landowners whose activities affect the resources within those ecosystems”).

¹⁷⁴ *Seattle Audubon Soc’y v. Lyons*, 871 F. Supp. 1291, 1311 (W.D. Wash. 1994), *aff’d*, 80 F.3d 1401 (9th Cir. 1996) (emphasis supplied). For discussion, see *supra* notes 150-152.

¹⁷⁵ See Glicksman, *Ecosystem Resilience*, *supra* note 173, at 865; Schultz, *supra* note 170, at 428.

Administration proposed revisions to the planning regulations in 1999,¹⁷⁶ but they were retracted and reworked by the Bush Administration in 2005.¹⁷⁷

The Obama Administration issued the most recent planning regulations in 2012.¹⁷⁸ It considered but rejected retention of the mandate that habitat be managed to maintain viable populations of species in the planning area. The Forest Service believed that the viability regulation did not reflect current science. It took particular aim at the selection of management indicator species under the 1982 planning rules “to adequately represent all associated species that rely on similar habitat conditions” because it “is now largely unsupported in the scientific literature.”¹⁷⁹ It also noted that the inherent capability of the land may limit the agency’s ability to manage fish and wildlife habitat to insure that a species’ continued existence is well distributed in the planning area.¹⁸⁰ Instead, the 2012 regulations require planning officials to determine whether plan components designed to maintain or restore the integrity of ecosystems and watersheds provide the ecological conditions necessary to contribute to the maintenance of a viable population of each species of conservation concern within the plan area.¹⁸¹

Importantly, the 2012 Planning Rule calls for “land management plans that promote the ecological integrity of national forests . . . and diverse plant and animal communities,” with “the capacity to provide people and communities with ecosystem services and multiple uses that provide a range

¹⁷⁶ 65 Fed. Reg. 67514 (Nov. 9, 2000). The Clinton Administration also adopted a broad-sweeping, system-wide Roadless Rule, 66 Fed. Reg. 3244 (Jan. 12, 2001), which conserves 58.5 million acres of National Forest roadless areas from road-building and activities that require roads, such as timber harvesting. For details, see Daniel L. Timmons, *A Decade of Litigation over the Roadless Rule Finally Nearing the End*, 43 ENVTL. L. REP. NEWS & ANALYSIS 10542 (2013); Zellmer, *The Roadless Area Controversy*, *supra* note 100, § 21.04; Glicksman *Traveling in Opposite Directions*, *supra* note 153). Legislation introduced in the 117th Congress sought to codify the roadless rule. *See, e.g.*, S. 877, Roadless Area Conservation Act of 2021 (2021), <https://www.govtrack.us/congress/bills/117/s877/text>; H.R. 279, Roadless Area Conservation Act of 2021 (2021), <https://www.govtrack.us/congress/bills/117/hr279/text>.

¹⁷⁷ National Forest System Land Management Planning, 70 Fed. Reg. 1023 (Jan. 5, 2005). In *Citizens for Better Forestry v. U.S. Dep’t of Agric.*, 481 F. Supp. 2d 1059 (N.D. Cal. 2007), the court invalidated the regulations, finding violations of both NEPA and the Endangered Species Act (ESA). The Forest Service next adopted regulations in 2008 that were nearly identical to the invalidated 2005 regulations. National Forest System Land Management Planning 73 Fed. Reg. 21468 (Apr. 21, 2008). *See* 2 COGGINS & GLICKSMAN, *supra* note 126, § 16:29. The same court that struck down the 2005 regulations also invalidated the 2008 regulations, concluding that the Forest Service failed to cure either the NEPA or ESA violations. *Citizens for Better Forestry v. U.S. Dep’t of Agric.*, 632 F. Supp. 2d 968 (N.D. Cal. 2007).

¹⁷⁸ 77 Fed. Reg. 21162 (Apr. 9, 2012) (codified at 36 C.F.R. Part 219).

¹⁷⁹ *Id.* *See also id.* at 21215 (finding that threatened and endangered species “may not be viable or have a viable population at this time, and in many cases may rely on lands and conditions outside NFS boundaries and beyond Agency control”).

¹⁸⁰ *Id.*

¹⁸¹ *Id.* at 21265 (codified at 36 C.F.R. § 219.9(b)(1)). The Rule specifies that plans must “provide the ecological conditions (habitat) necessary to keep common native species, contribute to the recovery of threatened and endangered species, conserve proposed and candidate species, and maintain a viable populations [sic] of each species of conservation concern within the plan area.” USDA Forest Service, *FAQs on 2012 Planning Rule*, www.fs.usda.gov/detail/planningrule/faqs.

of social, economic, and ecological benefits for the present and into the future.”¹⁸² Forest plans must also include components that take into account the “interdependence of terrestrial and aquatic ecosystems.”¹⁸³ This provision informs and strengthens other provisions of the Rule, including its requirements “to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area.”¹⁸⁴

According to Professor Martin Nie, while the 2012 Planning Rule is consistent with the core laws governing the national forests, “the Rule also signaled a potential shift in the way national forests are to be managed.”¹⁸⁵ He explains:

At their core, newly revised forest plans are to be more adaptive, science-based, and developed with a stronger level of public involvement. They also are to consider climate change, landscape-scale restoration, and ecosystem services, among other values that are to be more formally integrated into a more efficient and responsive planning framework.¹⁸⁶

The 2012 regulations are being implemented through forest plan revisions, which must occur every 15 years or so.¹⁸⁷ It is a fair guess that, under the 2012 planning rule, the next generation of forest plans will be more science-based and climate-resilient. Management for maximum timber production appears to be yielding to other considerations, such as watershed and habitat protection, carbon storage, atmospheric cycling of CO₂, wildfire, and drought.¹⁸⁸

At present, many national forest units are undergoing revisions. This process gives the public an opportunity to influence future forest management and it gives the Forest Service an opportunity—and an obligation—to adopt plan provisions that incorporate the ecological integrity requirements of the 2012 regulations.¹⁸⁹ All future decisions, including permits, licenses, and contracts, must be consistent with the plans.¹⁹⁰

¹⁸² 36 C.F.R. § 219.1(c). Ecological integrity encompasses structure, function, and connectivity “within the natural range of variation” that “can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence.” *Id.* § 219.19.

¹⁸³ *Id.* § 219.8(a)(1)(i).

¹⁸⁴ *Id.* § 219.8(a)(1). *See Wild Virginia v. U.S. Forest Serv.*, 24 F.4th 915, 931 (4th Cir. 2022) (holding that the Forest Service did not sufficiently consider a pipeline’s sediment and erosion impacts and that the amendments to the Jefferson Forest Plan may not “maintain” soil and riparian resources as required by § 219.8).

¹⁸⁵ Martin Nie, *The Forest Service’s 2012 Planning Rule and its Implementation: Federal Advisory Committee Member Perspectives*, 117 J. OF FORESTRY 65, 66 (2018).

¹⁸⁶ *Id.*

¹⁸⁷ 16 U.S.C. § 1604(f)(5). Existing plans are still governed by the 1982 regulations. *See* 81 Fed. Reg. 90723 (Dec. 15, 2016).

¹⁸⁸ Jamison E. Colburn, *Composition Over Division: The Statutes of the National Forest System*, 11 MICH. J. ENV’T & ADMIN. L. 125, 134 (2021).

¹⁸⁹ Zellmer, Bates, & Brown, *supra* note 139, at 44.

¹⁹⁰ 16 U.S.C. § 1604(i). In practice, the Forest Service frequently issues discrete plan amendments to authorize projects that would otherwise be inconsistent with an existing forest plan, with mixed results in court. *Compare* Cowpasture River Pres. Ass’n v. Forest Serv., 911 F.3d 150 (4th Cir. 2018) (finding that amendments that lessened a plan’s protections for soils, riparian areas, and imperiled species violated NFMA, where the amendment’s entire purpose was to weaken existing standards that a pipeline developer

Although these provisions strengthen the Forest Service’s ability to meet 30 by 30 objectives, two constraints hinder the efficacy of NFMA and the 2012 regulations. First, forest planning has fallen badly behind schedule. As of 2018, only a handful of revisions had been completed under the 2012 Rule, and 54 of the nation’s 130 forest plans were overdue for revision.¹⁹¹ In light of catastrophic wildfires, continuing habitat loss, and climate instability, it seems clear that “chronic delay hampers effective resource management.”¹⁹² Congress could stimulate the effort to modernize forest planning by providing sufficient funding for plan revisions and by imposing legally enforceable deadlines.¹⁹³

The second major constraint involves the enforceability—or lack thereof—of forest plans. The best of plans may be worth very little if they are not enforceable.¹⁹⁴ This issue is common to both the Forest Service and the BLM; however, the immensity of this issue takes it beyond the scope of this article.¹⁹⁵

V. The Federal Land Policy and Management Act

This Part begins with a brief history of conservation efforts in managing the public lands. Section B recounts the events that prompted codification of the multiple use mandate for the public lands. Section C addresses the recurring shifts in managing the public lands in response to climate change that corresponded to changes in presidential administration. This Part concludes with analysis of

could not meet), *rev'd on other grounds*, 140 S. Ct. 1837 (2020); *All. for the Wild Rockies v. Marten*, No. CV 20-179-M-DWM, 2021 WL 5881745 (D. Mont. Dec. 13, 2021) (rejecting the use of site-specific plan amendments to avoid complying with existing standards) *with* *Native Ecosystems Council v. Erickson*, 804 F. App’x 651, 656 (9th Cir. 2020) (affirming an amendment which altered the plan’s elk hiding-cover standard as supported by best available science); *Cascade Forest Conservancy v. U.S. Forest Serv.*, No. 3:21-CV-5202-RJB, 2021 WL 6062629 (W.D. Wash. Dec. 22, 2021) (upholding a project-specific amendment to permit variance from the plan’s visual quality objective).

¹⁹¹ USFS, Status of Forest Service Land Management Plans, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd593201.pdf.

¹⁹² Ryan P. Kelly & Margaret R. Caldwell, *“Not Supported by Current Science”: The National Forest Management Act and the Lessons of Environmental Monitoring for the Future of Public Resources Management*, 32 STAN. ENV’T L.J. 151, 168–69 (2013); Colburn, *supra* note 188, at 179. *See supra* note 190 (flagging the agency’s practice of issuing discrete amendments to authorize projects under existing plans, instead of revising the plans to reflect current conditions and science).

¹⁹³ *See* Colburn, *supra* note 188, at 127-128 (noting that in 2020, Congress spent \$8 billion on the Forest Service, but nearly \$5 billion was on fire management). While § 1604(g)(5)(A) is written as a “hard” deadline, it is honored more often in the breach. *See, e.g.,* *Montanans for Multiple Use v. Barbouletos*, 568 F.3d 225, 228 (D.C. Cir. 2009) (dismissing a missed deadline claim); *Habitat Educ. Ctr., Inc. v. Bosworth*, 363 F. Supp. 2d 1090, 1106 (E.D. Wis. 2005) (allowing site-specific projects to proceed under an outdated plan).

¹⁹⁴ Blumm & Bosse, *supra* note 165, at 159. *See* Lauren M. Rule, *Note, Enforcing Ecosystem Management Under the Northwest Forest Plan: The Judicial Role*, 12 FORDHAM ENV’T L.J. 211, 249-52 (2000) (demonstrating how judicial enforcement was necessary to prevent agencies from sidestepping commitments made under the Northwest Forest Plan).

¹⁹⁵ For insightful commentary, *see* Blumm & Bosse, *supra* note 165, at 159-60; Oliver A. Houck, *This Land Is Your Land: The Dark Canon of the United States Supreme Court in Natural Resources Law*, 62 NAT. RES. J. 1, 23 (2022).

six mechanisms under the agency's organic statute that hold great promise in allowing the BLM to contribute effectively to the 30 by 30 Initiative.

A. "Conservation" in Early Management of the Public Lands

Congress did not enact the BLM's organic statute, the Federal Land Policy and Management Act (FLPMA), until 1976.¹⁹⁶ By the beginning of the 20th century, long before FLPMA's enactment, homesteading of the public domain had slowed to a crawl.¹⁹⁷ What remained of the public domain was devoted primarily to livestock grazing.¹⁹⁸ For many years, the Department of the Interior lacked both the authority to limit damage to the public lands resulting from overgrazing and, typically, the interest in doing so.¹⁹⁹ Indeed, unrestricted access to grazing resources typified Garrett Hardin's *Tragedy of the Commons*.²⁰⁰

Congress responded by adopting the Taylor Grazing Act in 1934,²⁰¹ whose goals were improvement of range condition and stabilization of the livestock industry in the West.²⁰² The Act authorized the Interior Secretary to withdraw public lands from homestead entry and establish grazing districts in areas of the public domain that had not been withdrawn for other purposes such as national parks, national forests, national monuments, or Indian reservations and that were "chiefly valuable for grazing and raising forage crops."²⁰³ It also established district advisory boards to provide advice on agency management decisions and created a system of leasing that afforded a preference for adjacent landowners or owners of water rights.²⁰⁴

The Taylor Grazing Act sought to prevent soil deterioration,²⁰⁵ perhaps anticipating later congressional efforts to protect watershed values. But as Professor George Coggins recognized, "[e]ven though its major purpose is range improvement, the Taylor Act is a grazing law, not an 'environmental' statute. . . . Congress intended the main public land use to be domestic livestock grazing."²⁰⁶ Perhaps as a result, federal efforts to improve rangeland conditions, were "feeble."²⁰⁷ Coggins labeled the BLM, which administered the Taylor Grazing Act after its creation in 1946,²⁰⁸

¹⁹⁶ Pub. L. No. 94-579, 90 Stat. 2744 (1976) (codified at 43 U.S.C. §§ 1701-1787).

¹⁹⁷ For discussion of agrarian and ranch homesteading before 1934, see George Cameron Coggins & Margaret Lindberg-Johnson, *The Law of Public Rangeland Management II: The Commons and the Taylor Act*, 13 ENV'T L. 1, 16-22 (1982).

¹⁹⁸ 1 COGGINS & GLICKSMAN, *supra* note 126, § 2:14.

¹⁹⁹ Coggins & Lindberg-Johnson, *supra* note 197, at 23. The authors assert that "[t]he Stock-Raising Homestead Act of 1916, a last desperate attempt at federal divestiture, did not stem public land deterioration." *Id.* at 40 (citing 43 U.S.C. §§ 291-301 (repealed 1976)).

²⁰⁰ *Id.* at 31 (citing Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968)).

²⁰¹ 48 Stat. 1269 (1934) (codified at 43 U.S.C. §§ 315-315r).

²⁰² Coggins & Lindberg-Johnson, *supra* note 197, at 48 (citing Act of June 28, 1934, Pub. L. No. 482, ch. 865, 48 Stat. 1269).

²⁰³ 43 U.S.C. § 315; Coggins & Lindberg-Johnson, *supra* note 197, at 48.

²⁰⁴ 43 U.S.C. § 315b.

²⁰⁵ *Id.* § 315a.

²⁰⁶ Coggins & Lindberg-Johnson, *supra* note 197, at 51.

²⁰⁷ *Id.* at 89.

²⁰⁸ The BLM was established by President Harry Truman's Reorganization Plan No. 3 of 1946, § 403, 11 Fed. Reg. 7875 (July 20, 1946) (codified at 5 C.F.R. Appendix),

“a comparative laggard in developing the preservation resource.”²⁰⁹ For example, he noted that “it took relatively few steps” toward preservation of wilderness on the public lands between the adoption of the Taylor Grazing Act in 1934 and FLPMA’s enactment in 1976.²¹⁰

B. Codification of Multiple Use Management

The run-up to the adoption of FLPMA included the passage of the Classification and Multiple Use Act²¹¹ in 1964, which authorized multiple use management and established a goal of “preservation of public values,”²¹² and the publication in 1970 of the Public Land Law Review Commission (PLLRC)’s iconic report, *One-Third of the Nation’s Land*.²¹³ Among the Commission’s many recommendations was a commitment to “[p]roviding responsible stewardship of the public lands and their resources,” as the Commission stated that “[e]nvironmental values must be protected as major elements of public land policy.”²¹⁴ In particular, the Commission recommended investment of funds “under statutory guidelines in deteriorated public grazing lands retained in Federal ownership to protect them against further deterioration and to rehabilitate them where possible.”²¹⁵ It also urged exclusion of domestic livestock grazing “from frail lands where necessary to protect and conserve the natural environment.”²¹⁶

Congress responded by adopting both FLPMA and NFMA in 1976. While “[t]he PLLRC recommendations were not adopted bodily by Congress[,] . . . FLPMA generally reflects the recommendations emphasizing resource protection.”²¹⁷ Notably, while Congress directed the BLM to apply multiple use and sustained yield principles in managing the public lands, it enunciated a policy that:

the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and

<https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title5a-node84-leaf93&num=0&edition=prelim>. See 43 U.S.C. § 1731(a). The Plan transferred the functions of the Interior Department’s General Land Office and Grazing Service to the newly created BLM and abolished those and several other agencies and officers. Reorganization Plan No. 3 of 1946, *supra*, § 403(a), (d).

²⁰⁹ Coggins & Lindberg-Johnson, *supra* note 197 at 97.

²¹⁰ *Id.* at 97-98. The Wilderness Act was passed in 1964, 16 U.S.C. §§ 1131-1136, but the Forest Service had managed some lands as wilderness prior to that date.

²¹¹ 43 U.S.C. 1411-1418 (expired 1970).

²¹² Coggins & Lindberg-Johnson, *supra* note 197, at 99 (citing 43 U.S.C. § 1411 (expired 1970)).

²¹³ ONE-THIRD OF THE NATION’S LAND, *supra* note 5.

²¹⁴ *Id.* at 7; see also *id.* at 10 (“Environmental quality should be recognized by law as an important objective of public land management, and public policy should be designed to enhance and maintain a high quality environment both on and off the public lands.”).

²¹⁵ *Id.* at 11. The Commission found that, notwithstanding passage of the Taylor Grazing Act, “[t]here are still areas of land administered by the [BLM] and some managed by the Forest Service that are in a deteriorated condition. The deterioration of such areas is not easily abated.” *Id.* at 106.

²¹⁶ *Id.* at 108.

²¹⁷ Coggins & Lindberg-Johnson, *supra* note 197, at 100.

domestic animals; and that will provide for outdoor recreation and human occupancy and use.²¹⁸

FLPMA's multiple use mandate authorizes, and may require, management actions that conform to this policy. FLPMA defines multiple use to mean management that reflects "periodic adjustments in use to conform to changing needs and conditions,"²¹⁹ acknowledging the need for the BLM to alter its management approaches in the face of phenomena such as climate change. Multiple use also means management that entails balanced uses that account for "the long-term needs of future generations for renewable and nonrenewable resources,"²²⁰ including but not limited to . . . watershed,²²¹ wildlife and fish, and natural, scientific and historic values."²²²

Various FLPMA provisions authorize or require the BLM to protect natural resources in ways that may be consistent with the 30 by 30 Initiative. Land use plans must "give priority to the designation and protection of areas of critical environmental concern"²²³ and provide for compliance with federal and state pollution control laws.²²⁴ FLPMA authorizes the BLM to initiate withdrawals of public lands tracts from one or more uses, including extractive uses with natural resource-damaging potential.²²⁵ It gives the Interior Secretary the authority to engage in land exchanges, but only if doing so is in "the public interest," which requires consideration of the degree to which the lands involved are needed for fish and wildlife.²²⁶

Finally, and perhaps most significantly, FLPMA dictates that, in managing the public lands, the BLM "shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the [public] lands."²²⁷ That mandate extends beyond authorizing protective actions; it may require actions consistent with the goals of the 30 by 30 Initiative, although it vests considerable discretion in the BLM to determine the nature of those actions.²²⁸

²¹⁸ 43 U.S.C. § 1701(a)(8).

²¹⁹ *Id.* This component of the definition is consistent with the use of adaptive management techniques. See generally Robert L. Glicksman & Jarryd Page, *Adaptive Management and NEPA: How to Reconcile Predictive Assessment in the Face of Uncertainty with Natural Resource Management Flexibility and Success*, 46 HARV. ENV'T L. REV. 121 (2022).

²²⁰ NEPA includes a similar provision. See 42 U.S.C. § 4322(2)(C)(iv).

²²¹ For further discussion of the significance of the watershed resource for promoting 30 by 30 conservation goals, see *infra* Parts V.D.5 and VII.

²²² 43 U.S.C. § 1702(c).

²²³ *Id.* § 1712(c)(3). For further discussion of these areas, see *infra* Part V.D.1. FLPMA also "gave BLM an express preservation mission for the first time by requiring a wilderness inventory of all public lands and the creation of wilderness study areas where certain criteria were met." Paul Smyth, *Conservation and Preservation of Federal Public Resources: A Brief History*, GPSOLO, Sept. 2003, at 39.

²²⁴ 43 U.S.C. § 1712(c)(8).

²²⁵ *Id.* § 1714. The statute defines a withdrawal, in part, as "withholding an area of Federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program"). *Id.* § 1702(j).

²²⁶ *Id.* § 1716(a). For further discussion of how the Secretary might rely on this authority in pursuing 30 by 30 goals, see *infra* notes 331-332 and accompanying text.

²²⁷ *Id.* § 1732(b).

²²⁸ See *infra* notes 304-307 and accompanying text.

C. Climate Change and Management of the Public Lands

Despite FLPMA's recognition of the importance of devoting the public lands to uses that extend beyond resource extraction and consumption, the BLM has not always lived up to the expectations reflected in FLPMA's management decrees. Shortly after FLPMA's adoption, Cecil Andrus, President Jimmy Carter's Interior Secretary, reportedly described the BLM's acronym as standing for The Bureau of Livestock and Mining.²²⁹

Over time, the BLM broadened its constituency to include recreational users and conservation advocates.²³⁰ President Clinton's Interior Secretary, Bruce Babbitt, was determined to infuse a greater conservation ethic into the agency, remarking:

My hope is that, by endowing the BLM with a high-profile conservation mission, the old bureaucratic mule will awaken to a new future as environmental steward right up there with the National Park Service and the National Wildlife Refuge System. The day is coming, I believe, when the BLM, so often stereotyped and dismissed as the Bureau of Livestock and Mining, will be better known as the Bureau of Landscapes and Monuments.²³¹

In 1995, during Secretary Babbitt's stewardship of the public lands, the BLM adopted regulations called Fundamentals of Rangeland Health and Standards for Grazing Administration.²³² The agency's goals included "promot[ing] healthy sustainable rangeland ecosystems" and "accelerat[ing] restoration and improvement of public rangelands to properly functioning conditions."²³³ One observer summarized the new rangeland management regime as one that was

²²⁹ Debra L. Donahue, *Western Grazing: The Capture of Grass, Ground, and Government*, 35 ENV'T L. 721, 774 n.387 (2005); see also Mark Squillace, *The Monumental Legacy of the Antiquities Act of 1906*, 37 GA. L. REV. 473, 545 (2003); Paul Smyth, *Conservation and Preservation of Federal Public Resources: A History*, 17 NAT. RESOURCES & ENV'T, Fall 2002, at 77, 112. Professor Zyg Plater has referred to this as "the BLM's chronic jest name." Zygmunt J.B. Plater, *From the Beginning, A Fundamental Shift of Paradigms: A Theory and Short History of Environmental Law*, 27 LOYOLA L.A. L. REV. 981, 996 (1994). The name reflected the BLM's "traditional proclivity to manage its public lands for the private benefit of miners and ranchers." Charles E. Little, *Redeeming the Geography of Hope*, 43 NAT. RESOURCES J. 1, 3 (2003).

²³⁰ Kevin Hayes, *History and Future of the Conflict over Wilderness Designations of BLM Land in Utah*, 16 J. ENV'T L. & LITIG. 203, 209 n.34 (2001); see also Glicksman, *Wilderness Management by the Multiple Use Agencies*, *supra* note 155 at 468–69 (footnote omitted) (quoting Jan G. Laitos & Thomas A. Carr, *The Transformation on Public Lands*, 26 ECOLOGY L.Q. 140, 180 (1999)) (describing a shift from exploitive use due to increasing citizen pressure to devote public lands to non-commodity uses).

²³¹ Raymond B. Wrabley, Jr., *Going with the Flow? Public Lands and Private Property Along the Red River*, 33 J. LAND USE & ENV'T L. 379, 406 (2018).

²³² Department Hearings and Appeals Procedures; Cooperative Relations; Grazing Administration—Exclusive of Alaska, 60 Fed. Reg. 9894 (Feb. 22, 1995).

²³³ 43 C.F.R. § 4100.0-2.

“intended to ensure specified ecosystem features will not be degraded by livestock grazing. These new provisions reflect BLM’s evolving commitment to ecosystem management.”²³⁴

The BLM’s management of the national monuments placed under its jurisdiction also reflected a philosophy that was more amenable to conservation than had traditionally been the case.²³⁵ The BLM’s enhanced role in national monument administration began during the Clinton Administration.²³⁶ President Clinton put the BLM in charge of managing the Grand Staircase-Escalante National Monument, representing the first time the BLM had assumed that role.²³⁷ President Obama delegated partial responsibility to manage the Bears Ears National Monument to the BLM as part of the National Landscape Conservation System.²³⁸

Further evidence of the BLM’s shift in management philosophy to one that was more conducive to conservation was the adoption of comprehensive amendments to the agency’s FLPMA planning rules during the Obama administration.²³⁹ The BLM declared that one of its goals in adopting the 2016 planning rules was to improve its ability to apply landscape-scale approaches to resource management,²⁴⁰ an approach which is critically important to effective responses to ecological threats such as climate change.²⁴¹ The rules required planners, for example, to “consider the impacts of resource management plans on resource, environmental, ecological, social, and economic conditions at relevant scales,”²⁴² making it clear that planners could not simply accommodate the mix of uses that would maximize the value of commodities extracted from the public lands.²⁴³ The preamble to the rules stated that “the proliferation of landscape-scale environmental change agents such as climate change, wildfire, and invasive species create

²³⁴ Bruce M. Pendery, *Reforming Livestock Grazing on the Public Domain: Ecosystem Management-Based Standards and Guidelines Blaze a New Path for Range Management*, 27 ENV’T L. 513, 516 (1997). The Supreme Court largely upheld the regulations. *Pub. Lands Council v. Babbitt*, 529 U.S. 728 (2000).

²³⁵ See Squillace, *supra* note 299, at 544-49.

²³⁶ See Zellmer, *Preservation Paradox*, *supra* note 150, at 1037 (footnote omitted) (“Today, there is at least some evidence that BLM is becoming a more savvy and caring steward of the land and its resources. The impetus for a metamorphosis was provided by the Clinton Administration, which bestowed the agency with new responsibilities over national landscape monuments.”).

²³⁷ See Sanjay Ranchod, *The Clinton National Monuments: Protecting Ecosystems with the Antiquities Act*, 25 HARV. ENV’T L. REV. 535, 538 (2001) (footnote omitted) (characterizing Grand Staircase-Escalante as the first monument subject to BLM management, providing it with “significant environmental stewardship responsibilities”).

²³⁸ Daniel Franz, *The Subdelegation Doctrine as a Legal Tool for Establishing Tribal Co-management of Public Lands: Through the Lens of Bears Ears National Monument*, 32 COLO. NAT. RESOURCES, ENERGY & ENV’T L. REV. 1, 27 (2021). For further discussion of this System, see *infra* Part V.D.6 and accompanying text.

²³⁹ Resource Management Planning, 81 Fed. Reg. 89580 (Dec. 12, 2016). The rule was invalidated by a congressional joint resolution adopted under the Congressional Review Act. See *infra* note 248 and accompanying text.

²⁴⁰ *Id.* at 89585.

²⁴¹ 2 COGGINS & GLICKSMAN, *supra* note 126, § 16:21.

²⁴² 43 C.F.R. § 1601.0-8 (2017).

²⁴³ FLPMA requires as much, even if the BLM did not always abide by this mandate. See 43 U.S.C. § 1702(c) (defining multiple use as requiring that “consideration [be] given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output”).

challenges that require the BLM to develop new strategies and approaches to effectively manage the public lands.”²⁴⁴

The BLM’s receptivity to management to achieve conservation rather than purely commodity-driven goals has not been a steady march away from the agency’s historic approach, however. Instead, the agency has shifted its priorities in response to the policies of different presidential administrations, embracing a more conservation-oriented management focus under some administrations while restoring a near-exclusive emphasis on expansive grazing and mineral production activity under others. In some cases, the elimination or subordination of conservation as a legitimate agency priority was quite forthright. The Director of the BLM under the George W. Bush administration publicly remarked that “‘her mission’ was to transform the current ‘Bureau of Landscapes and Monuments’ into the ‘Bureau of Livestock and Mining’ of the good old days.”²⁴⁵

President Trump sharply scaled back the size of the Grand Staircase and Bears Ears National Monuments,²⁴⁶ giving the BLM more discretion to prioritize mining at the expense of conservation and preservation. President Biden later restored the two monuments to the boundaries that existed upon their creation.²⁴⁷ Early in the Trump administration, Congress resorted to the Congressional Review Act to repeal the Obama planning rule.²⁴⁸ The BLM immediately and eagerly implemented the repeal, declaring that the Obama rule “shall be treated as if it had never taken effect,” and reverting to the planning rules that the Obama BLM had replaced.²⁴⁹

The shifting fortunes of BLM efforts to address climate change and its implications for the public lands illustrate the degree to which the agency has been inconsistent in using its discretionary authority to manage for multiple uses to promote resource protection goals. In 2001, the Interior Department at the end of the Clinton Administration issued an order directing agencies within the Department to consider climate impacts in planning, priority-setting, and resource management.²⁵⁰ However, the federal government did not act with alacrity to address the threat to federal lands and resources posed by climate change.²⁵¹ That began to change in 2009, when Barack Obama issued an executive order establishing a task force to create an adaptation strategy and directing all federal agencies to develop vulnerability assessments and adaptation plans.²⁵² In 2013, he replaced the

²⁴⁴ Resource Management Planning, 81 Fed. Reg. 89,580, 89,583 (Dec. 12, 2016).

²⁴⁵ Donahue, *supra* note 229, at 774 n.387.

²⁴⁶ Presidential Proclamation No. 9682, Modifying the Grand Staircase-Escalante National Monument, 82 Fed. Reg. 58089 (Dec. 4, 2017); Presidential Proclamation No. 9681, Modifying the Bears Ears National Monument, 82 Fed. Reg. 58081 (Dec. 4, 2017).

²⁴⁷ A Proclamation on Grand Staircase-Escalante National Monument, 86 Fed. Reg. 57335 (Oct. 15, 2021); A Proclamation on Bears Ears National Monument, 86 Fed. Reg. 57321 (Oct. 15, 2021).

²⁴⁸ Pub. L. No. 115-12, 131 Stat. 76 (2017).

²⁴⁹ Effectuating Congressional Nullification of the Resource Management Planning Rule Under the Congressional Review Act, 82 Fed. Reg. 60554, 60554 (Dec. 21, 2017).

²⁵⁰ Secretarial Order 3226, Amendment 1 (Jan. 16, 2001), https://www.doi.gov/sites/doi.gov/files/elips/documents/archived-3226_evaluating_climate_change_impacts_in_management_planning.pdf.

²⁵¹ See Camacho & Glicksman, *supra* note 20, at 715.

²⁵² Exec. Order No. 13514, Federal Leadership in Environmental, Energy, and Economic Performance, 74 Fed. Reg. 52,117 (Oct. 8, 2009).

task force with a multi-agency Council on Climate Preparedness,²⁵³ which soon issued a report that prioritized making the nation's natural resources more resilient to climate change.²⁵⁴

Despite these directives, the Interior Department took few official steps to increase the resilience of lands and resources under its control until the Obama administration. In 2009, Interior Secretary Kenneth Salazar established a Climate Change Response Council to execute a coordinated Department-wide strategy.²⁵⁵ Among other things, the order established Regional Climate Change Response Centers (CSCs) to develop adaptation tools and called for the development of Landscape Conservation Cooperatives to coordinate regional adaptation efforts.²⁵⁶ The Department's 2012 Departmental Manual committed the agency to integrate climate change adaptation strategies into its policies, planning, programs, and operations, and to pursue habitat restoration and species and ecosystem conservation, through tools that included land acquisition.²⁵⁷ The Department issued climate adaptation plans in 2013 and 2014.²⁵⁸

These orders, plans, and directives applied Department-wide. Yet, the BLM was slow to respond, moving more slowly than the Forest Service did, despite the fact that both operate under a virtually identical multiple use, sustained yield mandate.²⁵⁹ As of 2013, according to the Government Accountability Office, the BLM lacked strategic direction to guide field and district offices in incorporating climate change adaptation into planning and management.²⁶⁰ Before the issuance of its subsequently-repealed 2016 land use planning regulations, the BLM's regulations lacked even a single reference to climate change.²⁶¹

²⁵³ Exec. Order No. 13653, Preparing the United States for the Impacts of Climate Change, 78 Fed. Reg. 66,819 (Nov. 1, 2013), as amended by Exec. Order No. 13683, 79 Fed. Reg. 75,041 (Dec. 11, 2014).

²⁵⁴ COUNCIL ON CLIMATE PREPAREDNESS & RESILIENCE, PRIORITY AGENDA: ENHANCING THE CLIMATE RESILIENCE OF AMERICA'S NATURAL RESOURCES 14 (Oct. 2014), http://www.whitehouse.gov/sites/default/files/docs/enhancing_climate_resilience_of_americas_natural_resources.pdf [<https://perma.cc/U3WH-3TRM>].

²⁵⁵ Dep't of the Interior, Secretarial Order 3289, Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources (Sept. 14, 2009), <https://winapps.umd.edu/winapps/media2/wilderness/toolboxes/documents/climate/DOI%20-%20SecOrder3289.pdf>.

²⁵⁶ See Camacho & Glicksman, *supra* note 20, at 748-49.

²⁵⁷ *Id.* at 749 (citing Bureau of Land Mgmt., The BLM's Landscape Approach for Managing Public Lands, http://www.blm.gov/wo/st/en/prog/more/Landscape_Approach.html#secr [<https://perma.cc/SV74-LV3V>]).

²⁵⁸ DEP'T OF THE INTERIOR, CLIMATE ADAPTATION PLAN FOR FY 2013, http://www.doi.gov/greening/sustainability_plan/upload/DOI_Climate_Adaptation_Plan_for_FY2013_for_release.pdf [<https://perma.cc/8UFC-6CC5>]; DEP'T OF THE INTERIOR, CLIMATE ADAPTATION PLAN 2014, http://www.doi.gov/greening/sustainability_plan/upload/2014_DOI_Climate_Change_Adaptation_Plan.pdf [<https://perma.cc/8NXW-XQXM>].

²⁵⁹ Camacho & Glicksman, *supra* note 20, at 766, 768 (asserting that "the BLM's climate-related efforts appear to pale in comparison to the USFS's initiatives").

²⁶⁰ U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-253, CLIMATE CHANGE: VARIOUS ADAPTATION EFFORTS ARE UNDERWAY AT KEY NATURAL RESOURCE MANAGEMENT AGENCIES 51 (2013); see also Camacho & Glicksman, *supra* note 20, at 769-70.

²⁶¹ Camacho & Glicksman, *supra* note 20, at 772.

The GAO acknowledged that some BLM efforts held promise²⁶² and that others were important first steps.²⁶³ Whatever momentum the BLM may have gained by the end of the Obama administration, however, came to a screeching halt with the election of Donald Trump.²⁶⁴ President Trump rescinded numerous Obama administration policies and actions that deployed federal authority to mitigate or adapt to climate change.²⁶⁵ He prioritized use of the federal lands for mineral production, especially oil, natural gas, and coal.²⁶⁶ The BLM's actions largely conformed to the President's stance.²⁶⁷ In 2017, for example, it made six times more acreage available for oil and gas leasing than it had in 2016.²⁶⁸ It weakened regulations adopted during the Obama administration that had restricted methane emissions from oil and gas operations on public lands.²⁶⁹ It excluded global costs in calculating the social cost of carbon in relation to oil and gas production on public lands.²⁷⁰

²⁶² GAO-13-253, *supra* note 260, at 52.

²⁶³ Camacho & Glicksman, *supra* note 20, at 770. The GAO pointed to BLM's rapid ecoregional assessments, which were one component of an adaptive landscape-scale ecosystem management approach. *Id.* at 768.

²⁶⁴ *Cf.* Brigham Daniels, *Come Hell and High Water: Climate Change Policy in the Age of Trump*, 13 FIU L. REV. 65, 66 (2018) (describing President Trump's "attempt to institutionalize climate denialism."); *id.* at 70 ("President Trump has chosen to completely reverse the path of the United States . . . to one . . . where science is ridiculed and set aside in favor of unfettered business interests."); Carol J. Miller, *For A Lump of Coal & a Drop of Oil: An Environmentalist's Critique of the Trump Administration's First Year of Energy Policies*, 36 VA. ENVTL. L.J. 185, 194 (2018) (referring to the Trump's Administration's persistent efforts to repeal environmental regulations, "especially those that could be linked to climate change.").

²⁶⁵ Daniels, *supra* note 264, at 69-70.

²⁶⁶ *See* Exec. Order No. 13,783, Promoting Energy Independence and Economic Growth, 82 Fed. Reg. 16,093, 16,093 (Mar. 28, 2017); *see also* Robert Sussman, *Designing the New Green Deal: Where's the Sweet Spot?*, 49 ENV'T L. REP. NEWS & ANALYSIS 10428, 10436 (2019) (footnote omitted) ("President Trump has been openly contemptuous of climate change, disparaging it as a 'hoax' invented by our economic competitors, and has unabashedly promoted the revival of coal and expanded production of oil and gas").

²⁶⁷ *See* Carol J. Miller & Bonnie B. Persons, *Offshore Oil Leasing: Trump Administration's Environmentally Dangerous Energy Policy*, 43 WM. & MARY ENV'T L. & POL'Y REV. 329, 386 (2019) ("BLM's priority has become leasing federal land for fossil fuel extraction. . . ."); Jamie Gibbs Pleune, John C. Ruple & Nada Wolff Culver, *A Road Map to Net-Zero Emissions for Fossil Fuel Development on Public Lands*, 50 ENV'T L. REP. NEWS & ANALYSIS 10734, 10735 (2020) (describing various Trump Administration actions that resulted in increased CO₂ emissions); Robert B. Keiter, *The Greater Yellowstone Ecosystem Revisited: Law, Science, and the Pursuit of Ecosystem Management in an Iconic Landscape*, 91 U. COLO. L. REV. 1, 181 (2020) (discussing policy shift under the Trump Administration "to an all-out fossil fuel development agenda").

²⁶⁸ Naomi Wheeler, *Requiring Robust NEPA Analysis for Fossil Fuel Projects: A Promising Trend in the Tenth Circuit*, 47 ECOLOGY L.Q. 579, 586 (2020). That pattern continued in subsequent years. *See* Alexandra B. Klass, *Energy Transitions in the Trump Administration and Beyond*, 51 ENV'T L. 241, 262 (2021).

²⁶⁹ Waste Prevention, Production Subject to Royalties, and Resource Conservation; Rescission or Revision of Certain Requirements, 83 Fed. Reg. 49,184 (Sept. 28, 2018); Blake A. Watson, *Nullify, Postpone, Suspend, Stay, and Replace: The Trump Administration and the Methane Waste Prevention Rule*, 44 U. DAYTON L. REV. 363 (2019).

²⁷⁰ *See* Garrett S. Kral, *What's in A Number: The Social Cost of Carbon*, 8/19/2021 GEO. ENV'T L. REV. ONLINE 1 (2021).

Upon taking office, President Biden immediately announced an approach to climate change that would be diametrically opposed to the Trump Administration's. He issued an executive order announcing that "the United States will exercise its leadership to promote a significant increase in global climate ambition to meet the climate challenge."²⁷¹ In another order, he directed the Secretaries of Interior and Agriculture to conduct inventories of mature and old-growth and to "develop policies . . . to institutionalize climate-smart management and conservation strategies that address threats to mature and old-growth forests on Federal lands."²⁷²

The BLM took its cue from the President, remarking on its website that "[t]he BLM, along with its partners, has a substantial role to play in reducing the climate threat on public lands across the United States."²⁷³ It announced that, "[i]n alignment with the Biden Administration's Executive Order on Tackling the Climate at Home and Abroad, the BLM is committed to conserving 30 percent each of America's lands and waters by the year 2030."²⁷⁴ It added that, "[w]hether through energy policy, conservation projects, or restoring balance to public lands, animal and waters, the BLM is working diligently, through science-based and evidence-based decisions, to address the effects of climate change."²⁷⁵ The BLM also took steps to "ramp up" renewable energy production on the public lands.²⁷⁶

The Biden BLM made clear its commitment to pursuing conservation on the public lands, especially to both make them more resilient to climate change and contribute to a shift to a less carbon-intensive energy mix. These kinds of actions would be consistent with devoting thirty percent of the nation's land to conservation uses by 2030.²⁷⁷ A question worth considering is what other tools FLPMA makes available to the BLM, including some whose potential has not been fully tested.

D. Utilizing Existing Tools to Promote 30 by 30 Goals

FLPMA affords the BLM considerable discretion in implementation of its multiple use, sustained yield mandate. This section focuses on six sets of provisions that an agency committed to pursuing 30 by 30 conservation goals has at its disposal: the establishment of areas of critical environmental concern; the statutory mandate to prevent unnecessary or undue degradation; the duty to promote the public interest in shaping the contours of the public lands; the authority for land acquisitions;

²⁷¹ Exec. Order No. 14008, Tackling the Climate Crisis at Home and Abroad, § 102, 86 Fed. Reg. 7619 (Jan. 27, 2021).

²⁷² See *supra* notes 156-157 (discussing Exec. Order No. 14072).

²⁷³ Bureau of Land Mgmt., Climate Change, <https://www.blm.gov/about/how-we-manage/climate-change> (last visited May 4, 2022).

²⁷⁴ *Id.* (under the drop down tab on Conservation).

²⁷⁵ *Id.* (under the drop down tab on Commitment).

²⁷⁶ Bureau of Land Mgmt., BLM's National Renewable Energy Strategy, <https://www.blm.gov/blms-national-renewable-energy-strategy-0> (last visited May 4, 2022); see also Bureau of Land Mgmt., Active Renewable Projects: Developing Clean Energy on Public Lands, <https://www.blm.gov/programs/energy-and-minerals/renewable-energy/active-renewable-projects> (last visited May 4, 2022) (listing pending proposals for wind, solar, geothermal, and gen-tie line projects on public lands). "[A] gen-tie is a line built and owned by the generator to connect its generation resources to the transmission grid." Heidi Werntz, *Let's Make a Deal: Negotiated Rates for Merchant Transmission*, 28 PACE ENV'T L. REV. 421, 477 (2011).

²⁷⁷ *But see infra* Part VI (discussing adverse impacts to wildlife presented by solar and wind projects).

the neglected authority for watershed protection; and management of the National Landscape Conservation System.

The point here is not to suggest that the BLM should broadly displace uses such as mining, timber harvesting, grazing, and intensive recreation that may be incompatible with the type of conservation envisioned by the 30 by 30 Initiative. Instead, the discussion highlights provisions of FLPMA that supplement the statute's general multiple use, sustained yield management principles (which themselves allow the BLM to devote specific tracts to one or more multiple uses to the exclusion of others).²⁷⁸ These provisions explicitly recognize the appropriateness and importance of committing some of the public lands to resource conservation and promotion of the public interest, and they authorize management strategies of various kinds that are consistent with doing so. In striving to make a significant contribution to 30 by 30 conservation goals, the BLM should consider focusing on the use of these provisions as core components of its conservation planning and implementation.

1. Areas of Critical Environmental Concern

FLPMA mandates that the BLM manage the public lands in accordance with land use plans that reflect principles of multiple use and sustained yield.²⁷⁹ In developing its resource management plans, the BLM must “give priority to the designation and protection of areas of critical environmental concern [ACECs].”²⁸⁰ ACECs are “areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable harm to important historic, cultural, or scenic values, fish and wildlife resources or other natural system or processes”²⁸¹ As one court put it, “[t]he priority afforded ACECs reflects Congress’ intent to elevate the designation and protection of ACECs over BLM’s default management for ‘multiple use.’”²⁸² The designation of ACECs seems to be an obvious vehicle for promoting the goal of conserving at least 30 percent of the nation’s land and waters by 2030.²⁸³

²⁷⁸ See *supra* notes 218-222 and accompanying text; see also *Nat’l Min. Ass’n v. Zinke*, 877 F.3d 845, 872 (9th Cir. 2017) (confirming that the multiple use, sustained yield management standard does not “preclude [the BLM] from taking a cautious approach to” resource preservation, and that “a particular parcel need not be put to all feasible uses or to any particular use”).

²⁷⁹ 43 U.S.C. §§ 1712(a), (c)(1), 1732(a). FLPMA also declares a policy that regulations and plans be “promptly developed” for “the protection of public land [ACECs].” *Id.* § 1701(a)(11).

²⁸⁰ *Id.* § 1712(c)(3). The BLM must also prioritize ACECs in its maintenance of a continuing “inventory of all public lands and their resource and other values” *Id.* § 1711(a).

²⁸¹ *Id.* § 1702(a).

²⁸² *Rags Over the Arkansas River, Inc. v. Bureau of Land Mgmt.*, 77 F. Supp. 3d 1038, 1055 (D. Colo. 2015).

²⁸³ Other land use planning purposes are also consistent with this conservation goal. Land use plans, for example, must be based on consideration of “the relative scarcity of the values involved,” 43 U.S.C. § 1712(c)(6), suggesting that if the land needed to pursue conservation goals is scarce, the BLM should protect land that is capable of achieving conservation values. BLM land use planning also must weigh long-term benefits to the public against short-term benefits. *Id.* § 1712(c)(7). Thus, if long-term conservation benefits associated with restricting development on a public land area outweigh short-term economic benefits of uses such as grazing or oil and gas development, the BLM should arguably favor conservation-oriented management of that area.

Designation of an ACEC “does not, of itself, ‘change or prevent change of the management or use of public lands.’”²⁸⁴ Thus, for example, although the definitions of ACECs and wilderness areas under the Wilderness Act of 1964 overlap to some extent,²⁸⁵ “the BLM does not structure its critical area decisions to protect wilderness characteristics, nor does designation as a critical area necessarily imply the presence of wilderness characteristics.”²⁸⁶ ACEC designation alerts the BLM to the need to afford the area “special management attention,” but doing so requires further action, such as the designation of an area as a wilderness study area (WSA) or the imposition of restrictions on or prohibitions in the applicable land use plan on developmental, extractive, or other uses (such as high intensity recreational use) that are inconsistent with conservation goals. Failure to consider the need for protective actions of that sort can render the BLM’s decision not to designate an area as an ACEC in a resource management plan arbitrary and capricious.²⁸⁷ In addressing claims that the BLM has violated FLPMA in its management of ACECs, some courts have emphasized the reference in the statutory definition of ACECs to “irreparable damage,”²⁸⁸ refusing to disturb the BLM’s failure to provide greater protection to ACECs notwithstanding the presence of resource damage of lesser magnitude.²⁸⁹

Nevertheless, FLPMA affords the BLM broad discretion in deciding whether to designate an area as an ACEC and, if so, what management prescriptions to apply to it. As a result, the BLM has ample authority to resort to ACEC designation and management as a mechanism for promoting 30 by 30 conservation goals.²⁹⁰ In doing so, the BLM is able to accommodate a wide variety of uses, as ACEC designation need not entail the kinds of restrictions that apply in wilderness or WSAs.

²⁸⁴ Oregon Natural Desert Ass’n v. Bureau of Land Mgmt., 625 F.3d 1092, 1103 (9th Cir. 2010) (quoting 43 C.F.R. § 1601.0-5(a), the BLM’s regulatory definition of ACECs); *see also* 43 U.S.C. § 1711(a) (stating that the preparation and maintenance of the inventory referred to above “shall not, of itself, change or prevent change of the management or use of public lands”).

²⁸⁵ Oregon Natural Desert Ass’n v. Bureau of Land Mgmt., 625 F.3d 1092, 1103 (9th Cir. 2010).

²⁸⁶ *Id.*

²⁸⁷ *See, e.g.*, Southern Utah Wilderness All. v. Burke, 981 F. Supp. 2d 1099, 1114 (D. Utah 2013), *vacated upon approval of Joint Motion for Approval of Settlement*, 2017 WL 11516766 (D. Utah May 17, 2017), *appeal dismissed*, 908 F.3d 630 (10th Cir. 2018).

²⁸⁸ 43 U.S.C. § 1702(a).

²⁸⁹ Rags Over the Arkansas River, Inc. v. Bureau of Land Mgmt., 77 F. Supp. 3d 1038, 1056 (D. Colo. 2015) (alleged harm to bighorn sheep); *see also id.* at 1057 (refusing “to ignore FLPMA’s emphasis on irreparable injury to the special management resources in an ACEC”); *id.* at 1058 (declining to construe FLPMA to preclude the BLM from approving actions with potentially negative impacts on special management concerns within an ACEC).

²⁹⁰ *See* Michael Blumm & Greg Allen, *The 30 by 30 Proposal, Areas of Critical Environmental Concern, and the Protection of Tribal Cultural Lands*, 52 ENV’T L. REP. NEWS & ANALYSIS (forthcoming) (arguing that a renewed ACEC program would be an apt vehicle to help accomplish 30 by 30 goals).

The BLM's use of ACECs as a conservation tool has not historically been robust.²⁹¹ For example, the agency has never issued regulations to ensure consistent management.²⁹² ACEC designation, however, is a relatively flexible management device to further conservation goals to which the agency should resort as part of its 30 by 30 strategies.

2. Unnecessary or Undue Degradation

FLPMA requires the BLM, "by regulation or otherwise, [to] take any action necessary to prevent unnecessary or undue degradation [UUD] of the lands."²⁹³ FLPMA also requires the BLM, in managing WSAs,²⁹⁴ "to take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection."²⁹⁵ As one court described it, this application of the UUD standard to WSAs "requires the BLM to 'ensure that an area's existing wilderness values are not degraded' in a manner that might threaten the WSA's designation as protected wilderness."²⁹⁶

The meaning of UUD is context-specific,²⁹⁷ and the BLM has defined UUD more specifically in contexts such as its regulations governing hardrock mining.²⁹⁸ The Interior Department's Interior

²⁹¹ Karin P. Sheldon & Pamela Baldwin, *Areas of Critical Environmental Concern: FLPMA's Unfulfilled Conservation Mandate*, 28 COLO. NAT. RESOURCES, ENERGY & ENV'T L. REV. 1, 6 (2017) ("BLM's administration of ACECs hobbles the agency's use of this remarkable tool for landscape-level planning and management, and its ability to respond to the increasing pressures on the public lands from recreation demands, habitat fragmentation, and climate change.").

²⁹² See Ken Rait, *By Better Protecting Vast Public Lands, U.S. Could Advance Fight Against Climate Change*, PEW, Dec. 7, 2021, <https://www.pewtrusts.org/en/research-and-analysis/articles/2021/12/07/by-better-protecting-vast-public-lands-us-could-advance-fight-against-climate-change>.

²⁹³ 43 U.S.C. § 1732(b). Acts or omissions by private entities that cause UUD qualify as public lands trespasses. 43 C.F.R. § 2808.10(b). See *S. Utah Wilderness All. v. Bureau of Land Mgmt.*, 425 F.3d 735, 745 (10th Cir. 2005) (citing predecessor regulation, 43 C.F.R. § 2801.3(a)(2004)).

²⁹⁴ WSAs were subjected under FLPMA "to further examination and public comment in order to evaluate their suitability for designation as wilderness." *Norton v. S. Utah Wilderness All.*, 542 U.S. 55, 59 (2004) (citing 43 U.S.C. § 1782(c)). See, e.g., 43 C.F.R. § 3802.0-5(c) (requiring that WSAs "be subjected to intensive analysis through the Bureau's planning system, and through public review to determine wilderness suitability . . .").

²⁹⁵ 43 U.S.C. § 1782(c).

²⁹⁶ *Kane County Utah v. United States*, 772 F.3d 1205, 1216 (10th Cir. 2014).

²⁹⁷ *Theodore Roosevelt Conservation P'ship v. Salazar*, 661 F.3d 66, 76 (D.C. Cir. 2011) (stating that "the words 'unnecessary' and 'undue' are modifiers requiring nouns to give them meaning, and by the plain terms of the statute, that noun in each case must be whatever actions are causing 'degradation'").

²⁹⁸ In that context, UUD means conditions, activities, or practices that:

- (1) Fail to comply with one or more of the following: the performance standards in § 3809.420, the terms and conditions of an approved plan of operations, operations described in a complete notice, and other Federal and state laws related to environmental protection and protection of cultural resources;
- (2) Are not "reasonably incident" to prospecting, mining, or processing operations...; or
- (3) Fail to attain a stated level of protection or reclamation required by specific laws in areas such as the California Desert Conservation Area, Wild and Scenic Rivers, BLM-administered portions of the National Wilderness System, and BLM-administered National Monuments and National Conservation Areas.

Board of Land Appeals has interpreted UUD to mean “the occurrence of ‘something more than the usual effects anticipated from appropriately mitigated development.’”²⁹⁹ A finding of no significant impact under NEPA does not necessarily satisfy the BLM’s obligation to consider whether activities will result in UUD or support a finding that they will not.³⁰⁰ During the George W. Bush administration, the Interior Department took the position that the UUD standard was a unitary standard in that if degradation is necessary it cannot be undue. The district court for the District of Columbia rejected that interpretation of the UUD mandate, holding that “FLPMA, by its plain terms, vests the Secretary of the Interior with the authority—and indeed the obligation—to disapprove of an otherwise permissible mining operation because the operation, though necessary for mining, would unduly harm or degrade the public land.”³⁰¹ Put differently, “in enacting FLPMA, Congress’s intent was clear: Interior is to prevent, not only unnecessary degradation, but also degradation that, while necessary to mining, is undue or excessive.”³⁰²

Courts have referred to the UUD mandate as “the heart of FLPMA.”³⁰³ While courts have described this as a “strong” mandate, they have also concluded that FLPMA “leaves the BLM a great deal of discretion in deciding how to achieve [its] objectives . . . because it does not specify precisely how the BLM is to meet them, other than by permitting the BLM to manage public lands

43 C.F.R. § 3809.5. *See* Te-Moak Tribe of W. Shoshone of Nev. v. U.S. Dep’t of Interior, 608 F.3d 592, 611-14 (9th Cir. 2010) (holding that approval of expanded mining plan of operations did not violate UUD mandate); S. Fork Band Council of W. Shoshone of Nev. v. U.S. Dep’t of Interior, 588 F.3d 718, 723-25 (9th Cir. 2009) (upholding BLM finding that gold mining project would not cause UUD of scenic resources); Great Basin Res. Watch v. U.S. Dep’t of Interior, No. 3:13-cv-00078-RJ-VPC, 2014 WL 3696661, at *16-18 (D. Nev. 2014), *aff’d in part, rev’d in part and remanded on other grounds*, 844 F.3d 1095 (9th Cir. 2016) (holding that the BLM did not violate UUD in approving an open-pit molybdenum mine project).

²⁹⁹ Theodore Roosevelt Conservation P’ship v. Salazar, 661 F.3d 66, 76 (D.C. Cir. 2011) (quoting Biodiversity Conservation All., 174 IBLA 1, 5-6 (2008)).

³⁰⁰ W. Watersheds Project v. Salazar, 993 F. Supp. 2d 1126, 1144 (C.D. Cal. 2012), *aff’d*, 601 F. App’x 586 (9th Cir. 2015); *see also* Ctr. for Biological Diversity v. U.S. Dep’t of Interior, 623 F.3d 633, 645 (9th Cir. 2010).

³⁰¹ Mineral Pol’y Ctr. v. Norton, 292 F. Supp. 2d 30, 42 (D.D.C. 2003). The court emphasized that § 1732(b) is phrased in the disjunctive; the BLM must “take any action necessary to prevent unnecessary *or* undue degradation.” *Id.* at 42-43.

³⁰² *Id.* at 43.

³⁰³ San Juan Citizens All. v. Norton, 586 F. Supp. 2d 1270, 1294 (D.N.M. 2008) (quoting *Mineral Pol’y Ctr.*, 292 F. Supp. 2d at 33); S. Fork Band Council of W. Shoshone of Nev. v. U.S. Dep’t of Interior, No. 3:08-CV-00616-LRH-WGC, 2012 WL 13780, at *6-8 (D. Nev. Jan. 4, 2012) (finding that required mitigation measures supported the BLM’s finding that gold mining and processing operations would not result in UUD), *aff’d*, 565 F. App’x 665 (9th Cir. 2014). Others have referred to the UUD mandate as “the ‘substantive cornerstone of FLPMA’s otherwise largely procedural framework.’” Soda Mountain Wilderness Council v. Norton, 424 F. Supp. 2d 1241, 1269 (E.D. Cal. 2006).

by regulation or otherwise.”³⁰⁴ One court referred to UUD as “a bit of an ethereal concept.”³⁰⁵ Another found both terms to be ambiguous, leaving “two broad gaps for the Secretary to fill, which the Secretary has elected to fill through the exercise of her discretion, on a case-by-case basis.”³⁰⁶ That discretion includes the authority to seek improvement in land conditions that extend beyond the status quo.³⁰⁷

The discretionary nature of the UUD mandate presents an obstacle to litigants seeking to require the agency to take action to prevent UUD given the Supreme Court’s interpretation of the provisions of the Administrative Procedure Act (APA) authorizing courts to order an agency to take action that has been “unlawfully withheld or unreasonably delayed.”³⁰⁸ In *Norton v. Southern Utah Wilderness Alliance*, the Court held that § 706(1) of the APA requires the plaintiff seeking to compel agency action on those grounds to show that the action sought qualifies as “a *discrete* agency action that it is *required to take*.”³⁰⁹ The Court also held that plaintiffs’ request for an order compelling the BLM to restrict off-road vehicle (ORV) use to ensure compliance with FLPMA’s mandate to prevent UUD in wilderness study areas failed to meet that standard.³¹⁰ The Ninth Circuit applied that reasoning in concluding that FLPMA’s general directive in § 1732(b) “to achieve the broad objectives of preventing [UUD]” similarly did not suffice to justify an order requiring restrictions on ORV use.³¹¹

The D.C. Circuit dubiously concluded that, because reviewing courts must view the UUD mandate “in light of [the BLM’s] overarching mandate” to apply multiple use, sustained yield management principles, by following those principles, “the Bureau will often, if not always, fulfill FLPMA’s requirement that it prevent environmental degradation If the Bureau appropriately balances those uses and follows principles of sustained yield, then generally it will have taken the steps

³⁰⁴ *Bd. of County Cmm’rs of Cty. of San Miguel v. U.S. Bureau of Land Mgmt.*, No. 18-CV-01643-JLK, 2022 WL 472992, at *23 (D. Colo. Feb. 9, 2022) (quoting *Gardner v. Bureau of Land Mgmt.*, 638 F.3d 1217, 1222 (9th Cir. 2011)); *Bd. of County Cmm’rs of Cty. of San Miguel v. U.S. Bureau of Land Mgmt.*, No. 17-CV-02432-JLK, 2022 WL 472990, at *22 (D. Colo. Feb. 9, 2022); *see also* *Quechan Tribe of Fort Yuma Indian Reservation v. U.S. Dep’t of the Interior*, 927 F. Supp. 2d 921, 939 (S.D. Cal. 2013), *aff’d*, 673 F. App’x 709 (9th Cir. 2016).

³⁰⁵ *Biodiversity Conservation All. v. Bureau of Land Mgmt.*, No. 09-CV-08-J, 2010 WL 3209444, at *27 (D. Wyo. June 10, 2010).

³⁰⁶ *Mineral Pol’y Ctr. v. Norton*, 292 F. Supp. 2d at 44-45. Despite this broad discretion, a suit alleging that the UUD mandate in § 1732(b) is unconstitutionally vague failed. *W. Mining Council v. Watt*, 643 F.2d 618, 625-26 (9th Cir. 1981).

³⁰⁷ *See* *W. Exploration, LLC v. U.S. Dep’t of the Interior*, 250 F. Supp. 3d 718, 746-47 (D. Nev. 2017) (concerning restoration and enhancement of sage-grouse habitat).

³⁰⁸ 5 U.S.C. § 706(1).

³⁰⁹ *Norton v. S. Utah Wilderness All.*, 542 U.S. 55, 64 (2004).

³¹⁰ *Id.* at 66.

³¹¹ *Gardner v. U.S. Bureau of Land Mgmt.*, 638 F.3d 1217, 1222-23 (9th Cir. 2011). *Cf.* *San Juan Citizens All. v. Norton*, 586 F. Supp. 2d 1270, 1294-97 (D.N.M. 2008) (holding that challenge to management plan that allegedly failed to prevent UUD from oil and gas development was not ripe absent a discrete final action authorizing specific activities). *But cf.* *Sierra Club v. Hodel*, 848 F.2d 1068, 1074-76 (10th Cir. 1988) (rejecting contention that suit to compel action to prevent county’s improvements to right-of-way over public lands was “committed to agency discretion by law,” and thus unreviewable under § 701(a)(2)).

necessary to prevent [UUD].”³¹² Equating the UUD standard to the multiple use, sustained yield management standards renders the former surplusage.³¹³ It seems quite clear from the statutory text and structure that Congress intended the UUD mandate to supplement multiple use, sustained yield management principles, and to require the BLM to halt activities that, despite being consistent with them, nevertheless result in unacceptable resource degradation.

The UUD mandate applies to a wide range of activities on the public lands. Courts have construed it as amending the Mining Law of 1872 in the BLM’s management of public lands used or occupied for mining operations.³¹⁴ The UUD standard thus “has significant application in the mining industry.”³¹⁵ The standard may require the BLM to modify a previously approved mining plan of operations if new concerns about its adequacy arise.³¹⁶ The BLM’s duty to prevent UUD requires it to consider the air pollution impacts of activities, such as oil and gas operations, on public lands.³¹⁷ It may restrict the BLM’s ability to approve rights-of-way across public lands or recreational uses, such as off-road vehicle use, that could scar the lands.³¹⁸ Excessive or improper use of rights-of-way across public lands can amount to UUD.³¹⁹ In assuring that activities do not result in UUD, the BLM is authorized to seek improvements in land conditions that extend beyond the status quo.³²⁰ The standard has potential application to a wide range of energy development

³¹² Theodore Roosevelt Conservation P’ship v. Salazar, 661 F.3d 66, 76 (D.C. Cir. 2011).

³¹³ Cf. Utah v. Andrus, 486 F. Supp. 995, 1003-05 (D. Utah 1979) (refusing to interpret FLPMA § 1782(c), which directs the BLM to manage WSAs “in a manner so as not to impair the suitability of such areas for preservation as wilderness,” and to “take any action required to prevent unnecessary or undue degradation,” as creating only one management standard to prevent UUD). The court in *Utah* reasoned that the rejected interpretation would make the language of impairment “mere surplusage.” *Id.* at 1005.

³¹⁴ See *Backes v. Bernhardt*, 523 F. Supp. 3d 1233, 1238 (D. Or. 2021); *Earthworks v. U.S. Dep’t of the Interior*, 496 F. Supp. 3d 472, 481 (D.D.C. 2020); *Chilkat Indian Village of Klukwan v. Bureau of Land Mgmt.*, 399 F. Supp. 3d 888, 899 (D. Alaska 2019), *Mineral Pol’y Ctr. v. Norton*, 292 F. Supp. 2 at 33; see also *Bohmker v. Oregon*, 903 F.3d 1029, 1037 (9th Cir. 2018) (stating that the UUD mandate “applies not only to land use generally but also to the regulation of mining operations in particular”). The prohibition on UUD only applies to claims located after 1955. *Backes*, 523 F. Supp. 3d at 1242.

³¹⁵ *Nw. Mining Ass’n v. Babbitt*, 5 F. Supp. 2d 9, 11 (D.D.C. 1998).

³¹⁶ See *Ctr. for Biological Diversity v. Salazar*, 706 F.3d 1085, 1094 (9th Cir. 2016) (uranium mining operations). However, the BLM must recognize valid existing rights under the mining laws. 1 COGGINS & GLICKSMAN, *supra* note 126, § 4:23. The Interior Board of Land Appeals has found that BLM approval of particular mining activities did not violate the UUD prohibition. See, e.g., *W. Exploration Inc.*, 169 IBLA 388, 407-08 (2006) (approval of a modification to a mining plan of operations); *Great Basin Mine Watch*, 160 IBLA 340, 369-71 (2004) (closure and reclamation of mine’s heap leach pads); *Western Shoshone Def. Project*, 160 IBLA 32 (2003) (infiltration facilities for a gold mine project). *But cf.* *45 Pup Gold Co., LLC*, 196 IBLA 286, 306-07 (2021) (concluding that mine operator engaged in UUD by violating regulatory financial guarantee provisions).

³¹⁷ See *California v. Bernhardt*, 472 Supp. 3d 573, 616 (N.D. Cal. 2020).

³¹⁸ See *United States v. Wells*, 873 F.3d 1241, 1257 & n.7 (10th Cir. 2017).

³¹⁹ See *Sierra Club v. Hodel*, 848 F.2d 1068 (10th Cir. 1988); cf. *Southern Utah Wilderness All. v. U.S. Bureau of Land Mgmt.*, 551 F. Supp. 3d 1226, 1242-44 (D. Utah 2021) (finding erroneous failure to analyze whether county’s proposed bridge replacement project would cause UUD to adjacent WSA).

³²⁰ *Western Exploration, LLC v. U.S. Dep’t of the Interior*, 250 F. Supp. 3d 718, 747 (D. Nev. 2017). In 2016, the Interior Department’s Solicitor General issued an opinion interpreting FLPMA as providing the BLM with authority to require compensatory mitigation on either public lands or private lands having a connection to resources on public lands, regardless of their geographic proximity. In 2017, a different

projects, including oil and gas production,³²¹ utility-scale wind power projects³²² and solar energy projects.³²³

The BLM's obligation to prevent UUD provides it with a powerful tool to take measures to conserve public lands resources in a manner consistent with the 30 by 30 Initiative. The courts have recognized the breadth of the agency's discretion in applying that mandate. While many of the cases implicating the UUD standard upheld BLM decisions to authorize activities based on a finding that, due to mitigation measures or otherwise, they would not cause UUD, the discretionary nature of the mandate should induce similarly deferential review of BLM efforts to restrict activities that it finds would cause UUD.

Moreover, the BLM has procedural flexibility in taking such actions. One court, for example, upheld the BLM's imposition of restrictions on off-highway vehicle use without a prior amendment to the applicable resource management plan.³²⁴ It reasoned that

[b]ecause the RMP revision process is much more time-consuming than enacting a temporary closure order, the BLM could not effectively respond to resource degradation only through the formal planning process. In this way, the BLM's exercise of its authority to address resource degradation . . . is not "de facto" planning. Rather, it is a lawful discharge of the BLM's duty, independent of the planning process, to prevent undue degradation of resources.³²⁵

FLPMA's mandate to prevent UUD, coupled with its delegation to the BLM of the authority to adopt regulations to carry out FLPMA's purposes,³²⁶ enables the agency to adopt regulations that authorize similarly expeditious measures to prevent UUD from other kinds of activities.

3. Promoting the "Public Interest" through Rights-of-Way, Sales, and Exchanges

FLPMA includes several provisions that require or authorize the BLM to take actions in pursuit of "the public interest." The BLM can resort to these provisions, which involve access to public lands and land sales and exchanges of interests in land, to pursue the resource conservation goals that

Solicitor withdrew that opinion. But in 2022, yet another Solicitor reinstated the 2016 opinion. Withdrawal of M-37046 and Reinstatement of M-37039, "The Bureau of Land Management's Authority to Address Impacts of its Land Use Authorizations Through Mitigation," Solicitor's Opinion M-37075 (Apr. 15, 2022), <https://www.doi.gov/sites/doi.gov/files/m-37075-compensatory-mitigation-m-op-reinstatement-04.15.22.pdf>.

³²¹ See, e.g., *Theodore Roosevelt Conservation P'ship v. Salazar*, 661 F.3d at 76-78 (holding that mitigation measures would prevent approved natural gas development from causing UUD).

³²² See, e.g., *Quechan Tribe of Fort Yuma Indian Reservation v. U.S. Dep't of the Interior*, 927 F. Supp. 2d 921, 939-40 (S.D. Cal. 2013), *aff'd*, 673 F. App'x 709 (9th Cir. 2016) (finding no violation).

³²³ See, e.g., *W. Watersheds Project v. Salazar*, 993 F. Supp. 2d 1126, 1144 (C.D. Cal. 2012), *aff'd*, 601 F. App'x 586 (9th Cir. 2015).

³²⁴ The BLM relied on authority derived from 43 C.F.R. § 8364.1.

³²⁵ *Utah Shared Access All. v. Carpenter*, 463 F.3d 1125, 1136 (10th Cir. 2006). The court added that the regulation did not even require that the BLM show that there was an emergency. *Id.*

³²⁶ 43 U.S.C. § 1740.

are at the core of the 30 by 30 Initiative through coordinated use of federal lands and the actions of state, local, and private interests.

First, FLPMA authorizes the Secretary of the Interior and the Secretary of Agriculture (with respect to the public lands and lands within the National Forest System, respectively) to grant rights-of-way for purposes that include “necessary transportation or other system or facilities which are in the public interest.”³²⁷ FLPMA requires that any rights-of-way over public lands that are approved by the BLM “protect the public interest in the lands traversed by the right-of-way or adjacent thereto.”³²⁸ The statute directs the Interior Secretary to issue patents or other documents of conveyance after any disposal authorized by FLPMA. In doing so, the Secretary must insert in any such conveyance document “such terms, covenants, conditions, and reservations as he deems necessary to insure proper land use protection of the public interest.”³²⁹ Similarly, the Secretary may enter into land exchanges (as may the Secretary of Agriculture with respect to lands in the National Forest System) where the Secretary concerned “determines that the public interest will be well served by making the exchange.”³³⁰ In considering the public interest, the Secretary must consider “better land management and the needs of State and local people, including needs for lands for” uses such as recreation and fish and wildlife.³³¹

BLM regulations supplement these provisions. The agency’s regulations governing exchanges, for example, provide that public interest considerations must consider an exchange’s capacity to

secure important objectives, including but not limited to: Protection of fish and wildlife habitats, cultural resources, watersheds, wilderness and aesthetic values; enhancement of recreation opportunities and public access; consolidation of lands and/or interests in lands, such as mineral and timber interests, for more logical and efficient management and development; . . . accommodation of land use authorizations; promotion of multiple-use values; and fulfillment of public needs.”³³²

In addition, the intended use of the lands conveyed out of federal ownership must not “significantly conflict with established management objectives on adjacent Federal lands and Indian trust lands.”³³³

Courts have indicated that judicial review of BLM public interest determinations should be deferential.³³⁴ For example, courts have noted that FLPMA does not define the “full consideration”

³²⁷ *Id.* § 1761(a)(7).

³²⁸ *Id.* § 1765(b).

³²⁹ *Id.* § 1718.

³³⁰ *Id.* § 1716(a).

³³¹ *Id.* The Secretary must also find “that the values and the objectives which Federal lands or interests to be conveyed may serve if retained in Federal ownership are not more than the values of the non-Federal lands or interests and the public objectives they could serve if acquired.” *Id.*

³³² 43 C.F.R. § 2200-0.6(b).

³³³ *Id.* § 2200.0-6(b)(2).

³³⁴ *See* Colorado Wild Pub. Lands, Inc. v. Shoop, No. 17-cv-01564-MSK, 2021 WL 1138061, at *12 (D. Colo. Mar. 25, 2021); *see also* Greer Coal., Inc. v. U.S. Forest Serv., 470 F. App’x 630, 635 (9th Cir. 2012); Lodge Tower Condo. Ass’n v. Lodge Properties, Inc., 85 F.3d 476, 477 (10th Cir. 1996). *But cf.* Ctr. for Biological Diversity v. U.S. Dep’t of Interior, 623 F.3d 633, 646-47 (9th Cir. 2010) (holding that BLM

in which the BLM engages when it enters into an exchange. Judicial review is therefore limited to an inquiry into whether the decision to consummate the exchange “was based on a reasonable consideration of the relevant [statutory and regulatory] factors.”³³⁵ Courts have also warned that they “will not pass upon the wisdom of the agency’s perception of where the public interest lies,” and that the agency’s assessment of the relative weights of those factors is within its discretion.³³⁶ The agency may even consider nonenumerated factors, as long as it fully considers the prescribed factors.³³⁷

The BLM can resort to these provisions to shape the federal estate in ways that protect the ecological integrity and foster the conservation value of federal lands and adjacent state and private lands. It can enter into land exchanges, for example, that consolidate public and private lands to create wildlife corridors that facilitate movement to more hospitable areas of wildlife from areas under strain from climate change.³³⁸ Scholars and practitioners have advocated large-scale exchanges to promote the public interest in mutual consolidation.³³⁹ The 30x 30 Initiative may provide a rationale for pursuing those kinds of exchanges.³⁴⁰

FLPMA enunciates a policy that “the public lands be retained in federal ownership” unless “it is determined that disposal of a particular parcel will serve the national interest.”³⁴¹ The BLM can sell a public lands tract that has become “difficult and uneconomic to manage as part of the public lands” and state or private ownership is more likely to result in more effective conservation, or if

determination that exchange with mining interest would be in the public interest was arbitrary and capricious because it relied on flawed assumption that mining would occur in the same manner with or without the exchange).

³³⁵ Nat’l Parks & Conservation Ass’n v. Bureau of Land Mgmt., 606 F.3d 1058, 1069 (9th Cir. 2010).

³³⁶ Shasta Res. Council v. U.S. Dep’t of the Interior, 629 F. Supp. 2d 1045, 1067 (E.D. Cal. 2009); *see also* Nat’l Coal Ass’n v. Hodel, 825 F.2d 523, 532 (D.C. Cir. 1987) (“The Secretary’s public interest determination is one involving a variety of factors, the relative weights of which are left in his discretion.”). But public interest determinations under FLPMA are not exempt from judicial review under the APA’s “committed to agency discretion by law” exception. Nat’l Coal Assn v. Hodel. 675 F. Supp. 1231, 1242 (D. Mont. 1987), *aff’d*, 874 F.2d 661 (9th Cir. 1989) (but citing contrary authority). *Cf.* Nat’l Audubon Soc’y v. Hodel, 606 F. Supp. 825, 833-35 (D. Alaska 1984) (holding that public interest determinations under the exchange provisions of the Alaska National Interest Lands Conservation Act are judicially reviewable).

³³⁷ Nat’l Coal Assn v. Hodel. 675 F. Supp. 1231, 1243 (D. Mont. 1987), *aff’d*, 874 F.2d 661 (9th Cir. 1989).

³³⁸ *See* 43 U.S.C. § 1716(a) (authorizing the Secretaries to consider fish and wildlife in applying the public interest standard).

³³⁹ *See* 2 COGGINS & GLICKSMAN, *supra* note 126, § 13:41 (citing Scott M. Matheson & Ralph E. Becker, Jr., *Improving Public Land Management Through Land Exchange: Opportunities and Pitfalls of the Utah Experience*, 33 ROCKY MT. MINERAL L. INST. 4-1 (1987)); Sandra B. Zellmer, *Mitigating Malheur's Misfortunes: The Public Interest in the Public's Public Lands*, 31 Geo. Envtl. L. Rev. 509, 554 (2019) (arguing that FLPMA’s public interest requirements could serve “as a management ethos, an analytical framework, and an enforceable standard for public lands decision-making”).

³⁴⁰ We recognize that conservation-oriented management of the federal lands will not, and should not, suffice to satisfy the 30 by 30 Initiative’s goals. State-owned, tribal, and private lands will also need to be managed in ways that contribute to those goals. The authority discussed in this section provides opportunities for partnerships between federal land managers and others in pursuit of 30 by 30 conservation aspirations.

³⁴¹ 43 U.S.C. § 1701(a)(1).

disposal “will serve important public objectives” that are not limited to economic development.³⁴² It might be desirable, for example, to sell an isolated public lands tract to a private entity which could use the purchased land and adjacent lands to operate a wind or solar energy project.

The BLM could also rely on its authority to grant rights-of-way for “necessary transportation or other system or facilities which are in the public interest”³⁴³ to authorize the operation on public lands of utility-scale solar power projects.³⁴⁴ These projects may be capable of displacing fossil fuel-fired generating facilities that generate greenhouse gases that contribute to climate change and its adverse effects on federal lands and resources.³⁴⁵

4. Enhancement of the Federal, State, and Local Public Lands through Land Acquisitions

A variety of statutes authorize federal acquisition of lands, or financing of lands by state and local governments, for conservation purposes.³⁴⁶ The Land and Water Conservation Fund (LWCF) Act authorizes use of federal funds to help finance acquisition of land, water, or interests in land or water, “subject to such terms and conditions as the Secretary [of the Interior] considers appropriate and in the public interest . . . for outdoor recreation.”³⁴⁷ Amounts appropriated from the Fund are also available for acquisition of land, water, or interests therein within inholdings located in wilderness areas of the National Forest System, other areas of national forests which are primarily of value for outdoor recreation purposes, or land outside of but adjacent to an existing national forest boundary “that would comprise an integral part of a forest recreational management areas.”³⁴⁸ Areas that are used primarily for recreation may preclude developmental activities that interfere with conservation values. In addition, the LWCF Act authorizes federal acquisitions of land and water for the conservation of endangered or threatened fish, wildlife, or plants.³⁴⁹ FLPMA also authorizes land acquisitions by purchase, exchange, donation, or eminent domain, although the power of eminent domain may be exercised “only if necessary to secure access to public lands, and then only if the lands so acquired are confined to as narrow a corridor as is necessary to serve such purpose.”³⁵⁰ Funds for acquisitions under these provisions are certain to be limited, but strategic use of federal acquisition authority can be instrumental in promoting 30 by 30 conservation purposes.³⁵¹

³⁴² *Id.* § 1713(a)(2)-(3).

³⁴³ *Id.* § 1761(a)(7).

³⁴⁴ See generally Robert L. Glicksman, *Solar Energy Development on the Federal Public Lands: Environmental Trade-offs on the Road to a Lower-Carbon Future*, 3 SAN DIEGO J. CLIMATE & ENERGY LAW 107 (2011-12).

³⁴⁵ See *infra* Part VI (discussing renewable energy trade-offs).

³⁴⁶ See 2 COGGINS & GLICKSMAN, *supra* note 126, § 13:43.

³⁴⁷ 54 U.S.C. § 200305(a)(2). See generally Robert L. Glicksman & George Cameron Coggins, *Federal Recreational Land Policy: The Rise and Decline of the Land and Water Conservation Fund*, 9 COLUM. J. ENV'T L. 125 (1984).

³⁴⁸ 54 U.S.C. § 200306(a)(2)(B).

³⁴⁹ *Id.* § 200306(a)(2)(C) (cross-referencing 16 U.S.C. § 1534(a)).

³⁵⁰ 43 U.S.C. § 1715(a).

³⁵¹ The Great American Outdoors Act, 54 U.S.C. §§ 200401-200402, permanently and fully funds the Land and Water Conservation Fund, making expenditures out of the Fund mandatory. See Travis Brammer,

5. Watershed as a Multiple Use

As discussed above, FLPMA requires the BLM to “manage the public lands under principles of multiple use and sustained yield”³⁵² in accordance with resource management plans.³⁵³ FLPMA defines “multiple use,” in part, as “a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values.”³⁵⁴ Most of the designated uses are self-explanatory. The timber resource, for example, is available for harvesting through timber sales. Recreational resources can take various forms, ranging from lands amenable to hiking, backpacking, or climbing to those amenable to motorized access by snowmobiles or ORVs.

The meaning of the watershed resource is less obvious.³⁵⁵ FLPMA does not define the term. Perhaps as a result of that lack of specificity, “watershed has been the forgotten multiple use in legal contemplation. No generally accepted definition of watershed exists beyond the merely geographical notion that a watershed is an area drained by a river or stream.”³⁵⁶ Likewise, the federal land management agencies have tended to neglect watershed.³⁵⁷ Nevertheless, scholars such as Professor Coggins have predicted that watershed would “assume a more prominent role in federal resource allocation” and advocated for that result.³⁵⁸ Indeed, Coggins characterized legislative concern for deteriorating watershed qualities in the West as an important inducement for its enactment of the Public Rangelands Improvement Act of 1978.³⁵⁹

According to Coggins, watershed “connotes two basic concepts: resource protection and increased water yield.”³⁶⁰ He posited that “all of the legislative evidence suggests that ‘watershed’ is meant by Congress to be shorthand for the proposition that federal lands should be managed to protect ecological stability and water quality as well as to insure adequate downstream water yield.”³⁶¹

Comment, *Using Land and Water Conservation Fund Money to Protect Western Migration Corridors*, 22 WYO. L. REV. 61, 76 (2022).

³⁵² 43 U.S.C. § 1732(a).

³⁵³ *Id.* § 1712(c)(1).

³⁵⁴ *Id.* § 1702(c).

³⁵⁵ See Coggins, *Watershed*, *supra* note 83, at 10 (arguing that in the absence of a statutory definition, “‘watershed management’ . . . will remain an amorphous concept”). See *supra* Part IV.A (discussing the role of watersheds in forest conservation history).

³⁵⁶ 3 COGGINS & GLICKSMAN, *supra* note 126, § 35:1. See *Lands Council v. Powell*, 395 F.3d 1019, 1024 n.1 (9th Cir. 2005) (quoting THE NEW SHORTER OXFORD ENGLISH DICTIONARY 3636 (Thumb Index ed.1993)) (“A ‘watershed’ is the whole gathering ground of a river system; i.e., the geographic area from which any river or creek draws its flow.”).

³⁵⁷ 3 COGGINS & GLICKSMAN, *supra* note 126, § 35:1 (“Watershed has received less theoretical and practical attention from the management agencies than the more conventional resources.”). Professor Coggins argued that the Forest Service has paid more attention to watershed than the BLM. Coggins, *Watershed*, *supra* note 83, at 17.

³⁵⁸ Coggins, *Watershed*, *supra* note 83, at 2.

³⁵⁹ *Id.*

³⁶⁰ *Id.* at 1.

³⁶¹ *Id.*

Although Coggins noted that these two concepts may come into conflict, preservation of ecological stability and sustained stream flow need not, and in an era when climate change is contributing to devastating droughts, often should not conflict with one another.³⁶² Preservation of instream flow may be critical to the health of landscapes susceptible to climate-related damage.³⁶³

To the extent that the preservation and production aims of the watershed resource do conflict,³⁶⁴ however, Coggins asserted that “[t]he legislative evidence supports the conclusion that the congressional ideal of watershed embodied in the multiple use laws is premised more on the notion of the forest in place as an erosion buffer than it is on increasing downstream flow.”³⁶⁵ Coggins added that “[t]he tension between production and protection as goals can be reconciled by the realization that watershed protection, while it may result in lower gross downstream water yield, will deliver cleaner and cooler water longer and more regularly. The production aspect of watershed management should therefore be subordinated to the protection purpose.”³⁶⁶ We agree, and we return to this theme below.³⁶⁷

6. The National Landscape Conservation System

President Clinton’s Secretary of the Interior, Bruce Babbitt, issued an administrative order creating a National Landscape Conservation System (NLCS) to “conserve, protect, and restore these nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations.”³⁶⁸ According to Mark Squillace, its focus was “on managing landscapes and ecosystems and eliminating incompatible uses.”³⁶⁹ One purpose of creating the System was to improve management of the national monuments over which the BLM had newly been granted jurisdiction, such as the Grand Staircase Escalante Monument.³⁷⁰ The

³⁶² Coggins, *Watershed*, *supra* note 83, at 1.

³⁶³ Zellmer, *Charting a Course*, *supra* note 25; Reed D. Benson, “*Adequate Progress,*” or *Rivers Left Behind? Developments in Colorado and Wyoming Instream Flow Laws Since 2000*, 36 ENV’T L. 1283, 1289 (2006). *But cf.* Coggins, *Watershed*, *supra* note 83, at 10-11 (noting that watershed management for increased downstream water yield may conflict with ensuring ecosystem stability if efforts to increase water yield entail harvesting upland trees that absorb and transpire water, resulting in greater downstream diversion).

³⁶⁴ *E.g.*, Coggins, *Watershed*, *supra* note 83, at 11 (finding that areas denuded of vegetation will cause rapid runoff of precipitation or snowmelt, soil erosion and siltation, or stream scouring, often leading “to further erosion and bank cave-ins. Downstream users in this extreme situation receive more water, but it arrives downstream earlier and dirtier, bringing the risk of spring floods and water waste.”).

³⁶⁵ *Id.*; *see id.* at 12 (“The better interpretation of the multiple-use statutes, therefore, is that watershed stability is ordinarily consistent with water flow regulation and yield but, when the aims conflict, protection takes priority over production.”).

³⁶⁶ *Id.* at 13.

³⁶⁷ *See infra* Part VII.

³⁶⁸ Andy Kerr, *The National Landscape Conservation System: In Need of Rounding Out* (Nov. 3, 2017), <http://www.andykerr.net/kerr-public-lands-blog/2017/11/3/the-national-landscape-conservation-system-in-need-of-rounding-out>.

³⁶⁹ Squillace, *supra* note 299, at 546.

³⁷⁰ *See* Kelly Y. Fanizzo, *Separation of Powers and Federal Land Management: Enforcing the Direction of the President Under the Antiquities Act*, 40 ENV’T L. 765, 785 (2010); Robert B. Keiter, *The Monument, the Plan, and Beyond*, 21 J. LAND RESOURCES & ENV’T L. 521, 522 (2001).

appropriate range of uses would be those allowed by otherwise applicable law, including FLPMA's multiple use, sustained yield mandate and any restrictions imposed on lands included within national monuments managed by the BLM, designated as wilderness study areas, or designated as official wilderness.³⁷¹

By creating an administrative NLCS, and “putting these lands in a single system, the agency hoped to improve management of these treasured areas, improve public benefits that flow from a well-managed system of conservation areas, and increase public awareness of their scientific, cultural, educational, ecological, and other values.”³⁷² The BLM would manage these areas “with a set of common principles that emphasize conservation, protection, and restoration,”³⁷³ all of which resonate as goals that are consonant with those of the 30 by 30 Initiative. By 2010, the BLM had placed fifteen percent of its holdings in the NLCS.³⁷⁴

Nevertheless, Congress at times provided scant support for the NLCS in its appropriations bills.³⁷⁵ Some were optimistic at the inception of the NLCS that it had “the potential to anchor the culture of the BLM in conservation rather than resource exploitation.”³⁷⁶ But the System's capacity to prompt a shift in BLM priorities toward giving greater weight to conservation values has since been questioned.³⁷⁷

Congress codified the NLCS in the Omnibus Public Land Management Act of 2009,³⁷⁸ which officially established the NLCS within the BLM “to conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations.”³⁷⁹ The System includes lands administered by the BLM that have been designated as national monuments, national conservation areas, WSAs, trails within the National Trails System, and components of the National Wild and Scenic Rivers System or the

³⁷¹ See Squillace, *supra* note 299, at 546.

³⁷² Dave Harmon & Jeff Jarvis, *The National Landscape Conservation System: A Model for Long-Term Conservation of Significant Landscapes*, USDA Forest Service Proceedings RMRS-P-64 (2011), at 186, https://www.fs.fed.us/rm/pubs/rmrs_p064/rmrs_p064_185_189.pdf; see also Keiter, *Network*, *supra* note 29, at 76 (stating that Secretary Babbitt “administratively consolidated the BLM's diverse and growing conservation landholdings into a so-called National Landscape Conservation System”).

³⁷³ Harmon & Jarvis, *supra* note 372, at 186.

³⁷⁴ Craig L. Shafer, *The Unspoken Option to Help Safeguard America's National Parks: An Examination of Expanding U.S. National Park Boundaries by Annexing Adjacent Federal Lands*, 35 COLUM. J. ENV'T L. 57, 70 (2010).

³⁷⁵ See Robert B. Keiter, *Breaking Faith with Nature: The Bush Administration and Public Land Policy*, 27 J. LAND RESOURCES & ENV'T L. 195, 243 (2007) [hereinafter Keiter, *Breaking Faith*]; see also Keiter, *Network*, *supra* note 29, at 76-77 (“Congress has been reluctant to fully fund this new NLCS, hampering the BLM's planning and management efforts.”); Megan Gutwein, *National Conservation Area Designation: When You Need A Shovel, Not A Backhoe*, 27 COLO. NAT. RESOURCES, ENERGY & ENV'T L. REV. 71, 82 (2016).

³⁷⁶ Erik Schlenker-Goodrich, *Moving Beyond Public Lands Council v. Babbitt: Land Use Planning and the Range Resource*, 16 J. ENV'T L. & LITIG. 139 (2001).

³⁷⁷ Keiter, *Breaking Faith*, *supra* note 375, at 243.

³⁷⁸ Pub. L. No. 111-11, 123 Stat. 991 (2009) (codified at 16 U.S.C. §§ 7201-7203).

³⁷⁹ 16 U.S.C. § 7202(a).

National Wilderness Preservation System.³⁸⁰ The System also includes any other area designated by Congress “to be administered for conservation purposes,” including public land within the California Desert Conservation Area to be administered for conservation purposes and any additional area designated by Congress for inclusion in the System.³⁸¹

Like its administrative counterpart, the statutory version of the NLCS requires that the BLM manage lands within it “in accordance with any applicable law (including regulations) relating to any component of the system,” as well as “in a manner that protects the values for which the components of the system were designated.”³⁸² Further, the statute specifies that it does not enhance, diminish, or modify any law or proclamation under which a component of the system was established or is managed.³⁸³

The 2009 Act puts a legislative imprimatur on Secretary Babbitt’s administrative creation, explicitly endorsing the management goals of conservation, protection, and restoration. It singles out these uses from among the larger list of authorized multiple uses on the public lands. By doing so, it may foster a greater willingness on the BLM’s part to manage for conservation purposes and provide a statutory justification for doing so. The Act, however, does not invest the BLM with any greater authority to manage lands within the System to achieve conservation, or other 30 by 30 goals, than that which it has by virtue of the legal instrument that already governs management of a System component.³⁸⁴

VI. Renewable Energy Trade-Offs

As noted above, President Biden intends to double renewable energy outputs from the public lands by the end of 2023.³⁸⁵ Although the National Forests and BLM lands hold vast potential for solar, wind, and geothermal power, a dramatic increase in production has both positive and negative implications for conservation on and beyond the nation’s public lands.

A. Renewable Resources on the Public Lands

Even before Biden took office, the Energy Act of 2020 adopted a goal of improving interagency coordination to promote expedited processing of wind, solar, and geothermal applications on federal lands.³⁸⁶ The Act directs the Secretary of Interior to establish national goals for renewable energy production which, at a minimum, seek to issue permits that authorize production of no less

³⁸⁰ *Id.* § 7202(b)(1).

³⁸¹ *Id.* § 7202(b)(2)(D)-(E).

³⁸² *Id.* § 7202(c).

³⁸³ *Id.* § 7202(d)(1). The statute also does not affect state authority over fish and wildlife management. *Id.* § 7202(d)(2).

³⁸⁴ *Cf.* *W. Watersheds Project v. Abbey*, 719 F.3d 1035, 1044 (9th Cir. 2013) (rejecting claim that BLM’s decision to allow grazing at pre-existing levels in monument within the NLCS violated the statutory directive to “conserve, protect, and restore nationally significant landscapes”).

³⁸⁵ *See supra* note 46 and accompanying text.

³⁸⁶ Pub. L. No. 116-260, div. Z, title III, §§ 3101 to 3106, 134 Stat. 1182, 2513-2517 (2020) (to be codified at 43 U.S.C. §§ 3001-3005).

than 25 gigawatts of electricity on public lands from wind, solar, and geothermal projects by no later than 2025.³⁸⁷

National Forest System lands hold great potential for renewable energy development, including wind, solar, biomass, and geothermals. An assessment by Argonne National Laboratory found that about 3,357,792 acres of Forest System lands are potentially suitable for wind development, 136,032 acres for concentrating solar power (CSP), 564,698 acres for photovoltaic solar power (PV) development, 13,967,077 acres for biomass (from logging and thinning residue development), and 6,475,459 acres for enhanced geothermal system development.³⁸⁸

The BLM public lands provide significant additional opportunities for the development of renewable energy resources. In fiscal year 2021, the BLM authorized or facilitated projects with a combined generation onshore solar, wind, and geothermal energy capacity of 2890 megawatts.³⁸⁹ In December 2021, the BLM reported that processing was underway on 39 solar projects, some of which the agency initiated and some of which were applicant-driven, with a combined potential generation capacity of more than 29,000 megawatts.³⁹⁰ Processing was also underway on four wind farm proposals with a potential generation capacity of more than 2000 megawatts.³⁹¹ The BLM offered more than 103,000 acres under two geothermal lease sales in fiscal year 2021, and processing was underway for an additional five projects. These send projects have a potential generation capacity of 188 megawatts.³⁹² In addition, the BLM was processing six interconnect transmission lines that would support solar projects with a combined capacity of more than 1700 megawatts.³⁹³

B. Conservation Trade-Offs

On the positive side of expanding renewable energy production on the federal public lands, development of climate-smart energy resources promotes climate change mitigation and adaptation by reducing reliance on greenhouse gas-emitting fossil fuels. Preventing global temperatures from increasing more than 2 degrees Celsius (3.6 Fahrenheit) is imperative for

³⁸⁷ 43 U.S.C. § 3004. As of March 2022, approximately 12 GW of electricity was being produced from solar, wind, and geothermal projects on the public lands. Scott Streater, *BLM on Pace to Exceed 25K-Megawatt Renewable Energy Goal*, GREENWIRE (May 4, 2022), <https://www.eenews.net/articles/blm-on-pace-to-exceed-25k-megawatt-renewable-energy-goal/>.

³⁸⁸ Argonne Nat'l Laboratory, *Analysis of Renewable Energy Potential on U.S. National Forest Lands*, Dec. 13, 2013, <https://digital.library.unt.edu/ark:/67531/metadc871583/m1/1/>. The assessment updates a 2005 report prepared by the National Renewable Energy Laboratory, *Assessing the Potential for Renewable Energy on National Forest System Lands*, <https://www.nrel.gov/docs/fy05osti/36759.pdf>.

³⁸⁹ BUREAU OF LAND MGMT., *PUBLIC LANDS RENEWABLE ENERGY—FISCAL YEAR 2021*, at 7, https://www.blm.gov/sites/blm.gov/files/docs/2022-04/BLM%20Public%20Land%20Renewable%20Energy%20FY21%20Report%20to%20Congress%20v4%20508_0.pdf.

³⁹⁰ *Id.* at 8.

³⁹¹ *Id.* at 9.

³⁹² *Id.*

³⁹³ *Id.*

sustaining life on earth.³⁹⁴ Just as extreme global warming leads to mass extinction,³⁹⁵ climate resilience promotes species conservation and recovery.³⁹⁶

On the negative side, onshore solar and wind farms take up a significant amount of space relative to gas-fired power plants. If Biden were to achieve his goal, wind and solar projects will occupy roughly 230,000 square miles on federal lands by mid-century—more than the states of Arizona and Colorado combined.³⁹⁷ Devoting large blocks of public lands to renewable energy production will displace wildlife.³⁹⁸ Wind power facilities and utility-scale solar facilities cause wildlife mortality in a variety of ways, including collision, destruction of migratory corridors, and disruption of foraging, hunting, mating, and other essential behaviors.³⁹⁹

³⁹⁴ IPCC, SPECIAL REPORT: GLOBAL WARMING OF 1.5C, SUMMARY FOR POLICYMAKERS (2018), at <https://www.ipcc.ch/sr15/chapter/spm/>. See Ruhl & Salzman, *supra* note 28, at 700 (“Recent scientific studies reveal that some effects of climate change are coming online faster and harder than previous models suggested. . . . There is no time to waste.”).

³⁹⁵ See Haijun Song, et al., *Thresholds of Temperature Change for Mass Extinctions*, NATURE COMMUNICATIONS, (Aug. 4, 2021), <https://doi.org/10.1038/s41467-021-25019-2> (observing that “the heavy fossil fuel use scenario trajectory of anthropogenic carbon emissions predicts that a temperature increase matching our geologically defined magnitude threshold for mass extinction (i.e. 5.2 °C above the pre-industrial level) would be reached by 2100”).

³⁹⁶ Cristian Roman Palacios & John J. Wiens, *Recent Responses to Climate Change Reveal the Drivers of Species Extinction and Survival*, 117 PROC. NAT’L ACAD. SCI. 4211 (Feb. 10, 2020), <https://www.pnas.org/doi/abs/10.1073/pnas.1913007117>.

³⁹⁷ PRINCETON UNIVERSITY, NET ZERO AMERICA (2021), <https://netzeroamerica.princeton.edu/?explorer=year&state=national&table=2020&limit=200>. See Joe Kiesecker, *Energy Sprawl*, TNC MAG. (Aug. 31, 2017), <https://www.nature.org/en-us/magazine/magazine-articles/energy-sprawl/> (describing how the Pawnee National Grasslands had been completely transformed by wind turbines and natural gas drilling since the 1990s, and expressing concern that if this trajectory continues “clearing wild land for renewable energy development could create a carbon deficit that takes time to balance out”). However, in contrast to fossil fuels, which eventually exhaust the resources in one place and have to relocate to repeat the cycle, renewable projects can operate indefinitely in the same site. Sarah Kaplan & Juliet Eilperin, *A Narrow Path For Biden’s Ambitious Land Conservation Plan*, WASH. POST (May 6, 2021), <https://www.washingtonpost.com/climate-environment/2021/05/06/biden-conservation-30x30/>.

³⁹⁸ Kiesecker, *supra* note 397; Andrew Moore, *Renewable Energy Poses Challenge for Wildlife Conservation*, NCSU NEWS (Nov. 13, 2019), <https://cnr.ncsu.edu/news/2019/11/renewable-energy-poses-challenge-for-wildlife-conservation/>.

³⁹⁹ See Warner, *supra* note 45, at 1876 (stating that 17% of biodiversity “hot spots” are on land designated for renewable energy development). Some of these impacts may be mitigated through technology, translocation, or other means. Justin R. Pidot, *Compensatory Mitigation and Public Lands*, 61 B.C. L. REV. 1045, 1049 (2020); Amy Wilson Morris & Jessica Owley, *Mitigating the Impacts of the Renewable Energy Gold Rush*, 15 MINN. J.L. SCI. & TECH. 293, 299 (2014); cf. Robert L. Glicksman, *Energy Transmission Across Wild and Scenic Rivers: Balancing Increased Access to Nontraditional Power Sources with Environmental Protection Policies*, 34 PUB. LAND & RES. L. REV. 1, 41-48 (2013) (discussing possible mitigation measures for renewable energy projects with adverse impacts on wild and scenic river values).

How might these trade-offs be reconciled when they come into conflict on public lands? Thus far, conflicts seem to have been addressed primarily through litigation brought under environmental statutes, especially the ESA and NEPA, rather than through NFMA or FLPMA.⁴⁰⁰

To address the obstacles posed by the ESA, NEPA, and other environmental statutes, the Biden Administration has committed to fast-tracking onshore development of renewable energy resources,⁴⁰¹ while giving “consideration” to “the protection for cultural resources and sacred sites as well as the Nation’s land, water, and biodiversity. . . .”⁴⁰² To that end, the Departments of the Interior, Agriculture, Defense, and Energy and the Environmental Protection Agency issued a Memorandum of Understanding (MOU) to improve interagency coordination and to prioritize and expedite reviews for renewable energy projects located on public lands.⁴⁰³

It is fair to ask whether streamlining the decisionmaking processes for renewable projects means giving environmental concerns short shrift.⁴⁰⁴ The use of categorical exclusions and other expedited processes in other contexts has resulted in cursory review of direct, indirect, and cumulative effects on the environment and wildlife.⁴⁰⁵ Expedited review often comes at the cost of increased environmental harm.⁴⁰⁶ As Professor Keiter put it, “the rush toward less law and greater efficiency may well diminish the full impact of this new generation of ecological standards and science.”⁴⁰⁷ The extensive use of categorical exclusions also takes its toll on public participation opportunities.⁴⁰⁸

⁴⁰⁰ See Florianne Silvestri, *Wind Power and the Legal Challenges with NEPA and the ESA*, 18 SUSTAINABLE DEV. L. & POL’Y 18, 26 (2018); *Pit River Tribe v. Bureau of Land Mgmt.*, 793 F.3d 1147 (9th Cir. 2015).

⁴⁰¹ White House, Fact Sheet: Biden-Harris Administration Races to Deploy Clean Energy that Creates Jobs and Lowers Costs (Jan. 12, 2022), <https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/12/fact-sheet-biden-harris-administration-races-to-deploy-clean-energy-that-creates-jobs-and-lowers-costs/>.

⁴⁰² MOU to Establish a Program to Improve Public Land Renewable Energy Project Permit Coordination 3 (Nov. 5, 2021), <https://www.doi.gov/sites/doi.gov/files/mou-esb46-04208-pub-land-renewable-energy-proj-permit-coord-doi-usda-dod-epa-doe-2022-01-06.pdf>.

⁴⁰³ *Id.* at 3, 8. See *supra* notes 160-161 (describing how streamlining has been adopted through the HFRA for wildfire mitigation projects).

⁴⁰⁴ See, e.g., Glicksman, *Solar Energy*, *supra* note 344, at 136-39 (citing examples of legislative and agency streamlining of projects that resulted, “if not inexorably, then with some degree of frequency, in a process that neglects to give full consideration to those environmental risks”).

⁴⁰⁵ See 2 COGGINS & GLICKSMAN, *supra* note 126, § 17:11 (discussing expansive use of categorical exclusions, with mixed results in court).

⁴⁰⁶ See Mark K. Capone & John C. Ruple, *NEPA and the Energy Policy Act of 2005 Statutory Categorical Exclusions: What are the Environmental Costs of Expedited Oil and Gas Development?*, 18 VT. J. ENVTL. L. 371, 399 (2017) (finding that expedited review caused “greater surface area disturbance per well”); Marcilynn A. Burke, *Streamlining or Steamrolling: Oil and Gas Leasing Reform on Federal Public Lands in the Trump Administration*, 91 U. COLO. L. REV. 453, 494 (2020) (finding the use of categorical exclusions for oil and gas development to be “problematic”).

⁴⁰⁷ Robert B. Keiter, *Ecological Concepts, Legal Standards, and Public Land Law: An Analysis and Assessment*, 44 NAT. RESOURCES J. 943, 980 (2004).

⁴⁰⁸ See Trevor Salter, *NEPA and Renewable Energy: Realizing the Most Environmental Benefit in the Quickest Time*, ENVIRONS ENVTL. L. & POL’Y J., Spring 2011, at 173 (arguing that categorical exclusions

By the same token, there is a cost to what some call “analysis paralysis.”⁴⁰⁹ Professors JB Ruhl, James Salzman, and others have spotlighted the myriad ways that the “gauntlet of assessments, plans, permits, and litigation” under existing environmental laws has stymied the deployment of renewable energy infrastructure at the pace and scale needed to combat climate change.⁴¹⁰ They argue that the use of existing environmental laws, like NEPA and the ESA, undermines the energy transition needed to prevent long-term climate-related environmental harms.⁴¹¹ When opponents wield environmental laws to accomplish short-term goals, such as “kill zero bats” at a specific site, “the long-term goal of saving all the bats” may be sacrificed.⁴¹² Ruhl and Salzman argue that the focus of the Green New Deal should be install renewable energy infrastructure as quickly as possible to prevent “massive environmental destruction” to global ecosystems globally, and that “spar[ing] every bat’s demise along the way” may be impractical.⁴¹³

They observe that, if we continue business as usual by requiring renewable energy projects to comply with myriad environmental and siting laws, accompanied by “protracted public participation and litigation challenges,” meeting climate mitigation goals is impossible.⁴¹⁴ Insistence on requiring renewables developers to run that gauntlet may induce them to give up, forfeiting opportunities to abate climate change.⁴¹⁵

Balancing environmental protection with expedited decisionmaking is a tremendous challenge. Although we do not have a “magic bullet” answer, a few promising ideas are worth highlighting. For example, to foster efficient permitting processes, the Biden Administration MOU contemplates consolidating review of renewable project proposals under the ESA, Migratory Bird Treaty Act, and Bald and Golden Eagle Protection Act.⁴¹⁶ The agencies may authorize the issuance of general permits for certain activities, where a qualifying entity would be covered automatically after registering, paying a required fee, and abiding by applicable permit conditions.⁴¹⁷ As Eric Biber and J.B. Ruhl have explained, general permits may be preferable to regulatory exclusions (but not as cumbersome as individual permits) because they may: allow for the collection of information that can be used to improve future regulation; be a more feasible means (than repealing an exemption) and a more effective means (than the issuance of individual permits) of increasing

for renewable energy projects may exclude the affected public from the decision-making process and that “[t]he public’s voice therefore should not be silenced”).

⁴⁰⁹ U.S.D.A. Forest Serv., *The Process Predicament: How Statutory, Regulatory, and Administrative Factors Affect National Forest Management* (2002). See Keiter, *Ecological Concepts*, *supra* note 407, at 980 (describing how agency officials lament that judicial insistence on rigorous compliance with NEPA and ESA procedures has “disabled them from implementing even well-conceived decisions”).

⁴¹⁰ Ruhl & Salzman, *supra* note 28, at 697. See Michael B. Gerrard, *Legal Pathways for a Massive Increase in Utility Scale Renewable Generation Capacity*, 47 ENV’T L. REP. NEWS & ANALYSIS 10,591 (2017) (describing how judicial challenges have delayed renewable energy projects).

⁴¹¹ Ruhl & Salzman, *supra* note 28, at 715.

⁴¹² *Id.*

⁴¹³ *Id.* at 718.

⁴¹⁴ *Id.* at 719-20.

⁴¹⁵ *Id.* at 719-20.

⁴¹⁶ MOU, *supra* note 402, at 10.

⁴¹⁷ Migratory Bird Permits; Authorizing the Incidental Take of Migratory Birds, 86 Fed. Reg. 54667, 54669 (Oct. 4, 2021) (advance notice of proposed rulemaking).

regulatory protections if initial standards prove inadequate; facilitate responses to unanticipated or unacceptable cumulative harms; and foster more public participation and accountability than an outright exemption in that general permits are typically issued through notice and comment rulemaking.⁴¹⁸ The use of general permits must be accompanied by a commitment to monitoring and oversight by the issuing agency, however, to minimize noncompliance risks and unintended consequences.⁴¹⁹

As for NFMA and FLPMA, the next generation of resource management plans must grapple with the potential conflict between renewable energy development and biodiversity conservation.⁴²⁰ A proposal for geothermal development within the Santa Fe National Forest shows how planning can be used to curtail development when its adverse impacts outweigh its benefits. Interest in geothermal resources picked up about a decade ago after the Forest Service and BLM issued an environmental review aimed at facilitating development in a dozen western states.⁴²¹ The review was stimulated by the Energy Policy Act of 2005, which required that 90% of the approximately 100 geothermal lease applications that were pending as of January 1, 2005 be issued, rejected, or otherwise disposed of by August 8, 2010.⁴²²

In 2015, Ormat Technologies Inc. expressed an interest in leasing 46,000 acres surrounding the Valles Caldera National Preserve in New Mexico for geothermal energy exploration and development.⁴²³ The land is within the Santa Fe National Forest, and is part of 195,000 acres that has “significant geothermal potential,” according to the U.S. Geological Survey.⁴²⁴ The Forest Service prepared a detailed EIS to respond to Ormat’s request and, more broadly, to the interest in geothermal resource development.⁴²⁵ Instead of authorizing leasing, the record of decision (ROD)

⁴¹⁸ Eric Biber & J.B. Ruhl, *The Permit Power Revisited: The Theory and Practice of Regulatory Permits in the Administrative State*, 64 DUKE L.J. 133, 217-18 (2014); see also Robert L. Glicksman & David L. Markell, *Unraveling the Administrative State: Mechanism Choice, Key Actors, and Regulatory Tools*, 36 Va. Env’tl. L.J. 318, 345 (2018).

⁴¹⁹ See David L. Markell & Robert L. Glicksman, *Dynamic Governance in Theory and Application, Part I*, 58 ARIZ. L. REV. 563, 603 (2016); David L. Markell & Robert L. Glicksman, *A Holistic Look at Agency Enforcement*, 93 N.C. L. REV. 1, 57 (2014).

⁴²⁰ See *supra* note 400 (discussing ESA and NEPA challenges).

⁴²¹ *BLM Launches Effort to Facilitate Renewable Energy Development on Federal Lands*, ENV’T NEWS NETWORK (Aug. 27, 2007), <https://www.enn.com/articles/22330-blm-launches-effort-to-facilitate-renewable-energy-development-on-federal-lands>.

⁴²² Energy Policy Act of 2005, Pub. L. No. 109-58, § 225, 119 Stat. 594, 665 (codified at 42 U.S.C. § 15871).

⁴²³ Santa Fe National Forest Geothermal Leasing EIS Final Scoping Report 1-2 (2015), https://www.fs.usda.gov/nfs/11558/www/nepa/101582_FSPLT3_2576931.pdf.

⁴²⁴ Valles Caldera National Preserve contains “some of the most extensive geothermal activity in the West, including hot springs, bubbling mudpots and steaming fumaroles.” Nat’l Parks Conservation Ass’n, *Geothermal Development Prohibited Near Valles Caldera National Preserve*, <https://www.npca.org/articles/1873-geothermal-development-prohibited-near-valles-caldera-national-preserve> (last visited June 14, 2018).

⁴²⁵ Santa Fe National Forest; New Mexico; Geothermal Leasing, 80 Fed. Reg. 27285 (May 13, 2015); Santa Fe National Forest Geothermal Leasing EIS (2017), <https://www.fs.usda.gov/project/?project=46886>. See Rebecca Moss, *Officials Weigh Geothermal Energy Leases Near Valles Caldera*, SANTA FE NEW MEXICAN (July 18, 2016), https://www.santafenewmexican.com/news/local_news/officials-weigh-geothermal-energy-leases-near-valles-caldera/article_24d6d8a0-efe9-5e24-be7a-a37b8425762a.html.

amended the Santa Fe Forest Plan by closing the area to geothermal leasing.⁴²⁶ The ROD cited findings within the EIS regarding adverse impacts to the watershed and other forest resources, grazing, recreation, tribal cultural interests, and to the Valles Caldera Preserve.⁴²⁷

Conversely, plan amendments have been adopted to authorize renewable energy projects while striving to ensure that development be undertaken in a manner consistent with statutory and regulatory requirements, and without significant impairment to ecological integrity. For example, the BLM amended seventy of its land use plans to support Greater sage-grouse conservation throughout the West while allowing some development.⁴²⁸ Plan amendments establish caps on the amount of ground disturbance caused by solar and wind development and require compensatory mitigation to offset disturbances in excess of those caps.⁴²⁹

Similarly, the BLM during the Obama Administration used its authority under FLPMA to issue rights-of-way⁴³⁰ to establish a fast-track program for approving the use of public lands in the Southwest for utility-scale solar projects. In doing so, the BLM noted that its effort to displace electricity derived from fossil fuels with carbon-free generation sources required “a careful balancing of many competing interests in managing public lands.”⁴³¹ Among other things, in approving solar projects, the BLM reduced the size of the projects it approved, required or encouraged relocation of facilities away from sensitive resources, and took a variety of steps to limit damage to endangered species and their habitats.⁴³² The agency also took steps to minimize impacts on water supplies, curtail adverse impacts on Native American cultural resources, and minimize interference with other authorized uses at or near project sites.⁴³³

The BLM’s efforts to push through solar projects while shielding natural and cultural resources from impairment were not entirely successful.⁴³⁴ Subsequently, the BLM adopted a programmatic EIS “to address solar development on BLM land more strategically.”⁴³⁵ The EIS identified 285,000

⁴²⁶ Record of Decision, Santa Fe National Forest Geothermal Leasing (2018), <https://www.fs.usda.gov/project/?project=46886>.

⁴²⁷ *Id.* at 1-2. See Santa Fe National Forest Geothermal Leasing EIS at iii and Chapter 3 (2018), <https://www.fs.usda.gov/project/?project=46886>.

⁴²⁸ BLM, Sage-grouse Plans, <https://www.blm.gov/programs/fish-and-wildlife/sagegrouse/blm-sagegrouse-plans> (last visited June 17, 2022).

⁴²⁹ Justin R. Pidot, *Compensatory Mitigation and Public Lands*, 61 B.C. L. REV. 1045, 1065 (2020) (citing BLM, Desert Renewable Energy Conservation Plan Record of Decision 6-7 (2016)).

⁴³⁰ 43 U.S.C. § 1761.

⁴³¹ Glicksman, *Solar Energy*, *supra* note 344, at 131 (quoting U.S. Dep’t of the Interior, Bureau of Land Mgmt., Record of Decision, Blythe Solar Power Project 1 (2010)).

⁴³² For example, the BLM built mitigation requirements into project approvals and related ESA biological opinions, including species relocations, habitat enhancement actions, predator control programs, and purchase of alternative habitats for at-risk species. *Id.* at 132-34.

⁴³³ *Id.* at 134-36.

⁴³⁴ See, e.g., *Quechan Tribe of Fort Uma Indian Reservation v. U.S. Dep’t of Interior*, 755 F. Supp. 1104, 1120-22 (S.D. Cal. 2010) (enjoining a solar energy project in the California Desert Conservation Area based on likelihood that the BLM violated the National Historic Preservation Act and “serious questions” concerning FLPMA violations).

⁴³⁵ Amy Wilson Morris & Jessica Owley, *Mitigating the Impacts of the Renewable Energy Gold Rush*, 15 MINN. J.L. SCI. & TECH. 293, 343 (2014).

acres of public lands on which the BLM encouraged the location of solar energy projects and related infrastructure. The agency required applicants proposing projects outside these areas to show that development within a designated solar energy zone is infeasible. The EIS indicated that the BLM would rely on regional mitigation plans, monitoring, and adaptive management plans to reduce harmful effects on lands and resources.⁴³⁶

These examples indicate that the multiple use agencies have the capacity and, at least at times, have had the will to promote expeditious renewable energy development while seeking to minimize avoidable adverse environmental impacts. Past efforts have not been completely successful, but they have spotlighted promising approaches as well as pitfalls that point the way to a process for achieving an appropriate balance in the future.

VII. Conclusion: The Watershed Theme

According to John Leshy, over a century ago, as the population of the West grew, many supported a policy of “keeping lands in the upper reaches of watersheds in public ownership in order to safeguard relatively scarce water supplies.”⁴³⁷ Today, the population of the West has exploded, and water supplies are strained to, and in some cases beyond, the breaking point.⁴³⁸ Watershed protection is all the more imperative.

The Public Land Law Review Commission explained:

Federal lands are the source of most of the water in the 11 coterminous western states, providing approximately 61 percent of the total natural runoff occurring in the region. Most of this runoff comes from land withdrawn or reserved for specific purposes. Forest Service and National Park Service reservations contribute about 88 and 8 percent, respectively, of the runoff from public lands and more than 59 percent of the total yield from all lands of those states.⁴³⁹

The Commission noted that other public lands, such as those managed by the BLM, do not contribute much to the yield of western streams, but they do impact water quality either by promoting erosion and sedimentation, which effectively smothers streams, or by preventing it.⁴⁴⁰

The time has come to take watershed protection seriously. Just as the Commission recommended fifty years ago, the public land management agencies should identify, prioritize, and commit to

⁴³⁶ *Id.* at 343-44.

⁴³⁷ Leshy, *America's Public Lands*, *supra* note 94, at 1-5.

⁴³⁸ Zak Podmore, *The System is at a Tipping Point: Feds say Unprecedented Cuts Needed to Balance Colorado River Water Budget*, S.L. TRIBUNE (June 18, 2022); Zachary Wolf, *The American West is Drying Out. Things Will get Ugly*, CNN Politics (June 20, 2021). As noted above, at *supra* notes 51-53, the Forest Service's Climate Roadmap expressed particular concern for drought, and recognized that intact forests recharge aquifers, regulate stream flows, reduce soil erosion, and “play an increasingly vital role in protecting the Nation's watersheds.”

⁴³⁹ ONE-THIRD OF THE NATION'S LAND, *supra* note 5, at 141.

⁴⁴⁰ *See id.* at 150, 141 (“Stream sediment loads reduce reservoir storage capacity, in addition to affecting fish habitat, municipal water supplies, and irrigated crops.”).

specific goals for watershed protection and management.⁴⁴¹ In addition, the agencies should monitor and assess the effects of their management practices, and adapt those practices as necessary to achieve their watershed goals.⁴⁴²

The 30 by 30 Initiative provides an opportunity to manage public lands tracts to protect the watershed resource, if necessary, to the exclusion of other multiple uses that are inconsistent with its protection. FLPMA explicitly defines multiple use to include “the use of some land for less than all of the resources.”⁴⁴³ NFMA and MUSYA have been construed the same way.⁴⁴⁴

Professor Coggins argued that “[w]atershed should be the key element in” coordinated consideration of the effects of a proposed action on all multiple uses “because *all other uses* ultimately depend on the quality, quantity, and stability of the soil and water—the essence of the watershed resource.”⁴⁴⁵ Specifically, Coggins argued that FLPMA’s identification of watershed as a multiple use *requires* the BLM to impose restrictions on grazing activities that harm or threaten to harm watershed values.⁴⁴⁶ The same holds true under NFMA, MUSYA, and the Forest Service Organic Act, and the argument extends to timber management, mining, energy development (including renewables), and recreation.⁴⁴⁷ For the National Forests, the Planning Rules put a finer point on the statutory emphasis on watersheds by mandating provisions for ecological integrity.⁴⁴⁸ For both agencies, coordinated consideration and conservation of the watershed resource—a resource that by its very nature encompasses the entire ecosystem and all inhabitants within an entire drainage basin—can only be accomplished through thoughtful planning.

Despite a paucity of congressional guidance on the meaning or role of the watershed resource, Congress regarded it as of “great public significance.”⁴⁴⁹ Although courts may not go so far as to require the Forest Service or the BLM to prioritize watershed protection over other conflicting

⁴⁴¹ ONE-THIRD OF THE NATION’S LAND, *supra* note 5, at 150 (Recommendation 58). The Commission’s recommendation was aimed at Congress, but the agencies have the discretion to achieve these goals under their current statutory authority.

⁴⁴² *Id.* at 151. “The effects of the various [watershed management] practices are not presently demonstrable in many cases; and the level of expenditure appears generally inadequate to achieve even minimal objectives within a reasonable time.” *Id.*

⁴⁴³ 43 U.S.C. § 1702(c); *see also* 16 U.S.C. § 531(a) (Multiple Use, Sustained Yield Act provision to the same effect).

⁴⁴⁴ *See supra* note 126.

⁴⁴⁵ Coggins, *Watershed*, *supra* note 83, at 18 (emphasis added); *see also* 3 COGGINS & GLICKSMAN, *supra* note 126, § 35:34 (“it is logically inescapable that watershed is the key, integrative public resource”).

⁴⁴⁶ Coggins, *Watershed*, *supra* note 83, at 18.

⁴⁴⁷ *See supra* Part IV.A. Forests were reserved, initially, for watershed purposes. *See* 16 U.S.C. § 475 (“for the purposes of securing favorable conditions of water flows...”).

⁴⁴⁸ *See supra* notes 182-184.

⁴⁴⁹ Coggins, *Watershed*, *supra* note 83, at 8 (quoting SENATE COMM. ON ENERGY AND NATURAL RESOURCES, 95TH CONG., 2D SESS., LEGISLATIVE HISTORY OF THE FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976, at 435 (Comm. Print 1978)).

uses,⁴⁵⁰ there is certainly nothing in either FLPMA or NFMA that restricts the multiple use agencies' discretionary authority to take that approach in pursuit of 30 by 30 conservation goals.⁴⁵¹

Coggins provided examples of management for watershed protection. These include affirmative actions such as reforestation and erosion control projects, as well as the imposition of prohibitions or restrictions on roadbuilding and extractive uses such as clearcutting or other forms of even-aged timber management, livestock grazing, and mining operations that contribute to watershed deterioration.⁴⁵² But to achieve effective watershed protection, the multiple use agencies will need to subordinate other uses with the potential to damage ecological integrity.⁴⁵³ The 30 by 30 initiative may give them the fortitude and the political cover to do so.

This Article has identified provisions of the multiple use statutes that afford the Forest Service and the BLM with considerable authority and discretion to devise strategies and initiate programs to contribute to 30 by 30 goals. Given the percentage of federal lands that they manage, the large portions of their lands that can be newly devoted to conservation, and the unavailability of most other federal lands systems for significant renewable energy projects, it is imperative that they take advantage of that authority if the agencies expect to play a prominent role in making those goals a reality. Building on the Forest Service's 2012 planning rules and the BLM's 2016 aborted planning overhaul, the two agencies should implement their statutory planning mandates in the service of enhanced conservation on the multiple use lands, using ecosystem management tools and watershed protection to support healthy ecological functions as their touchstones. The multiple use statutes created a strong foundation for conservation-oriented land and resource management. The 30 by 30 Initiative provides an opportunity to build a solid conservation legal and policy infrastructure on that foundation.

⁴⁵⁰ *Id.* at 21-22. Coggins also argued that the requirement that the BLM manage in accordance with sustained yield principles buttresses his interpretation of FLPMA because “[t]he sustained yield concept incorporates the limitation that the use of one resource must not permanently impair the productivity of other resources.” *Id.* at 22. The UUD standard points in the same direction because “[l]ong-term degradation that is easily avoidable seems both unnecessary and undue.” *Id.* But he admitted that “[t]he conclusion that watershed may be an independent limitation on managerial discretion that the courts will enforce is almost wholly speculative.” 3 COGGINS & GLICKSMAN, *supra* note 126, § 35:34.

⁴⁵¹ *See* note 155 (noting that the Forest Service's authority to adopt a nationwide roadless rule was upheld in court).

⁴⁵² Coggins, *Watershed*, *supra* note 83, at 21.

⁴⁵³ *See id.* at 14 (noting the potential for intensive recreation and wildlife overpopulations to cause adverse effects); *id.* (“[A]ny activities or practices that can denude ground cover, destroy root systems, overutilize riparian vegetation, cause mudslides, dry up the stream, or otherwise promote erosion are potential threats to watershed quality.”).