Idaho Law Review

Volume 56 | Number 1 Article 14

Landscape Conservation, Wildlife Management, and the Federal Public Lands: A Primer

Robert B. Keiter

LANDSCAPE CONSERVATION, WILDLIFE MANAGEMENT, AND THE FEDERAL PUBLIC LANDS: A PRIMER

ROBERT B. KEITER*

TABLE OF CONTENTS

I. INTRODUCTION

Landscape conservation is now widely acknowledged as the basis for effective wildlife management. As Professor Goble and colleagues put it in their ground breaking study of the Endangered Species Act, "[w]e have come to realize the importance of landscape-scale patterns and processes, greatly extending the relevant space and time scales for effective conservation."[1] Landscape conservation seeks to address the problem Professors Goble and Freyfogle subsequently identified as the "tragedy of fragmentation."[2] Put simply, the legal boundaries we have constructed to define land ownership and management responsibilities do not align with the life cycle needs of most species, and thus fragment wildlife habitat.[3] Today, faced with accelerating climate change impacts, unrelenting development pressures, and ongoing species loss, scientists agree that a landscape-level approach to wildlife conservation is not only important but essential to address these threats.[4]

---

* Wallace Stegner Professor of Law, University Distinguished Professor, Director, Wallace Stegner Center for Land, Resources and the Environment. My sincere thanks to the University of Idaho College of Law and the Idaho Law Review for providing this opportunity to honor Professor Dale Goble, a remarkable colleague, friend, and scholar.

1. Dale D. Goble et al., *Conserving Biodiversity in Human-Dominated Landscapes*, *in* 2 THE ENDANGERED SPECIES ACT AT THIRTY: CONSERVING BIODIVERSITY IN HUMAN-DOMINATED LANDSCAPES 288 (Michael Scott et al. eds., 2006).

2. ERIC T. FREYFOGLE & DALE D. GOBLE, WILDLIFE LAW: A PRIMER 282 (2009).

3. *Id.* at 282–83.

4. *See generally* Molly S. Cross et al., *Landscape and Seascape Climate Change Planning and Action*, *in* CLIMATE AND CONSERVATION: LANDSCAPE AND SEASCAPE SCIENCE, PLANNING, AND ACTION 16 (Jodi A. Hilty et al., eds., 2012).

The federal public lands have long provided wildlife with vital habitat while also serving as a sanctuary to sustain and recover dwindling species. The four federal land management agencies each have legal wildlife conservation responsibilities, and each oversees significant landholdings that can be enlisted in landscape conservation efforts.[5] Federal law extends legal protection to various wildlife species,[6] while federal funding helps underwrite state wildlife conservation efforts.[7] Recent federal administrative initiatives have legitimized and advanced broad-scale conservation efforts, including the Clinton era ecosystem management projects and the Obama era Landscape Conservation Cooperatives (LCC).[8]

This essay explores the emergent concept of landscape conservation as it is evolving on the public lands. It begins by defining landscape conservation and describing its origins. Next, it briefly examines the legal framework underlying current landscape conservation efforts with a focus on the public lands but recognizing the role of privately owned lands in such efforts. It then highlights several landscape conservation initiatives, reviewing the legal and other forces supporting them. The essay concludes with a few observations on the future of landscape conservation.

II. THE LANDSCAPE CONSERVATION CONCEPT

The concept of landscape conservation owes its origins to contemporary science. The related sciences of ecology and conservation biology have substantially advanced understanding of how species interact with their environment and what is necessary to sustain biodiversity over the long term. Given the disequilibrium of ecosystems as well as the destabilizing effects of climate change and ever-growing human pressures, scientists concur that an effective wildlife conservation strategy requires an interconnected system of nature reserves large enough to

5. *See, e.g.*, Multiple Use Sustained Yield Act, 16 U.S.C. § 528 (national forests established for, among other uses, "wildlife and fish purposes"); Federal Land Policy and Management Act, 43 U.S.C. § 1702(c) (defining "multiple use" to include "wildlife and fish"). For the scope of federal landholdings, *see* CONG. RESEARCH SERV., R42346, FEDERAL LAND OWNERSHIP: OVERVIEW AND DATA (updated 2020), https://fas.org/sgp/crs/misc/R42346.pdf.

6. *See, e.g.*, Endangered Species Act, 16 U.S.C. §§ 1531–1544 (2018); Bald and Golden Eagle Protection Act, 16 U.S.C. §§ 668–668d (2018); Migratory Bird Treaty Act, 16 U.S.C. §§ 703–712 (2018).

7. *See, e.g.*, Barton H. Thompson, Jr., *Providing Biodiversity Through Policy Diversity*, 38 IDAHO L. REV. 355, 365–79 (2002) (outlining federal funding programs for wildlife conservation).

8. *See* JAMES R. SKILLEN, FEDERAL ECOSYSTEM MANAGEMENT: ITS RISE, FALL, AND AFTERLIFE 150–82 (2015); NAT'L ACADS. OF SCI., ENG'G, & MED., A REVIEW OF LANDSCAPE CONSERVATION COOPERATIVES 1–5 (2016).

accommodate ecological change over time.[9] Such an approach preserves ecological integrity by enabling disjunct species to connect with one another and displaced species to relocate to more suitable habitat.[10] Related adaptive management concepts are designed to enable managers to monitor and adjust their conservation strategies to sometimes unforeseen changes unfolding on the landscape.[11] In short, science provides a roadmap for preserving the array of species and ecosystems that undergird and enrich life on earth.

This knowledge has given rise to landscape conservation as a critical strategy to avert extinction and sustain resilient populations of existing species. The landscape approach to conservation has been defined as "provid[ing] tools and concepts for allocating and managing land to achieve social, economic, and environmental objectives in areas where agriculture, mining and other productive land uses compete with environmental and biodiversity goals."[12] More simply put, it focuses on "land and water problems at an appropriate geographic scale, regardless of political and jurisdictional boundaries."[13] Not confined to any particular size or ecosystem,[14] landscape conservation is by definition multi-jurisdictional, multi-purpose, and multi-stakeholder.[15] To surmount the artificial legal boundaries imposed on the land, this enlightened approach to wildlife conservation requires meaningful—and sometimes unprecedented—levels of coordination among the federal, state, local, and tribal officials who oversee the nation's diverse wildlife species. It also requires the cooperation of private landowners who often own and control important habitat.[16]

---

9. JODI HILTY ET AL., CORRIDOR ECOLOGY: THE SCIENCE AND PRACTICE OF LINKING LANDSCAPES FOR BIODIVERSITY CONSERVATION (2006); Michael E. Soule & John Terborgh, *The Policy and Science of Regional Conservation, in* CONTINENTAL CONSERVATION: SCIENTIFIC FOUNDATIONS OF REGIONAL RESERVE NETWORKS 6 (Michael E. Soule & John Terborgh eds., 1999); REED F. NOSS & ALAN Y. COOPERRIDER, SAVING NATURE'S LEGACY: PROTECTING AND RESTORING BIODIVERSITY 138–42 (1994).

10. HILTY ET AL., *supra* note 9, at 89–115.

11. *See* R. Stuart Chapin III et al., *Planning in the Context of Uncertainty: Flexibility for Adapting to Change*, *in* BEYOND NATURALNESS: RETHINKING PARK AND WILDERNESS STEWARDSHIP IN AN ERA OF RAPID CHANGE 216, 223–25 (David N. Cole & Laurie Yung eds., 2010); J.B. Ruhl & Robert L. Fischman, *Adaptive Management in the Courts*, 95 MINN. L. REV. 424, 427–43 (2010).

12. NATI'L ACADS. OF SCI., ENG'G, & MED., *supra* note 8, at 2.

13. MATTHEW MCKINNEY ET AL., LARGE LANDSCAPE CONSERVATION: A STRATEGIC FRAMEWORK FOR POLICY AND ACTION 2 (2010).

14. *See* William R. Clark, *Principles of Landscape Ecology*, NATURE EDUC. KNOWLEDGE (2010), https://www.nature.com/scitable/knowledge/library/principles-of-landscape-ecology-13260702/ (defining landscape ecology to involve "the pattern and interaction between ecosystems within a region of interest, and the way the interactions affect ecological processes").

15. MATTHEW MCKINNEY & SHAWN JOHNSON, LARGE LANDSCAPE CONSERVATION IN THE ROCKY MOUNTAIN WEST: AN INVENTORY AND STATUS REPORT 2 (2013), http://landscapeconservation.org/wp-content/uploads/2018/01/Large-Landscape-Conservation-in-the-Rocky-Mtn-West.pdf.

16. Federico Cheever, *Property Rights and the Maintenance of Wildlife Habitat: The Case for Conservation Land Transactions*, 38 IDAHO L. REV. 431, 432–35 (2002).

Landscape conservation is the natural—perhaps inevitable—outgrowth of the ecosystem management concept that took hold on public lands during the Clinton presidency. Faced with the Northern spotted owl–timber harvesting controversy in the Pacific Northwest, the Clinton administration embraced ecosystem management as a science-based policy shift to resolve this matter and other controversies that transcended existing boundary lines.[17] It defined "ecosystem management" as "a method for sustaining or restoring natural systems, and their functions and values. It is goal-driven, and it is based on a collaboratively developed vision of desired future conditions that integrates ecological, economic, and social factors. It is applied within a geographic framework defined primarily by ecological boundaries."[18] In the Pacific Northwest and elsewhere, ecosystem management projects prioritized science and ecological sustainability, prompting harsh criticism from those who looked to public lands for timber and other marketable commodities for their economic wellbeing. Critics viewed it as a top-down, federal program that discounted human needs to advance an environmental agenda.[19]

Upon taking office, the Bush administration promptly distanced itself from the ecosystem management concept. Instead, it promoted "cooperative conservation" as its policy standard for public land management, which included local, bottom-up approaches to wildlife conservation.[20] It sought to dismantle Clinton era initiatives, including the Northwest Forest Plan, while emphasizing energy development and largely ignoring emergent climate change problems.[21] Nonetheless, ecologically-related management concepts remained a part of federal law—most obviously in the Endangered Species Act, the National Environmental Policy Act (NEPA), and the National Forest Management Act—and persisted in scientific circles as a necessary response to deepening climate-related concerns.[22]

Once in office, the Obama administration took these concerns seriously and endorsed landscape-level conservation as federal policy within the four land management agencies and beyond. Recognizing that climate change effects and related biodiversity conservation concerns transcend conventional boundary lines, the Obama administration established Landscape Conservation Cooperatives to

---

17. ROBERT B. KEITER, KEEPING FAITH WITH NATURE: ECOSYSTEMS, DEMOCRACY, AND AMERICA'S PUBLIC LANDS 81–113 (2003); SKILLEN, *supra* note 8, at 183–221.

18. I INTERAGENCY ECOSYSTEM MGMT. TASK FORCE, THE ECOSYSTEM APPROACH: HEALTHY ECOSYSTEMS AND SUSTAINABLE ECONOMIES 17 (1995). For additional ecosystem management definitions, see KEITER, *supra* note 17, at 72–73.

19. *See, e.g.*, Allan K. Fitzsimmons, *Why a Policy of Federal Management and Protection of Ecosystems is a Bad Idea*, 40 LANDSCAPE & URB. PLAN. 195 (1998); ALLAN K. FITZSIMMONS, DEFENDING ILLUSIONS: FEDERAL PROTECTION OF ECOSYSTEMS 159–60, 231–32 (1999).

20. U.S. DEP'T OF THE INTERIOR, COOPERATIVE CONSERVATION: SUCCESS THROUGH PARTNERSHIPS (2004).

21. Robert B. Keiter, *Breaking Faith with Nature: The Bush Administration and Public Land Policy*, 27 J. LAND RESOURCES & ENVTL. L. 195, 205–12 (2007).

22. *See* HILTY ET AL., *supra* note 9, at 49–85; Richard J. Hobbs et al., *Evolving Ecological Understandings: The Implications of Ecosystem Dynamics*, *in* BEYOND NATURALNESS: RETHINKING PARK AND WILDERNESS STEWARDSHIP IN AN ERA OF RAPID CHANGE 34, 34–49 (David N. Cole & Laurie Yung eds., 2010).

coordinate the federal agency response to climate impacts at a landscape scale.[23] It also incorporated landscape assessment requirements in revisions to the Forest Service and Bureau of Land Management (BLM) planning rules,[24] representing an effort to integrate evolving scientific insights into federal resource management policy to promote ecological resiliency and biodiversity conservation. Other initiatives similarly promoted landscape conservation concepts, including the America's Great Outdoors program,[25] the National Park Service's *Revisiting Leopold* report,[26] the BLM's Master Lease Planning Process,[27] and the president's designation of the 1.35 million acre Bears Ears National Monument in southern Utah.[28] To forestall an endangered species listing for the declining sage grouse population found on western rangelands, the Obama administration conceived and implemented an unprecedented multi-state sage grouse conservation plan that extended across 165 million acres.[29] With the scale of the ecological changes confronting us becoming ever more evident, the responsible agencies started to target their conservation efforts at the larger landscape, which can extend across multiple ecosystem types.

The Trump administration, however, has sought to dismantle these emergent landscape-scale initiatives, emphasizing energy dominance and disregarding

---

23. Sec'y of the Interior, Order No. 3289, Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources (2009).

24. 36 C.F.R. §§ 219.5–.6 (2020) (national forest landscape planning assessments); Resource Management Planning, 81 Fed. Reg. 89,580, 89,629 (Dec. 12, 2016) (to be codified at 43 C.F.R. pt. 1600) (requiring BLM planners to prepare a landscape assessment early in the planning process). The revised BLM regulations also required BLM planners to identify vital areas for fish and wildlife, including corridors, as well as areas of critical environmental concern early in the planning process. Resource Management Planning, 81 Fed. Reg. 89,580, 89,626 (Dec. 12, 2016) (to be codified at 43 C.F.R. pt. 1600). However, invoking the Congressional Review Act, Pub. L. 104-121, sec. 251, 110 Stat. 847 (1996) (codified as amended at 5 U.S.C. §§ 801–808), Congress proceeded to repeal the revised BLM planning regulations. *See* Michael C. Blumm & Olivier Jamin, *The Trump Public Lands Revolution: Redefining "the Public" in Public Land Law*, 48 ENVTL. L. 311, 337–41 (2018).

25. DEP'T OF INTERIOR, DEP'T OF AGRIC., ENVTL. PROT. AGENCY & COUNCIL ON ENVTL. QUALITY, AMERICA'S GREAT OUTDOORS: A PROMISE TO FUTURE GENERATIONS 29–73 (2011).

26. NAT'L PARK SYS. ADVISORY BD. SCI. COMM., REVISITING LEOPOLD: RESOURCE STEWARDSHIP IN THE NATIONAL PARKS 16–23 (2012).

27. Press Release, U.S. Dep't of Interior, Secretary Salazar Launches Onshore Oil and Gas Leasing Reforms to Improve Certainty, Reduce Conflicts and Restore Balance on U.S. Lands (Jan. 6, 2010) (on file with U.S. Dep't of Interior), https://www.doi.gov/news/pressreleases/Secretary-Salazar-Launches-Onshore-Oil-and-Gas-Leasing-Reforms.

28. Proclamation No. 9558, 3 C.F.R. § 402 (2017).

29. *See, e.g.*, U.S. DEP'T OF INTERIOR & BUREAU OF LAND MGMT., RECORD OF DECISION AND APPROVED RESOURCE MANAGEMENT PLAN AMENDMENTS FOR THE ROCKY MOUNTAIN REGION (Sept. 2015); *see also* Peter M. Lacy, *The (Legal) Plight of the Greater Sage-Grouse,* FED. LAW., June 2018, at 33.

climate science. The LCCs have been de-funded,[30] while the Department of the Interior has radically altered the regional sage grouse plan.[31] The President also dramatically reduced the size of two prominent landscape-scale national monuments—the Bears Ears and Grand Staircase-Escalante national monuments in Utah.[32] In its wholehearted commitment to fossil fuel energy development, the Trump administration has revoked various climate-related initiatives, including the Clean Energy Plan, the coal leasing moratorium, the Interior Department's compensatory mitigation policy, the BLM's master lease planning process, and the cost of carbon rule.[33] Further, Congress has scuttled the revised BLM planning regulations that incorporated a landscape assessment requirement,[34] while the Interior Department is altering critical endangered species regulations that have helped to promote ecologically driven management policies.[35]

Given this history of the landscape conservation concept, there is little reason to believe the Trump administration will have the final word on the matter. Earlier policy initiatives persist, though perhaps in altered form. The science supporting landscape conservation is only growing stronger as scientists better understand the impacts of climate change on wildlife and ecological processes. And the law undergirding landscape conservation remains unchanged, opening the door for future federal policy changes and initiatives. Moreover, the courts may yet assume a more prominent role in promoting the landscape conservation concept.

III. THE LEGAL FRAMEWORK

The federal laws that bolstered the Clinton administration's ecosystem management policies support these nascent landscape conservation efforts. Because much has been written about the legal foundations for ecosystem management, what follows is a brief summary of the relevant statutes and regulations, including more recent legal developments that reinforce movement

30. Mallory Pickett, *Trump Administration Sabotages Major Conservation Effort, Defying Congress*, GUARDIAN (April 8, 2019), https://www.theguardian.com/environment/2019/apr/08/trump-administration-sabotages-major-conservation-effort-defying-congress.

31. Press Release, U.S. Dep't of Interior, Bureau of Land Mgmt., Updated Plans for Greater Sage-Grouse Conservation Reflect Wishes of States, Governors (Dec. 6, 2018) (on file with Bureau of Land Mgmt.), https://www.blm.gov/press-release/updated-plans-greater-sage-grouse-conservation-reflect-wishes-states-governors. *But see infra* note 75 (explaining that a federal court has enjoined the revised sage grouse plans).

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

33. *See* Blumm & Jamin, *supra* note 24, at 348–63.

34. *See supra* note 24 and accompanying text.

35. Revision of Regulations for Prohibitions to Threatened Wildlife and Plants, 83 Fed. Reg. 35174 (proposed July 25, 2018) (to be codified at 50 C.F.R. pt. 17); Revisions of Regulations for Interagency Cooperation, 83 Fed. Reg. 35178 (proposed July 25, 2018) (to be codified at 50 C.F.R. pt. 402).

toward landscape-level management approaches. The primary laws originally invoked to support ecosystem management on the public lands included the various organic acts governing the agencies, the Endangered Species Act, and the NEPA. Principal applicable provisions in these laws are the National Forest Management Act's (NFMA) diversity mandate,[36] the science-driven Endangered Species Act's listing, consultation, and take provisions,[37] and the NEPA's cumulative effects analysis requirement.[38] In addition, the NFMA, Federal Land Policy and Management Act (FLPMA), and the National Wildlife Refuge System Improvement Act of 1997 each contain coordination provisions,[39] which require the agencies to coordinate their resource management plans and project decisions with adjacent agencies and governmental entities. Collectively, these laws have elevated biodiversity conservation strategies and coordinated, ecosystem-level planning on agency agendas.

Key judicial decisions have interpreted the law to endorse an ecosystem- or landscape-scale approach to federal land management. In the seminal spotted owl litigation, citing the NFMA, NEPA, and the Endangered Species Act, the federal court observed: "Given the current condition of the forests, there is no way the agencies could comply with the environmental laws *without* planning on an ecosystem basis."[40] The court upheld the 24 million acre Northwest Forest Plan, which extended across three states, 19 national forests, and 7 BLM districts, representing the first major federal venture into broad-scale planning to safeguard an array of species that depended on the region's old growth forest lands.[41] The courts likewise upheld the Forest Service's expansive Sierra Nevada Ecosystem Project, which ultimately resulted in two overarching EISs amending the region's eleven national forest plans to restore ecological resilience to this interlocked chain of damaged

36. 16 U.S.C. § 1604(g)(3)(B) (2018).

37. 16 U.S.C. §§ 1533, 1536, 1538 (2018).

38. 40 C.F.R. §§ 1508.7, 1508.25 (2020). For more detailed analysis of ecosystem management law, see Robert B. Keiter et al., *Legal Perspectives on Ecosystem Management: Legitimizing a New Federal Land Management Policy*, in 3 ECOLOGICAL STEWARDSHIP: A COMMON REFERENCE FOR ECOSYSTEM MANAGEMENT 9 (N.C. Johnson et al. eds., 1999); Robert B. Keiter, *Beyond the Boundary Line: Constructing a Law of Ecosystem Management*, 65 U. COLO. L. REV. 293 (1994).

39. 16 U.S.C. §1604(a) (2018); 43 U.S.C. § 1712(c)(9) (2018); 16 U.S.C. § 668dd(e)(3) (2018).

40. Seattle Audubon Soc'y v. Lyons, 871 F. Supp. 1291, 1311 (W.D. Wash. 1994), *aff'd sub nom.* Seattle Audubon Soc'y v. Moseley, 80 F.3d 1401 (9th Cir. 1996).

41. U.S. DEP'T OF AGRIC., U.S. DEP'T OF INTERIOR & BUREAU OF LAND MGMT., RECORD OF DECISION FOR AMENDMENTS TO FOREST SERVICE AND BUREAU OF LAND MANAGEMENT PLANNING DOCUMENTS WITHIN THE RANGE OF THE NORTHERN SPOTTED OWL (1994); U.S. DEP'T OF AGRIC. ET AL., FOREST ECOSYSTEM MANAGEMENT: AN ECOLOGICAL, ECONOMIC, AND SOCIAL ASSESSMENT REPORT OF THE FOREST ECOSYSTEM MANAGEMENT ASSESSMENT TEAM (1994); *see* Lauren M. Rule, *Enforcing Ecosystem Management Under the Northwest Forest Plan: The Judicial Role*, 12 FORDHAM ENVTL. L. REV. 211 (2000).

forests.[42] More recently, the federal courts have interpreted the ESA to require the FWS to address connectivity between discrete population segments of species proposed for removal from the federal endangered species registry—rulings that effectively endorse a landscape-level perspective for endangered species management.[43] Applying NEPA, the federal courts are compelling the federal land management agencies to address climate change impacts in their environmental analyses.[44] And the federal courts have endorsed the adaptive management concept,[45] an important aspect of any ecologically-based resource management approach, including landscape conservation.

Statutory amendments and regulation revisions have further embedded ecological management principles in the governing law.[46] In 1997, Congress amended the National Wildlife Refuge System Administration Act by incorporating a "biological integrity, diversity, and environmental health" management standard as well as a comprehensive conservation planning requirement into refuge system planning processes, which the agency has translated into landscape-scale planning policies.[47] The 1998 amendments to the National Parks Organic Act elevated the role of science in park resource management,[48] while 2006 revisions to the agency's Management Policies commit to "maintain[ing] as parts of the natural ecosystems of parks all plants and animals native to park ecosystems," acknowledge that "parks are integral parts of larger regional environments," and direct park managers to engage neighbors in "cooperative conservation" efforts.[49] In 2012, the Forest Service revised its NFMA planning regulations to require forest managers to prepare a landscape assessment at the front end of forest planning, and to require consideration of such landscape-level factors as climate change, wildfire regimes, and migration corridors.[50] Moreover, all of the federal land management agencies are required to coordinate their planning and decision-making processes with

42. Sierra Forest Legacy v. Sherman, 951 F. Supp. 2d 1161 (9th Cir. 2011); Pac. Rivers Council v. U.S. Forest Serv., 942 F. Supp. 2d 1014 (E.D. Cal. 2013); U.S. FOREST SERV., SIERRA NEVADA FOREST PLAN AMENDMENT FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT RECORD OF DECISION (2001); U.S. FOREST SERV., SIERRA NEVADA FOREST PLAN AMENDMENT FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT RECORD OF DECISION (2004).

43. Humane Soc'y v. Zinke, 865 F.3d 585 (D.C. Cir. 2017); Crow Indian Tribe v. United States, 343 F. Supp. 3d 999 (D. Mont. 2018).

44. *See, e.g.*, WildEarth Guardians v. U.S. Bureau of Land Mgmt., 870 F.3d 1222 (D.C. Cir. 2017); WildEarth Guardians v. Zinke, 368 F. Supp. 3d 41, 67–68 (D.D.C. 2019).

45. Ruhl & Fischman, *supra* note 11.

46. *See infra* notes 47–51.

47. 16 U.S.C. §§ 668dd(a)(4)(B), (e)(1)(A)(i) (2018); *see* Robert L. Fischman & Vicky J. Meretsky, *Managing Biological Integrity, Diversity, and Environmental Health in the National Wildlife Refuges: An Introduction to the Symposium*, 44 NAT. RESOURCES J. 931, 939–42 (2004).

48. National Parks Omnibus Management Act of 1998, Pub. L. 105-391, 112 Stat. 3497 (codified as amended at 54 U.S.C. §§ 100701, 100703, 100706 (2014)).

49. NAT'L PARK SERV., MANAGEMENT POLICIES 2006, at 13, 36, 42 (2006).

50. 36 C.F.R. §§ 219.5–.6 (2020).

neighboring federal, state, local, and tribal entities[51]—clear recognition that scale considerations are central to federal resource management.

Of course, state law generally governs wildlife management on federal lands outside of the national parks and wildlife refuges. The states are largely responsible for managing wildlife populations on national forest and BLM lands, while the Forest Service and BLM are responsible for habitat maintenance.[52] State wildlife management has long been based upon the so-called North American Model,[53] which looks to revenues derived mainly from hunters and fishers to support the state game and fish agencies and to secure habitat primarily for big game species.[54] Several states have also adopted state endangered species laws designed to protect biodiversity, moving beyond big game management to encompass the full array of species found on the landscape.[55] Few of these laws, however, contain mandatory enforcement mechanisms or promote ecological planning.[56] Federal funds are available to the states to support wildlife conservation efforts through such programs as the Farm Bill's Conservation Reserve Program, which pays farmers a yearly rental fee for taking sensitive agricultural land out of production to benefit wildlife.[57] Congress also created the State Wildlife Grants Program in 2000 to protect at-risk species not yet considered endangered.[58] It offers matching federal funds to the states to develop and implement comprehensive state wildlife action plans (SWAPs) designed to conserve identified at-risk species.[59] The SWAPs provide state wildlife managers an opportunity to address biodiversity conservation at a regional scale, as has occurred in several states.[60]

---

51. *See supra* note 39 and accompanying text; NAT'L PARK SERV., *supra* note 49, at 13–14.

52. Martin Nie et al., *Fish and Wildlife Management on Federal Lands: Debunking State Supremacy*, 47 ENVTL. L. 797, 857–76 (2017).

53. *Id.* at 811–14 (describing and criticizing the North American Model).

54. *Id.*

55. Robert L. Fischman et al., *State Imperiled Species Legislation, 48 ENVTL. L. 81 (2018); Eric Biber, A Survey of State Wildlife and Endangered Species Protections*, 56 IDAHO L. REV. 11 (2020); *see also* Dale Goble et al., *Local and National Protection of Endangered Species: An Assessment*, 2 ENVTL. SCIENCE & POL'Y 43–59 (1999).

56. Fischman et al., *supra* note 55, at 116-17; Biber, *supra* note 55.

57. For an overview of the various federal grant programs available to landowners to promote conservation on privately owned lands, see *supra* note 7. *See also Wildlife and Sport Fish Restoration Program*, U.S. FISH & WILDLIFE SERV., https://wsfrprograms.fws.gov/Subpages/AboutUs/AboutUs1.htm (last updated Aug. 26, 2019) (enumerating and explaining the USFWS's various grant programs supporting wildlife conservation).

58. Department of the Interior and Related Agencies Appropriations Act, Pub. L. No. 106-291 § VII, 114 Stat. 922 (2000). *See also* Recovering America's Wildlife Act of 2019, H.R. 3742, 116th Cong. (2019) (creating a new federal grant program for species of greatest conservation need).

59. Vicky J. Meretsky et al., *A State-Based National Network for Effective Wildlife Conservation*, 62 BIOSCIENCE 970, 970–71 (2012).

60. *Id.* at 970.

Given the intermixed nature of land ownership, the federal public lands cannot be disconnected from adjacent or nearby privately owned lands for wildlife conservation purposes. Indeed, the landscape conservation idea envisions a seamless integration of federal, state, tribal, and private lands to provide the secure habitat and movement corridors that wildlife species require as they go about meeting their essential needs.[61] A combination of federal and state laws seek to encourage private landowners to protect habitats through conservation easement transactions. At the federal level, Congress grants property owners income and estate tax relief when they place a conservation easement on their property, so long as the easement promotes conservation and is permanent.[62] The states have all adopted conservation easement laws—often modeled on the Uniform Conservation Easement Act[63]—legitimizing this device as a conservation tool.[64] Today, more than 56 million acres are under conservation easements,[65] many of which are strategically located near or adjacent to protected federal lands.[66] State land use planning and zoning laws can also be employed to promote biodiversity by controlling development and thus protecting habitat.[67] Other legal devices available to safeguard wildlife habitat on nonfederal lands include the Endangered Species Act's habitat conservation planning process,[68] which is being employed at larger scales to protect habitat for listed species found on private lands.[69]

The law, however, also extends strong protection to property rights. Many landowners oppose zoning and other regulatory limits on their property.[70] Invoking the Constitution's fifth amendment prohibition on the taking of private property without compensation, property owners have secured favorable judicial rulings protecting property rights and constraining governmental regulatory efforts.[71]

---

61. *See supra* notes 12–16 and accompanying text.

62. 26 U.S.C. § 170(b)(1)(E)(i)–(ii) (2018).

63. Unif. Conservation Easement Act (Unif. Law Comm'n 1981).

64. *See* Mary Ann King & Sally K. Fairfax, *Public Accountability and Conservation Easements: Learning from the Uniform Conservation Easement Act Debates*, 46 NAT. REOURCES J. 65 (2006).

65. *56 Million Acres Voluntarily Conserved in America, National Land Trust Census Reveals*, LAND TR. ALLIANCE (Dec. 1, 2016), https://www.landtrustalliance.org/56-million-acres-voluntarily-conserved-america-national-land-trust-census-reveals.

66. *See generally Interactive Map*, NAT'L CONSERVATION EASEMENT DATABASE, https://www.conservationeasement.us/interactivemap/ (last visited May 15, 2020) (demonstrating proximity of conservation easements to federally owned lands).

67. *See* JAMES M. MCELFISH, NATURE-FRIENDLY ORDINANCES: LOCAL MEASURES TO CONSERVE BIODIVERSITY (2004).

68. 16 U.S.C. § 1539(a)(1)(B) (2018); 50 C.F.R. § 17.32(b) (2019); *see* Karin P. Sheldon, *Habitat Conservation Planning: Addressing the Achilles Heel of the Endangered Species Act*, 6 N.Y.U. ENVTL. L.J. 279, 295 (1998).

69. *See, e.g.*, *Plum Creek Native Fish HCP*, *Environmental Conservation Online System*, U.S. FISH & WILDLIFE SERV., https://ecos.fws.gov/ecp0/conservationPlan/plan?plan_id=609 (last visited Mar. 2, 2020) (noting that the HCP originally covered approximately 1.6 million acres).

70. ERIC T. FREYFOGLE, JUSTICE AND THE EARTH: IMAGES FOR OUR PLANETARY SURVIVAL 45–63 (1993).

71. *See, e.g.*, Lucas v. S.C. Coastal Council, 505 U.S. 1003 (1992); Leo Sheep Co. v. United States, 440 U.S. 668 (1979).

Recalcitrant landowners therefore have the legal tools to thwart the best-designed landscape conservation efforts. This reality has prompted calls for a new land ethic,[72] one built upon science and communal responsibility concepts for sustaining the natural world. The ultimate goal, of course, would be to translate such a new understanding into law and policy.[73]

IV. LANDSCAPE CONSERVATION INITIATIVES

The emergence of landscape conservation has a distinctive home-grown, ad hoc quality.[74] A cursory review of various landscape-level initiatives reveals a diverse set of players engaged in these efforts at various scales, ranging from local place-based initiatives to continental-level projects. These initiatives tend to draw heavily on science to define the appropriate scale and strategy necessary to stitch the landscape together. Although some efforts have emerged in the shadow of the law, others are driven by law and, on occasion, even legitimized in law. In many instances, federal agencies, state agencies, local governments, conservation organizations, and others have coalesced around a common desire to preserve a special place, including the wildlife species and natural processes found there. Upon consulting current science, the entities promoting these initiatives commonly realize that they need to frame their conservation efforts at a landscape level to achieve their goals.

The most distinctive feature of landscape conservation is the sheer scale of these efforts. Drawing upon ecological and climate science, landscape conservation projects can extend across millions of acres and cross jurisdictional boundaries. One example is the aforementioned federal sage grouse conservation initiative, a multi-party planning process that initially covered 165 million acres in 10 different western states and involved the revision of 98 different BLM and national forest resource management plans as well as related state plans.[75] The joint federal-state

72. ALDO LEOPOLD, A SAND COUNTY ALMANAC 262 (1966) (asserting that "[a] thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.").

73. FREYFOGLE & GOBLE, *supra* note 2, at 279–82.

74. The focus in this section is on wildlife-focused landscape conservation initiatives; other landscape conservation initiatives have focused on watershed protection, ecosystem services, local economic stability, and other similar goals, though most of these efforts also have a connection to wildlife conservation. MCKINNEY & JOHNSON, *supra* note 15, at 13–14; MCKINNEY ET AL., *supra* note 13, at 6–11.

75. Lacy, *supra* note 29, at 33–34. The Trump administration, however, has revised these initial sage grouse plans, significantly reducing the level of protection enjoyed by the birds. *See, e.g.*, Notice of

California Desert Renewable Energy Conservation Plan covers more than ten million acres of federal land in the Mojave Desert with the goal of carefully siting solar and other projects to protect sensitive species, wildlife corridors, and recreational opportunities.[76] The Crown of the Continent Ecosystem initiative embraces roughly 18 million acres in two nations in an effort to preserve the region's native wildlife and natural character.[77] Another example is The Nature Conservancy's Eastern United States climate resilience mapping project that demonstrates how to connect this expansive landscape to protect biodiversity in the face of a warming climate.[78]

Smaller scale conservation efforts can also be conceived in landscape terms and are often situated within larger initiatives. The Malpais Borderlands Group on the southern Arizona-New Mexico border is committed to preserving that unique landscape and its wildlife populations while maintaining traditional ranching activities.[79] In Montana, at the southern end of the Crown of the Continent Ecosystem, the Blackfoot Challenge pursues similar conservation objectives on intermixed federal, state, corporate, and private lands in order to safeguard the 2,400 square mile watershed's natural features while retaining a rural lifestyle.[80] It is also "nested" within the larger Crown of the Continent landscape, which can, in turn, be regarded as part of the international Yellowstone to Yukon (Y2Y) conservation initiative dedicated to preserving wildlife connectivity along the 2,000-mile spine of the Rocky Mountains.[81] In some instances, Congress has

---

Availability of Record of Decision and Approved Resource Management Plan Amendment for Greater Sage-Grouse Conservation, Wyoming, 84 Fed. Reg. 10322 (Mar. 20, 2019). After the BLM released the revised sage grouse conservation plans, a federal court in Idaho enjoined implementation of the plans. W. Watersheds Project v. Schneider, 417 F.Supp.3d 1319 (D. Idaho 2019); *see id.* at 1325-28 (explaining the revisions between the Obama era and Trump era sage grouse plans).

76. U.S. BUREAU OF LAND MGMT., WEST MOJAVE ROUTE NETWORK PROJECT DRAFT CALIFORNIA DESERT CONSERVATION PLAN AMENDMENT AND SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE CALIFORNIA DESERT DISTRICT (2018).

77. Ben Long, *The Crown of the Continent Ecosystem: Profile of a Treasured Landscape*, *in* SUSTAINING ROCKY MOUNTAIN LANDSCAPES 17, 28–33 (Tony Prato & Dan Fagre eds., 2007).

78. MARK G. ANDERSON ET AL., RESILIENT AND CONNECTED LANDSCAPES FOR TERRESTRIAL CONSERVATION (2016), https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/Pages/default.aspx.

79. NATHAN SAYRE, WORKING WILDERNESS: THE MALPAIS BORDERLANDS GROUP STORY AND THE FUTURE OF THE WESTERN RANGE (2006); *see also* R. Randall Schumann, *The Malpais Borderlands Project: A Stewardship Approach to Rangeland Management*, GEOCHANGE (Dec. 9, 2016), https://geochange.er.usgs.gov/sw/responses/malpai/.

80. History, BLACKFOOT CHALLENGE, https://blackfootchallenge.org/history/ (last visited May 15, 2020); *see also* Colin W. Phelps, Comment, *Finding Middle Ground on Wilderness: From the Wilderness Act of 1964 to the Forest Jobs and Recreation Act of 2013*, 36 PUB. LAND & RESOURCES L. REV. 223, 244 (2015).

81. *Vision and Mission*, YELLOWSTONE TO YUKON CONSERVATION INITIATIVE, https://y2y.net/about/vision-mission/ (last visited May 15, 2020); *see* Charles C. Chester, *Yellowstone to Yukon: Transborder Conservation Across a Vast International Landscape*, 49 ENVTL. SCI. & POL'Y 75 (2015); Charles C. Chester et al., *Yellowstone to Yukon, North America*, *in* CLIMATE AND CONSERVATION: LANDSCAPE AND SEASCAPE SCIENCE, PLANNING, AND ACTION 240 (Jodi A. Hilty et al. eds., 2012).

legislatively legitimized these types of local landscape conservation initiatives, such as the Owyhee Public Lands Management Act and the Rocky Mountain Front Rocky Mountain Front Conservation Management Area Act.[82] The list of landscape-scale initiatives with related linkages could go on, as dozens of such efforts are underway across the nation.[83]

Because landscape conservation initiatives generally cross jurisdictional boundaries, another common feature is the diverse array of entities engaged in each effort. Most of these initiatives involve some combination of federal, state, local, and tribal officials working with local businesses, landowners, and conservation groups to connect the broader landscape together to sustain existing wildlife populations, watershed integrity, and related recreational opportunities. In the Greater Yellowstone Ecosystem (GYE), the High Divide Conservation Initiative involves traditional conservation groups, land trusts, federal land managers, state officials, and local landowners working collaboratively to acquire conservation easements on private ranchlands; their goal is to connect the GYE grizzly bear population (and other at-risk species) with the more northerly Crown of the Continent landscape, both for genetic diversity and climate change adaptation purposes.[84] In the GYE, the 150 mile Path of the Pronghorn migration corridor brought together the Park Service, Forest Service, BLM, Wyoming Game and Fish Department, Wyoming Highway Department, and private landowners in a collaborative effort that now protects this vital migration corridor across multiple land ownerships.[85] The sage grouse initiative involves the Forest Service, Bureau of Land Management, U.S. Fish & Wildlife Service, state wildlife management agencies, private landowners, and nonprofit environmental organizations in a collaborative planning process that has placed substantial restrictions on energy development, livestock grazing, and off-road vehicle activity across a multi-state landscape.[86] Plainly, these types of expansive planning efforts cannot move forward without widespread buy-in from the responsible governmental agencies and local landowners as well as conservation and other groups whose interests are entwined in these efforts.

---

82. Owyhee Public Land Management Act of 2009, Pub. L. No. 111-11 § 1501–1508, 123 Stat. 992 (2009); Rocky Mountain Front Conservation Management Area Act of 2014, Pub. L. No. 113-291 § 3065, 128 Stat. 3833 (2014).

83. MCKINNEY & JOHNSON, *supra* note 1515, at 10–11; Matthew McKinney et al., *Regionalism in the West: An Inventory and Assessment*, 23 PUB. LAND & RESOURCES L. REV. 101, 121–91 (2002) (listing more than seventy western regionalism initiatives).

84. 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, 147–52 (2020).

85. David Cherney, *Securing the Free Movement of Wildlife: Lessons from the American West's Longest Land Mammal Migration*, 41 ENVTL. L. 599, 607–09 (2011).

86. *See supra* note 29 and accompanying text.

The catalyst for landscape conservation efforts varies by location, illustrating the diverse forces that have brought various entities and constituencies together. Sometimes these efforts are driven simply by a common commitment among neighbors to preserve the character of a specific place, including the wildlife resources that define the setting. Examples include the Blackfoot Challenge and Malpais Borderlands Group.[87] Sometimes the law, most notably the Endangered Species Act, has brought diverse entities and people together in an effort to avoid more intrusive governmental intervention, the sage grouse initiative being a prime example.[88] In other instances, governmental agencies have fostered (or helped foster) the effort; this was the case in the Crown of the Continent with formation of the Crown Managers Partnership, a cross-border group composed of the U.S. and Canadian agency officials overseeing the region's public lands.[89] Conservation groups have also played a catalyzing role in places like the Greater Yellowstone Ecosystem, where the Greater Yellowstone Coalition was an early proponent of ecosystem-level management.[90] In the eastern United States, The Nature Conservancy has assumed a lead role in promoting a landscape-scale approach to biodiversity conservation.[91] Across the country, these initiatives are proceeding in an ad hoc manner, adapted to local circumstances while sharing several common characteristics.

V. THINKING ABOUT THE FUTURE

As a matter of federal policy, the landscape conservation concept has endured a rocky ride that continues today. Nonetheless, the concept has attained notable legitimacy in scientific and other circles.[92] Key aspects of landscape conservation are already evident in federal law, policy, and on-the-ground initiatives, even as political support for the idea has vacillated during the past several administrations. Although Congress has yet to explicitly endorse the landscape conservation in law, the concept rests upon a tenable legal foundation, thus opening the door for continued experimentation and growth.

---

87. *See supra* notes 79–80 and accompanying text.

88. *See supra* note 29 and accompanying text. In the case of California's Mojave Desert renewable energy plan, the federally protected desert tortoise was an important factor in the landscape-scale design of that plan. U.S. BUREAU OF LAND MGMT., RECORD OF DECISION FOR THE LAND USE PLAN AMENDMENT TO THE CALIFORNIA DESERT CONSERVATION PLAN, BISHOP RESOURCE MANAGEMENT PLAN, AND BAKERSFIELD RESOURCE MANAGEMENT PLAN 20–25 (2016).

89. *See History*, CROWN MANAGERS PARTNERSHIP (last visited Mar. 2, 2020), https://www.crownmanagers.org/history; *see also* Joseph L. Sax & Robert B. Keiter, *The Realities of Regional Resource Management: Glacier National Park and Its Neighbors Revisited*, 33 ECOLOGY L.Q. 223, 302–04 (2006).

90. SUSAN G. CLARK, ENSURING GREATER YELLOWSTONE'S FUTURE: CHOICES FOR LEADERS AND CITIZENS 33–35 (2008).

91. *See supra* note 78 and accompanying text.

92. *See* discussion *supra* Section II.

Landscape conservation concepts are now widely endorsed in scientific, academic, and conservation community circles. Long recognizing that habitat is an essential element in wildlife management, scientists have embraced the already related ecosystem management and landscape conservation concepts, including wildlife corridors and continental-scale conservation efforts.[93] Academic researchers have examined these same concepts, promoting such ideas as adoption of wildlife corridor legislation and a national conservation network act.[94] Various environmental organizations are engaged in implementing landscape-scale conservation programs across the country, as reflected in The Nature Conservancy's Eastern climate resilience project and the High Divide Conservation Initiative in the Greater Yellowstone Ecosystem.[95] If the past is prologue, these nongovernmental-inspired ideas and initiatives will eventually find their way into law and policy, as some already have.

Federal law provides a legal foundation for incorporating landscape conservation ideas into federal policy. Building upon the legal framework undergirding the Clinton administration's ecosystem management policies, the Obama administration not only endorsed the landscape conservation concept, but it established the Landscape Conservation Cooperatives in an effort to meld science and policy at the scale necessary to address climate change and biodiversity concerns.[96] It also used its administrative authority to devise the multi-state sage grouse conservation plan and to incorporate landscape-scale mitigation requirements into resource management decisions.[97] The land management agencies have also been busy, as illustrated by the Crown Managers Group in the Crown of the Continent Ecosystem and the Path of the Pronghorn migration corridor in the Greater Yellowstone Ecosystem.[98] The Forest Service's revised NFMA planning rules are rife with landscape-scale concepts, including wildlife corridor,

---

93. Soule & Terborgh, *supra* note 9; Peter S. White et al., *Conservation at Large Scales: Systems of Protected Areas and Protected Areas in the Matrix*, *in* BEYOND NATURALNESS: RETHINKING PARK AND WILDERNESS STEWARDSHIP IN AN ERA OF RAPID CHANGE 197 (David N. Cole & Laurie Yung eds., 2010); Molly Cross et al., *Landscape and Seascape Climate Change Planning and Action*, *in* CLIMATE AND CONSERVATION: LANDSCAPE AND SEASCAPE SCIENCE, PLANNING, AND ACTION 16 (Jodi A. Hilty et al. eds., 2012).

94. Cherney, *supra* note 85; Robert B. Keiter, *Toward a National Conservation Network*, 42 HARV. ENVTL. L. REV. 62, 127–37; Jocelyn L. Aycrigg et al., *Completing the System: Opportunities and Challenges for a National Habitat Conservation System*, 66 BIOSCIENCE 774 (2016).

95. *See supra* notes 78, 84 and accompanying text.

96. *See supra* note 23 and accompanying text.

97. Sec'y of the Interior, Order No. 3330, Improving Mitigation Policies and Practices of the Department of the Interior (2013); Mitigation Impacts on Natural Resources from Development and Encouraging Related Private Investment, 80 Fed. Reg. 68,743 (Nov. 3, 2015).

98. *See supra* notes 85–90 and accompanying text.

climate change, and watershed considerations.[99] Over the years, the federal courts have affirmed these types of boundary-breaking efforts, as reflected in the decisions sustaining the ecosystem-based Northwest Forest Plan[100] and the recent grizzly bear delisting decision, which read a connectivity requirement into the ESA.[101] Despite the Trump administration's efforts to reverse this trend, the landscape conservation concept has clearly found its way into federal policy and is proving durable enough to persist even in the face of hostility.

As the landscape conservation approach matures, the looming question is whether the concept can—or should—be institutionalized by legislation at a national level and what that would entail. In the West and elsewhere, federal lands are a significant presence as well as an obvious and important component in landscape-level conservation initiatives. Often relatively undeveloped in relation to surrounding lands, federal lands offer open space and important wildlife habitat.[102] The federal land management agencies are positioned to bring necessary resources and technical knowledge to the effort, including funds to purchase sensitive privately owned parcels either outright or as a conservation easement.[103] Not only are basic landscape conservation concepts already evident in federal law, as we have seen, but Congress has legitimized several local, collaboratively-driven landscape conservation proposals, like the Owyhee, Rocky Mountain Front, and Washington County, Utah bills.[104] Given the pervasive threat posed by climate change as well as ongoing development pressures, Congress should, at a minimum, legislatively revitalize the LCCs to insulate them from further political pressure.[105] This would enable the LCCs to perform the scientific work necessary to more fully understand warming climate impacts and to build the cross-governmental relationships essential to implementing workable adaptation policies. Legislation is already pending to establish and safeguard federal wildlife corridors to enable species to meet their habitat needs in a changing world.[106] Proposals have been advanced to cohere the federal lands, particularly those already managed for protective purposes, into a coordinated national conservation network built upon landscape conservation principles.[107] Comprehensive climate change legislation

---

99. 36 C.F.R. §§ 219.5–.6, 219.8; *see also* Mark Squillace, *Rethinking Public Land Use Planning*, 43 HARV. ENVTL. L. REV. 415, 437–44 (2019) (advocating the use of landscape-level plans in federal public land planning processes).

100. Seattle Audubon Soc'y v. Lyons, 871 F. Supp. 1291, 1311 (W.D. Wash. 1994), *aff'd sub nom*. Seattle Audubon Soc'y v. Moseley, 80 F.3d 1401 (9th Cir. 1996).

101. Crow Indian Tribe v. United States, 343 F.Supp.3d 999, 1018–22 (D. Mont. 2018).

102. Keiter, *supra* note 9494, at 65, 138.

103. *Id.* at 105–07.

104. *See supra* note 82 and accompanying text; Washington County Growth and Conservation Act of 2009, Pub. L. No. 111–11, §§ 1971–1983, 123 Stat. 991 (2009).

105. Robert F. Baldwin et al., *The Future of Landscape Conservation*, 68 BIOSCIENCE 60 (2018).

106. *See* Wildlife Corridors Conservation Act of 2019, S. 1499, H.R. 2795, 116th Cong. (2019).

107. *See* Keiter, *supra* note 94, at 127–37; Aycrigg et al., *supra* note 94.

would provide a vehicle to incorporate these landscape conservation ideas into federal law as part of any new climate adaptation strategy.

An effective landscape conservation policy must extend beyond the federal lands to incorporate non-federal lands into the effort. Such an extension, however, poses significant political problems given the antipathy typically generated by federal involvement in land use policy—a traditional state and local function. Although federal regulatory authority can extend onto privately owned lands,[108] this would predictably generate resistance, which argues for non-regulatory approaches. Federal law already legitimizes various incentive-based approaches to land conservation in the form of federal funding for wildlife habitat acquisition,[109] conservation easement tax provisions,[110] and the coordination provisions embedded in the federal laws governing public land planning processes.[111] At the state level, land use planning, zoning, and conservation easement legislation represent existing legal tools to improve land management practices and to extend wildlife-related concerns onto private lands.[112] Further attention to these legal approaches as well as new funding mechanisms to acquire or safeguard wildlife habitat and connective corridors would help to enlist more private landowners in emerging landscape-level wildlife conservation efforts.

VI. CONCLUSION

In the final chapter of their book, *Wildlife Law: A Primer*, Professors Goble and Freyfogle make the case for preserving biodiversity at the landscape scale.[113] They concisely observe: "The key to conserving wildlife is protecting habitat; wild creatures need habitat to live."[114] They then call for "coordinated conservation steps over wide areas, on private as well as public land."[115] They note, however, the principal difficulties inherent in large-scale planning—the individual rights attached to private property as well as the challenge of coordinating at numerous

108. Section 9 of the Endangered Species Act, which prohibits any person from "taking" a federally protected species, applies to habitat modification on private as well as public lands. 16 U.S.C. § 1538(a)(1)(B); Babbitt v. Sweet Home Chapter of Cmtys. For a Great Or., 515 U.S. 687, 696–97 (1995).

109. *See, e.g.*, Land and Water Conservation Act, 54 U.S.C. § 200302 (2018). In 2019, Congress passed the John D. Dingell, Jr. Conservation, Management, and Recreation Act, which permanently reauthorized the Land and Water Conservation Fund. In August 2020, Congress passed the Great American Outdoors Act, Pub. L. 116-152, 134 Stat. 682 (2020), guaranteeing $900 million in permanent funding for the Land and Water Conservation Fund.

110. 26 U.S.C. § 170(b)(1)(E)(i)–(ii) (2018); *see* Nancy A. McLaughlin, *Tax Deductible Conservation Easements and the Essential Perpetuity Requirements*, 37 VA. TAX REV. 1 (2017).

111. *See supra* note 39 and accompanying text.

112. *See supra* note 67 and accompanying text.

113. FREYFOGLE & GOBLE, *supra* note 2, at 278.

114. *Id.*

115. *Id.*

governmental levels.[116] At this point, they recall Aldo Leopold's admonition that wildlife conservation requires public acceptance, including a willingness to value nature for its own sake.[117] Surveying the tools available to promote voluntary conservation and large-scale planning efforts, they perceive a "need to redefine the common understanding of landownership,"[118] while also experimenting with "new, landscape-scale governance methods."[119] As explained above, despite setbacks, movement is clearly afoot on the federal lands and beyond to implement landscape-scale conservation policies and practices. As these efforts unfold, they should help to further educate the public about the emergent landscape conservation imperative. Meantime, if we want to pass our unparalleled wildlife heritage on to future generations, we must begin writing the next chapter on the law and policy of wildlife management, moving landscape conservation even more to the fore.

116. *Id.*
117. *Id.* at 283.
118. *Id.* at 294.
119. *Id.* at 300.