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Bryan Leonard* and Shawn Regan**

LEGAL AND INSTITUTIONAL BARRIERS TO ESTABLISHING NON-USE RIGHTS TO NATURAL RESOURCES

ABSTRACT

For many natural resources, property rights are established and maintained by using the resource, but this creates obstacles to the emergence of non-use rights for environmental or conservation purposes. If rights can only be established once a resource is used, then the institutions that govern natural resources will be unable to resolve conflicting use and non-use demands. This article describes the ways in which various natural resource governance institutions are based on use rights and the obstacles that creates for accommodating environmental demands based on non-use. It provides several case studies that illustrate the challenges of establishing non-use rights to rangelands, oil and gas resources, timber, and water. These institutional impediments to the emergence of property rights-based solutions to conflicts over natural resources have been overlooked by many scholars, but they may be as important and prevalent as the common concerns over the provision of public goods and the free-rider problem.

1. INTRODUCTION

While the relative advantages of property rights over regulatory solutions to open-access problems have gained some acceptance among environmental economists, legal scholars, and policymakers, challenges to the broader use of market mechanisms to address environmental problems remain.¹ The widely accepted view is that markets will under-value and thus under-provide environmental amenities and other conservation-related public goods.² Under-provision is of particular concern for resources and landscapes that have “non-use” values, which are by their nature non-rival and non-excludable. Typical examples

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1. See generally TERRY L. ANDERSON & GARY D. LIBECAP, ENVIRONMENTAL MARKETS: A PROPERTY RIGHTS APPROACH 1-20 (2014); see also Gary D. Libecap, *Coasean Bargaining to Address Environmental Externalities* 1-3 (Nat'l Bureau of Econ. Research, Working Paper No. 21903, 2016).

2. See John V. Krutilla, *Conservation Reconsidered*, 57 AM. ECON. REV. 777, 777-86 (1967).

include wilderness preservation, endangered species protection, and conserving scenic natural landscapes.

Scholars and policymakers tend to prefer regulatory approaches for preserving the non-use value of many publicly and privately owned resources based on concerns that individuals would tend to free ride in any scheme relying on private provision.³ Private landowners that choose to protect rather than develop timber, rangeland, and water resources face the full opportunity cost of their decisions but only receive a small portion of the social benefit. Moreover, beneficiaries of conservation are dispersed and disorganized relative to the commercial demands for natural resources. Finally, the benefits of conservation are uncertain and concentrated on future generations. The conventional wisdom focuses on the commonalities between natural amenities and the class of pure public goods analyzed by Paul Samuelson and takes it as a given that the market cannot and does not provide adequate protection of these amenities.⁴

In fact, as this article documents, true tests of the market's ability to provide environmental public goods are rare because the state and federal institutions governing natural resources often exclude conservation interests from the mechanisms that determine resource use. The exclusion of interests is particularly true in the western United States, where state or federal ownership of natural resources is widespread and where property rights to many natural resources are established and maintained under institutions that have their origins in first-possession rules that were adopted in the nineteenth century to lower the costs of economic development during westward expansion.⁵ These institutions were accompanied by "beneficial-use" requirements that were meant to prevent speculative claiming for many natural resources.⁶

The upshot is that the institutions that allocate federal grazing permits, timber harvesting rights, oil and gas leases, and surface water rights in the American West explicitly require productive use of those resources as a condition of establishing and maintaining ownership.⁷ With few exceptions, conservation groups are legally prohibited from purchasing and withholding from production state and federally administered rights to develop oil and gas, graze livestock, divert water, and harvest timber. In other words, even if the free-rider problem was nonexistent, there would still be little or no private provision of "non-use" of natural resources for conservation purposes because the law either does not allow it or makes it prohibitively difficult and costly.

This reality raises important questions about traditional notions of the market's failure to provide environmental amenities that can only be answered by closely examining the actual institutions that govern use and non-use rights to natural resources. The study of real-world institutions to shed light on theoretical

3. See generally John V. Krutilla et al., *Public Versus Private Ownership: The Federal Lands Case*, 2 J. POL'Y ANALYSIS & MGMT. 548 (1983).

4. See generally Paul A. Samuelson, *The Pure Theory of Public Expenditure*, 36 REV. ECON. & STAT. 387 (1954).

5. Gary D. Libecap, *The Assignment of Property Rights on the Western Frontier: Lessons for Contemporary Environmental and Resource Policy*, 67 J. ECON. HIST. 257-91 (2007).

6. *Id.*

7. *Id.*

ideal types has a long history in law and economics. Until Ronald Coase's study of the private provision of lighthouses in 1974 proved otherwise, prominent economists from A.C. Pigou to Paul Samuelson used lighthouses as an example of a public good that was, and necessarily always had been, provided by government.⁸ Similarly, Steven Cheung's 1973 analysis of pollination markets between beekeepers and orchard owners refuted the then-popular belief that pollination services were an externality requiring government intervention.⁹

This article examines the characteristics of non-use values from environmental amenities and the institutions that govern their provision in the western United States to question the view—widely held by many environmental economists and legal scholars—that these amenities could not be maintained, at least in part, through voluntary private action. It also reviews the standard arguments about the externalities associated with non-use values and the implications for voluntary private provision. While economists have tended to think about non-use values as a classic “Samuelsonian” public good, the actual characteristics of natural amenities suggest that a more nuanced model of public goods is needed. Drawing on James Buchanan and Wm. Craig Stubblebine's analysis of public goods subject to satiation and heterogeneous preferences, this article argues that private efforts to protect scenic landscapes and habitat could in theory approach efficient levels—that is, if existing laws and institutions allowed the private acquisition of non-use rights.¹⁰

After exploring the theoretical prospects for market-based conservation, this article then surveys the institutions that govern the use of various state and federally managed resources. These institutions are specifically tailored to promote the use of natural resources and often preclude non-use values from playing a role in the market. The article then provides several case studies to assess the degree to which these institutions present real barriers to conservation efforts that would otherwise take place in the context of grazing, oil and gas development, timber harvesting, and water. It highlights cases in which existing legal rules have stymied the protection of amenities as well as cases in which institutions have successfully evolved to accommodate non-use values.

2. THEORETICAL OBSTACLES TO PRIVATE PROVISION OF ENVIRONMENTAL AMENITIES

The argument for government protection of environmental amenities to compensate for inefficiently low levels of private provision is older than the field of environmental economics itself. The idea dates back at least to A.C. Pigou who, in a passage that later served as the epigraph for John Krutilla's seminar paper “Conservation Reconsidered,” argues that:

8. See generally Ronald H. Coase, *The Lighthouse in Economics*, 17 J. L. & ECON. 357 (1974).

9. Steven N. S. Cheung, *The Fable of the Bees: An Economic Investigation*, 16 J. L. & ECON. 11, 11-33 (1973).

10. James M. Buchanan & Wm. Craig Stubblebine, *Externality*, 29 *ECONOMICA* 371, 371-84 (1962).

It is the clear duty of Government, which is the trustee for unborn generations as well as for its present citizens, to watch over, and if need be, by legislative enactment, to defend, the exhaustible natural resources of the country from rash and reckless spoliation. How far it should itself, either out of taxes, or out of State loans, or by the device of guaranteed interest, press resource into under takings from which the business community, if left to itself, would hold aloof, is a more difficult problem.¹¹

Krutilla takes Pigou's point about conservation of productive natural resources for future generations and extends it to a variety of potential values associated with nature.¹² Krutilla's analysis generated considerable interest in "non-use" values associated with natural amenities and formed the basis for how environmental economists think about conservation policy.¹³

Krutilla argued that scenic natural environments such as the Grand Canyon or Yellowstone National Park convey benefits to society that are quite separate from the recreational benefits associated with actually visiting one of these locales. This "non-use" value comes from the knowledge that places of unique environmental importance and splendor exist. While economists had previously been concerned with overuse of natural resources due to common-pool problems associated with production, Krutilla focused on "the problem of providing for the present and future the amenities associated with unspoiled natural environments, for which the market fails to make adequate provision."¹⁴ For Krutilla and those who have carried on his legacy, the market's inability to adequately provide environmental amenities is based largely on Paul Samuelson's analysis of pure public goods, which share key characteristics with environmental amenities.¹⁵

Ultimately environmental economists' argument for government ownership and management of natural resources rests on the public goods analogy.¹⁶ Leaving resources undeveloped conveys public benefits, but it has an opportunity cost associated with foregone revenues from development. Because private landowners cannot be relied upon to bear these opportunity costs, government ownership and allocation of natural resources is seen as a necessary check against market forces that would otherwise lead to the development of places and resources better left unspoiled from a social perspective.¹⁷ While recognizing political challenges and other drawbacks, Krutilla et al. argue that public ownership and management of land and natural resources is essential for this provision.¹⁸

11. A.C. PIGOU, *THE ECONOMICS OF WELFARE* 29-30 (4th ed. 1932).

12. Krutilla, *supra* note 2, at 778-79.

13. H. Spencer Banzhaf, *The Environmental Turn in Natural Resource Economics: John Krutilla and "Conservation Reconsidered"* 16 (Research for the Future, Discussion Paper No. RFF DP 16-27, 2016).

14. Krutilla, *supra* note 2, at 778. Common-pool resources studied by other economists include fisheries, groundwater, and conventional oil reservoirs.

15. Samuelson, *supra* note 4.

16. See, e.g., Krutilla et al., *supra* note 3, at 551-52.

17. See, e.g., *id.* at 554.

18. *Id.* at 549-50.

The supposition that markets cannot adequately provide environmental amenities is rooted in analogies to pure public goods and is at odds with distinguishing features of these amenities.¹⁹ More generally, there are many important departures from the class of pure additive public goods emphasized by Samuelson.²⁰ Economist Jack Hirschleifer analyzes how different production functions for the supply of public goods affect the relative inefficiency of private provision.²¹ When the supply of a public good is determined by the “weakest link,” or smallest contribution, private provision can come close to the efficient outcome because free-riding incentives are dampened. Buchanan and Stubblebine focus on the demand for public goods and explore how heterogeneity in individuals’ preferences may allow for efficient private provision.²²

A key result of Buchanan and Stubblebine’s analysis is that externalities associated with public good provision may not be relevant for policy if individuals value the public good differently and can potentially reach satiation. Buchanan and Stubblebine’s example of two neighbors who share a fence is instructive: Suppose two neighbors, Adam and Bill, have abutting yards and both value their privacy, so that the construction of a fence between their properties would function as a public good between the two. Now suppose that Adam’s utility is increasing in the height of the fence until it reaches six feet, beyond which he is indifferent as to its height. Bill prefers more and more fence until it reaches eight feet tall, after which he is indifferent. The two face a coordination problem if they wish to equitably share the cost of a fence because each has an incentive to free ride on the other’s contributions.

Several features of the fence example are worth emphasizing because they share important similarities to the public goods associated with environmental amenities. The first concerns the efficient height of the fence, which is found by setting the marginal cost of construction equal to the sum of Adam and Bill’s marginal rates of substitution between fence height and the numeraire. Crucially, beyond six feet, Adam’s marginal utility of additional fence is zero, and so the socially efficient level of provision is identical to the height that Bill would choose to maximize his own utility. In other words, if marginal costs are such that Bill decides to build a fence himself that is at least six feet tall, his private provision of the fence will correspond to the socially efficient fence height.

Now, replace the fence with additional instream flow for trout habitat on the Yellowstone River, replace Adam with conservationists who derive non-use utility from knowing that trout habitat is being protected, and replace Bill with a local angler’s club that derives both recreational and non-use value from the augmented flows on their nearby river. The implications are several. First, the possibility of satiation in the level of environmental amenities means that not all non-use values are Pareto-relevant for efficient protection of those amenities. Second, non-use values need not be Pareto-relevant at all if there are substantial

19. See, e.g., David D. Haddock, *When Are Environmental Amenities Policy-Relevant?*, 44 NAT. RESOURCES J. 383, 400-05 (2004).

20. Samuelson, *supra* note 4.

21. Jack Hirschleifer, *From Weakest-Link to Best-Shot: The Voluntary Provision of Public Goods*, 41 PUB. CHOICE 371, 371-86 (1983).

22. Buchanan & Stubblebine, *supra* note 10.

local, use-based benefits associated with conservation, such as recreation. Third, private provision of environmental amenities may be efficient if there is substantial heterogeneity in individuals' preferences towards those amenities.

Krutilla and his coauthors express significant doubt that conservationists could compete with commercial resource developers if the level of preservation were left to the market.²³ The primary concern is the non-appropriable nature of non-use and option values from natural amenities.²⁴ Another major concern of Krutilla et al. is that conservation interests are likely to be disorganized relative to commercial interests due to the dispersed nature of non-use values.²⁵ The possibility of affordable private provision may not be as remote as many environmental economists suppose, for the same reason that the demand for specific amenities is likely to be satiable.

Unlike many traditional public goods, the decision problem for amenity provision is often "develop or not." If we imagine that the right to make this decision goes to the highest bidder for a resource or piece of land, conservationists' willingness to pay need only exceed the next best alternative *for that particular resource*. This outcome may be feasible precisely because the supply of specific environmental amenities is often inelastic. In many cases, productive uses of a landscape such as livestock grazing, energy development, or timber harvesting have many available substitutes, whereas the amenity value does not.

Ardently motivated conservationists may be able to outbid commercial interests for the use of specific landscapes if their valuation of the associated amenities is higher than the choke price for development. Huang et al. provide an example in the context of a hypothetical quota market for whale harvest in Norway.²⁶ A possible outcome of such a market is that zero whaling occurs because conservationists' willingness to pay for the last unit of whale quota exceeds the commercial value of a whale.²⁷ The types of preferences that lead to this outcome place a high existence value on whales where the prospects for substitution between whales and income are limited for conservationists. This example is directly analogous to the existence-based non-use values associated with rare habitats and natural landscapes that lack substitutes.

This discussion is not meant to imply that private provision of natural amenities would necessarily be efficient as a general rule. Rather, our aim is to suggest that the prospects for private provision are not so bleak, given the characteristics of the non-use values associated with natural amenities and the conditions under which they are produced or preserved. Our analysis does presuppose the willingness of some individuals and groups to engage in conservation despite their inability to receive financial compensation for the benefits. If these contributions are forthcoming, the market may reach relatively efficient outcomes, given the specific characteristics of environmental amenities and preferences over them.

23. Krutilla et al., *supra* note 3.

24. *Id.*

25. *Id.*

26. Biao Huang et al., *Testing the Feasibility of a Hypothetical Whaling-Conservation Permit Market in Norway*, 31 CONSERVATION BIOLOGY 809, 809-17 (2017).

27. *Id.*

With some noted exceptions, private contributions primarily go toward lobbying and litigation efforts rather than market-based acquisition of contentious rights to grazing lands, timber, water, and oil and gas.²⁸ The standard narrative takes this pattern as evidence of the need for political decision-making to manage environmental public goods. This need not be the case. The characteristics of environmental amenities and the values they generate suggest that they could perhaps be voluntarily supplied by the market. Moreover, there is a substantial willingness of individuals to make contributions toward conservation efforts, based on the donation and operating budgets of many environmental nonprofits. But this raises an important question: If conservation groups and development interests could theoretically settle resource disputes using mutually beneficial market exchange, why do they instead engage in zero-sum political competition? Ironically, the answer rests in the public ownership or management of many of these natural resources.

3. LEGAL AND INSTITUTIONAL BARRIERS TO NON-USE RIGHTS

The institutions that developed during westward expansion still govern the use of most natural resources in the American West. Rights to land, water, and subsurface minerals were initially allocated using first possession rules that granted ownership to individuals based on the order in which they established a claim.²⁹ The use of first possession rules determined both the initial allocation of property rights on the frontier and the system of law that later developed to adjudicate disputes over those rights. These institutions evolved to economize on a specific set of transaction costs and to promote the most productive resource uses at the time.³⁰ Today, however, these institutions present challenges for coping with the new ecological and economic conditions facing the West.

The distinguishing feature of first possession is that rights are allocated on a “first come, first served” basis. Implicitly, such a system requires some standard for what actions correspond to “making a claim.”³¹ Requirements for what constituted sufficient effort to make a claim varied across resources in the West, but typically required some amount of resource use. In the case of minerals, an

28. See TERRY L. ANDERSON & DONALD R. LEAL, *FREE MARKET ENVIRONMENTALISM FOR THE NEXT GENERATION* 1-12 (2015).

29. These rules developed initially to resolve competing mineral claims on federal land and were later adapted to other resources including land, water, and hydrocarbons. See Libecap, *supra* note 5; see generally MARK KANAZAWA, *GOLDEN RULES: THE ORIGINS OF CALIFORNIA WATER LAW IN THE GOLD RUSH* (2015).

30. Libecap, *supra* note 5; Ronald H. Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1, 1-44 (1960).

31. This standard typically corresponds to some level of effort undertaken in the course of capturing or developing the resource. Robert Ellickson’s comparison of rules in the Greenland right whale fishery and the American sperm whale fishery is a case in point. The “fast-fish, loose fish” rule granted ownership only to whales that were fastened by a line to a ship (late in the capture process), whereas merely harpooning a whale with a marked harpoon was sufficient to perfect a claim under the “iron holds the whale” rule (early in the capture process). Different rules emerged on an informal basis for different species as whalers developed norms to overcome rent dissipation based on the specific costs of resource use in each setting. See Robert C. Ellickson, *A Hypothesis of Wealth-Maximizing Norms: Evidence from the Whaling Industry*, 5 J. L. ECON. & ORG. 83, 89 (1989).

initial discovery had to be marked and worked according to local camp rules.³² Homestead claims required an initial filing with the local land office and subsequent improvement and occupancy of the land.³³ Prior appropriation water rights were based on the actual diversion of water from a stream and “beneficial use” of that water.³⁴ In these cases, a sufficient level of resource use granted the claimant a property right to a resource stock such as a mineral deposit, piece of land, or annual water delivery.³⁵

For some resources, bounding and enforcing claims to the entire stock is prohibitively costly and rights to some flow of the resource are allocated instead. First possession rules for allocating rights to resource flows result in a “rule of capture.”³⁶ Under the rule of capture, de facto and legal ownership coincide once units of the resource have been fully appropriated. For example, successfully killing one’s prey is typically necessary and sufficient for establishing a property right to wild game.³⁷ For resource flows, the rule of capture makes it impossible to establish ownership without directly harvesting or “using” the resource.³⁸ Moreover, use requirements reward investments by low-cost, high-valued users and increase the heterogeneity of claimants, reducing rent dissipation from races to establish property rights.³⁹

The relatively low cost of establishing rights to large stocks of valuable resources under first possession rules created the potential for monopolization by early settlers. Those settlers could potentially block future free entry by speculatively claiming substantially greater resource stocks than they could actually produce. To address this fear, rights to natural resources were often defined or limited to those who intended to develop the resource or, in some cases, to those that operate in a certain industry.⁴⁰

The upshot is that modern natural resource institutions typically have some form of “beneficial-use” requirement, which establishes certain use requirements that are considered valid for creating and maintaining valid property rights. But these legal and institutional structures create significant barriers to establishing non-use rights over natural resources today. Because rights are largely established based on prior possession and because maintaining their validity often depends on continued use, establishing non-use rights is a legal and institutional challenge in practice.

Institutional reform has been slow to address new realities and shifting demands for landscapes and resources based on non-use, especially at the federal

32. Libecap, *supra* note 5.

33. See generally BENJAMIN HIBBARD, A HISTORY OF THE PUBLIC LAND POLICIES (1939).

34. Bryan Leonard & Gary Libecap, *Collective Action by Contract: Prior Appropriation and the Development of Irrigation in the Western United States*, J. LAW & ECON. (forthcoming).

35. Dean Lueck, *The Rule of First Possession and the Design of the Law*, 38 J. LAW & ECON. 393, 393-436 (1995).

36. *Id.*

37. *Id.*

38. *Id.*

39. *Id.*; Libecap, *supra* note 5.

40. Libecap, *supra* note 5.

level.⁴¹ Laws such as the Mineral Leasing Act of 1920⁴² and the Taylor Grazing Act of 1934⁴³ were formed at a time when resource extraction was the primary management purpose on public lands.⁴⁴ These laws still serve as important institutional foundations for natural resource governance on federal lands today. Given the vast scope of federal land ownership—totaling 640 million acres, mostly in the American West—these statutes play a significant role in overall natural resource use in the United States.⁴⁵ The same is also true for water and wildlife, which are primarily state-level natural resource institutions. Water is allocated under the prior appropriation doctrine, and rights are subject to beneficial use requirements across most of the West.⁴⁶ Most states have expanded their definitions of “beneficial use” to accommodate new demands, but institutional change has not been uniform.⁴⁷ Though not explored in this article, wildlife provides yet another example. Wildlife rights are established via rule-of-capture notions in which individuals gain possession of wildlife once they are harvested. “Non-used” or non-harvested species are effectively unowned and under the control of the state wildlife agency.⁴⁸

41. See *id.* at 259 (noting that “path dependencies in property rules are real, and they have dominated the economic history of resource use in the West”).

42. Mineral Leasing Act of 1920, 30 U.S.C. §§ 181-287 (2012).

43. 43 U.S.C. §§ 315-316 (2012).

44. See, e.g., GARY D. LIBECAP, LOCKING UP THE RANGE: FEDERAL LAND CONTROLS AND GRAZING 72 (1981) (noting that “failure to fully stock the [public] range carries the threat of a formal and permanent cut in stocking authorizations” by the Bureau of Land Management); see generally ROBERT H. NELSON, PUBLIC LANDS AND PRIVATE RIGHTS: THE FAILURE OF SCIENTIFIC MANAGEMENT (1995).

45. See CAROL HARDY VINCENT, LAURA A. HANSON, & CARLA N. ARGUETA, CONG. RESEARCH SERV., R42346, FEDERAL LAND OWNERSHIP: OVERVIEW AND DATA (2017), <https://fas.org/sgp/crs/misc/R42346.pdf>. In the American West, for instance, nearly half of the land (46.4 percent) is federally owned. This refers to the eleven coterminous western states: California, Nevada, Oregon, Washington, Arizona, New Mexico, Idaho, Montana, Wyoming, Colorado, and Utah.

46. Leonard & Libecap, *supra* note 34; see also Brandon Scarborough, *Environmental Water Markets: Restoring Streams Through Trade*, 46 PERC POL’Y SERIES 1 (2010), <https://www.perc.org/wp-content/uploads/old/ps46.pdf>.

47. *Id.*; see Dominic P. Parker, *Land Trusts and the Choice to Conserve Land with Conservation Easements or Full Ownership*, 44 NAT. RESOURCES J. 519 (2004). There are, of course, notable conservation efforts occurring on privately owned lands in which conservation groups or land trusts acquire or contract for rights for “non-use” purposes through conservation easements, direct payments for conservation, or even full ownership of land. While these efforts are noteworthy and significant, this article focuses on the state and federal institutions that govern natural resource use, which exert a dramatic influence on overall natural resource management on both public and private lands. This is especially true in the American West, where public ownership of natural resources is widespread and often directly implicates natural resource management on private lands. Wildlife management and water rights, for example, are the purview of the states, even when they flow across private lands. See Reed Watson, *Public Wildlife on Private Land: Unifying the Split Estate to Enhance Trust Resources*, 23 DUKE ENVTL. L. & POL’Y F. 291, 291-321 (2013). Likewise, livestock management on private lands is often directly influenced by public land grazing rights, which are tied to private “base properties.” See *infra* Part 4.

48. Some states have proposed creating non-use, conservation-oriented tags or “stamps” for certain species to enable non-hunters to contribute to wildlife conservation and management in a manner similar to the way hunters and anglers fund wildlife agencies through the purchase of hunting and fishing licenses. In 2014, for instance, the Montana Department of Fish, Wildlife, and Parks proposed creating a

If competing groups cannot trade or acquire rights to natural resources, whether for use or non-use purposes, the alternative is to fight in the political arena. In the environmental context, this often means lobbying for additional regulation and litigating under the umbrella of existing regulation such as the Endangered Species Act⁴⁹ and National Environmental Policy Act.⁵⁰ These tactics at times have undoubtedly generated outcomes that conservationists prefer. But a fundamental point of this article is to clarify that this need not be the only way to achieve their goals. In fact, there is evidence that groups are attempting to use other market-based mechanisms to directly acquire non-use rights.⁵¹

The following sections explore specific resources and case studies that illustrate these challenges. They describe the barriers to establishing non-use rights and summarize various efforts by conservation groups to use market mechanisms to acquire rights to natural resources. In many cases, the existing institutional frameworks that govern natural resource use simply cannot accommodate new, non-use demands for natural resources. In other cases, rules may provide a partial or insecure set of rights that can be used for non-use purposes, but to the extent that non-use rights can be acquired and held as valid rights, transaction costs are high and rights are weak or uncertain. In some instances, groups have been able to find creative ways to acquire non-use rights within the traditional institutional framework, and for some natural resources, reforms have been implemented to explicitly allow certain forms of non-use rights.

4. GRAZING

Livestock grazing is the most widespread form of land use in the western United States, occurring on approximately 70 percent of the land in the region.⁵² Much of this grazing occurs on public rangelands managed by the Bureau of Land Management (BLM) or the U.S. Forest Service (USFS).⁵³ As “the nation’s largest

“wolf stamp” that could be purchased by non-hunters as an alternative to a traditional hunting tag. The revenues from the stamp would have been used to fund the state’s livestock loss reduction program, wolf monitoring, habitat projects, research, and law enforcement. The proposal was opposed by several sportsmen groups over concerns that allowing non-hunters to fund the wildlife agency would impact wildlife management to the detriment of hunting interests, and the proposal was ultimately rejected. See Laura Lundquist, *Statewide Wolf Stamp Meeting Gathers Heated Comment*, BOZEMAN DAILY CHRON., Aug. 15, 2014 (quoting one sportsman saying “I’m against anything that would allow these guys to have a seat at the sportsmen’s table”).

49. 16 U.S.C. § 1531 (2012).

50. 42 U.S.C. § 4321 (2012).

51. See Terry L. Anderson & Dominic P. Parker, *Transaction Costs and Environmental Markets*, 7 REV. ENVTL. ECON. & POL’Y 259-75 (2013) (discussing, in part, how non-use rights emerge to some resources).

52. See Thomas L. Fleischner, *Ecological Costs of Livestock Grazing in Western North America*, 8 CONSERVATION BIOLOGY 629 (1994) (referring to the 11 coterminous western states).

53. See *About Rangeland Management*, U.S. DEP’T AGRIC., FOREST SERV., <https://www.fs.fed.us/rangeland-management/aboutus/index.shtml> (last visited Feb. 21, 2019) (Of the 770 million acres of rangelands in the United States, more than half are in private ownership, 43 percent are under federal ownership, and state and local governments manage the remainder). In addition to BLM and Forest Service lands, livestock grazing also occurs on in some federal wildlife refuges and even in some federal wilderness areas and national parks.

landlord,”⁵⁴ the BLM manages livestock grazing on 155 million of its 248 million acres of total landholdings, the vast majority of which are in western states.⁵⁵ The agency manages nearly 18,000 grazing permits and leases held by ranchers who graze livestock at least part of the year on more than 21,000 federal grazing allotments.⁵⁶ The USFS administers a similar grazing program across 95 million of the 193 million acres, including nearly 6,000 grazing permittees.⁵⁷ Together, these two federal agencies authorized more than 19 million animal unit months’ (AUMs) worth of livestock grazing on public lands in 2015.⁵⁸

Federal land grazing is a prime candidate for the emergence of non-use rights. Federal rangelands used for livestock grazing are often of low economic value. It takes an average of about 18 acres of BLM rangelands to provide enough forage to support one cow and calf for one month.⁵⁹ It is not surprising that, in many parts of the western United States, the economic value of forage on public lands for livestock grazing is quite low. Yet in some areas, rangelands have considerable environmental, recreational, or other non-consumptive values. Thus, when public rangelands have significant value for non-use purposes such as wildlife habitat, watershed protection, recreation opportunities, or the preservation of other environmental amenities, there is in theory an opportunity for various groups interested in preserving such values to simply contract for the rights.

Indeed, due to these and other factors, livestock grazing has attracted the attention of conservation groups seeking to acquire non-use rights to rangeland areas with high environmental values. Gradually since the 1990s, various individuals and environmental groups attempted to purchase grazing leases from ranchers for the purpose of conserving rangelands, ultimately seeking to reduce grazing or remove cattle altogether from certain public grazing allotments.⁶⁰ Some have even proposed large-scale buyouts of public grazing permits.⁶¹ These efforts, explored in more detail below, have encountered significant challenges due to the

54. JAMES R. SKILLEN, *THE NATION’S LARGEST LANDLORD: THE BUREAU OF LAND MANAGEMENT IN THE AMERICAN WEST* (2009).

55. See *Livestock Grazing on Public Lands*, BUREAU LAND MGMT., U.S. DEP’T INTERIOR, <https://www.blm.gov/programs/natural-resources/rangelands-and-grazing/livestock-grazing> (last visited Sept. 28, 2018); see also CAROL HARDY VINCENT, LAURA A. HANSON, & CARLA N. ARGUETA, CONG. RESEARCH SERV., R42346, *FEDERAL LAND OWNERSHIP: OVERVIEW AND DATA* (2017).

56. See BUREAU LAND MGMT., U.S. DEP’T INTERIOR, *supra* note 55.

57. U.S. DEP’T OF AGRIC., FOREST SERV., *GRAZING STATISTICAL SUMMARY, FY2015* (2016), <https://www.fs.fed.us/rangeland-management/documents/grazing-stats/2010s/GrazingStatisticalSummaryFY2015.pdf>.

58. See BUREAU OF LAND MGMT., U.S. DEP’T OF INTERIOR, *PUBLIC LAND STATISTICS 2015*, 85 (2016), <https://www.blm.gov/sites/blm.gov/files/documents/files/Public%20Land%20Statistics2015%20%281%29.pdf>; U.S. DEP’T OF AGRIC., FOREST SERV., *supra* note 57. An animal unit month refers to the amount of forage that a cow and her calf eat in a month (or one bull, one steer, one horse, or five sheep).

59. See BUREAU OF LAND MGMT., U.S. DEP’T OF INTERIOR, *supra* note 58.

60. John D. Leshy & Molly S. McUsic, *Where’s the Beef? Facilitating Voluntary Retirement of Federal Lands from Livestock Grazing*, 17 N.Y.U. ENVTL. L.J. 368, 374 (2008).

61. See Mark Salvo & Andy Kerr, *The National Public Lands Grazing Campaign*, 11 WILD EARTH 83, 83-84 (2001-2002) In the early 2000s, a group known as the National Public Lands Grazing Campaign led an unsuccessful effort to convince Congress to pass legislation authorizing large-scale buyouts of federal grazing permits for a variety of purposes, including environmental protection.

various use requirements of existing grazing institutions, which typically require traditional “use” of public rangelands as a basis for maintaining valid grazing rights. With some notable exceptions, the acquisition of non-use rights is prohibited under the current laws and regulations governing grazing on federal rangelands.

A brief description of the evolution of public-land grazing rights helps explain the fundamental challenges. U.S. land policy in the nineteenth century encouraged western settlement but placed strict limits on the amount of land that could be claimed to 160, 320, and later to 640 acres.⁶² While such land claim sizes may have been adequate in the wetter climates of eastern states, they were ill-suited for the realities of the arid western landscape. In the drier climate of the West, such small farm sizes meant that eastern-style agriculture was an impractical form of land use. To “prove up” land claims, as required under the various homestead acts, livestock grazing became the dominant land use in western states.⁶³ Yet, due to the region’s arid climate, livestock grazing required large amounts of land, so livestock owners relied upon nearby unclaimed lands on the public domain (which were less productive than the lands settlers chose to homestead and, hence, later become privatized).

Thus emerged an informal system of grazing rights to the open range in which ranchers held fee-simple rights to small amounts of deeded land, originating through homestead act claims, as well as informal claims to large amounts of public domain land on which to sustain their livestock operations. Towards the end of the nineteenth century, this use of the public domain for livestock grazing had evolved into a set of customary rights that were generally recognized as valid and were enforced by local institutions.⁶⁴ Cattlemen’s associations, for instance, enforced use rights to public rangelands, and rights were established by beneficial use or occupancy requirements.⁶⁵

This informal system of public rangeland use was later formalized with the passage of the Taylor Grazing Act in 1934.⁶⁶ The Act gave the secretary of the Department of the Interior the authority to create grazing districts on unclaimed public lands, issue grazing permits, charge grazing fees, and to establish various

62. Paul W. Gates, *Homesteading in the High Plains*, 51 *AGRIC. GREAT PLAINS* 109, 122, 128 (1977). The original Homestead Act of 1862 allowed 160-acre homestead claims. The Kinkaid Act of 1904 authorized 640-acre claims in western Nebraska. In 1909, 320-acre claims were allowed. In 1916, the Stock-Raising Homestead Act allowed 640-acre claims of grazing lands.

63. TERRY L. ANDERSON & PETER JENSEN HILL, *THE NOT SO WILD, WILD WEST: PROPERTY RIGHTS ON THE FRONTIER* 189 (2004).

64. See Libecap, *supra* note 5, at 16 (quoting one early rancher’s description of these rights: “A custom has grown up and become thoroughly established among people of this community that once a stock man has developed water on and taken possession of the range by fully stocking the same that he will not be molested by other stockmen in his possession and enjoyment of such range”).

65. See R. Taylor Dennen, *Cattlemen’s Associations and Property Rights in Land in the American West*, 13 *EXPLORATIONS ECON. HIST.* 423, 423-34 (1975) (examining livestock associations and the rules under which they operated to constrain entry and use of the public-domain rangelands). Among other requirements, this included restrictions on the number of animals that could be grazed and limiting participation to only those ranchers with patented homestead claims and locally recognized rangeland claims. See also Libecap, *supra* note 5, at 17.

66. Taylor Grazing Act of 1934, Pub. L. No. 73-482, 48 Stat. 1269 (codified at 48 U.S.C. § 315 (2012))(the Grazing Service later merged with the General Land Office in 1946 to form the Bureau of Land Management).

rules and regulations to administer the federal grazing program.⁶⁷ Although subsequent acts have imposed additional environmental provisions and land-use planning procedures, the system of grazing districts, permits, and fees established under the Taylor Grazing Act forms the foundation of federal grazing policy today.⁶⁸ Under the provisions of the Act, eligible ranchers can receive a permit to graze livestock on a designated federal grazing allotment. The secretary of the interior can determine the amount of livestock grazing authorized by each permit holder as well as the season, duration of use, and stocking rates for each permit.⁶⁹ Grazing permits are issued for periods of up to ten years, and permit holders have priority over others to renew the permit for additional ten-year periods without competition.⁷⁰

Ranchers are eligible to receive preference for obtaining a grazing permit only if they meet certain conditions. One such requirement is that ranchers must own or control a nearby “base property,” a tract of private land that is capable of serving as the base for the permittee’s livestock operation.⁷¹ Federal grazing permits cannot be held by or transferred to individuals that do not hold qualifying base properties, as determined by the BLM.⁷² In practice, when base-property ranches are bought and sold, federal grazing permits are often transferred along to the new property owners. By attaching federal grazing permits to specific private base properties in this way, permits take on economic value and often represent a significant portion of a ranch’s total value.⁷³

The assignment of grazing privileges under the Taylor Grazing Act also requires that preference be given to those who reside within or near a grazing district and who are “engaged in the livestock business, bona fide occupants or

67. See, e.g., FOREST SERV. & BUREAU OF LAND MGMT., GRAZING ADMINISTRATION REQUIREMENTS AND PROCESSES, <https://www.fs.fed.us/rangeland-management/documents/grazing/BLMGrazingAdministrationRequirementsProcesses201708.pdf> (last visited Feb. 21, 2019) (pertaining to grazing policies administered by the Bureau of Land Management, which is an agency within the U.S. Department of the Interior, but a nearly identical process applies to the grazing on lands managed by the U.S. Forest Service, which is housed within the U.S. Department of Agriculture).

68. See George C. Coggins, *The Law of Public Rangeland Management IV: FLPMA, PRIA, and the Multiple Use Mandate*, 14 ENVTL. L. 81 (1983).

69. 43 U.S.C. § 315b (2017).

70. *Id.*

71. See BUREAU LAND MGMT., U.S. DEP’T INTERIOR, *supra* note 55 (noting that, to apply for a BLM grazing permit, one must either: “Buy or control private property known as base property (property that has been legally recognized by the BLM as having preference for the use of public land grazing privileges),” or “Acquire property that has the capability to serve as base property and then apply to the BLM to transfer the preference for grazing privileges from an existing base property to the acquired property (this would become the new base property).”).

72. See *id.* (grazing permits or leases can be obtained by buying or leasing base properties that “has been legally recognized by the BLM as having preference for the use of public land grazing privileges” or by acquiring “property that has the capability to serve as base property and then apply[ing] to the BLM to transfer the preference for grazing privileges from an existing base property to the acquired property,” which would become the new base property).

73. See L. Allen Torell & John P. Doll, *Public Land Policy and the Value of Grazing Permits*, 16 W. J. AGRIC. ECON. 174 (1991). It is not uncommon for a western ranch to be comprised of a small amount of deeded private land, perhaps less than 640 acres, and a significantly larger amount of public land, often several thousands of acres, to which the rancher holds federal grazing privileges and can use and manage along with the private land.

settlers, or owners of water or water rights.”⁷⁴ This requirement that grazing permit holders must own or lease livestock remains in place today. Moreover, permits were initially allocated based on prior use of the public rangelands. Priority was granted to those ranchers who had demonstrated a recent history of grazing on the open range from 1929 to 1934 and to those who owned land or water.⁷⁵

The Act also states that grazing permits “shall not create any right, title, interest, or estate in or to” the public grazing allotments, but it also notes that “grazing privileges recognized and acknowledged shall be adequately safeguarded.”⁷⁶ This tension has led to a longstanding debate over whether ranchers have semi-formal grazing rights to public rangelands or merely grazing privileges that can be reduced or revoked without compensation. Indeed, the Act mentions only grazing “privileges,” not formal rights, and states that the secretary of the interior can specify “from time to time numbers of stock and seasons of use.”⁷⁷ Public land agencies insist that grazing permits do not represent an actual property right, and various court rulings have generally affirmed that grazing privileges do not confer a formal right.⁷⁸

Nonetheless, in many important ways, federal grazing permits function as property rights in practice. For example, permits often have significant economic value, which is capitalized into the value of a ranch’s base property. Banks collateralize loans to ranchers based on the value of the permits, and federal capital gains and estate tax calculations reflect their value.⁷⁹ Moreover, ranchers own and are responsible for any improvements made on public rangelands such as fences, water pipelines, and wells. In effect, even though courts and public land agencies have treated grazing on federal allotments as mere privileges, such permits have been treated as a right in practice.⁸⁰ This debate over grazing rights or privileges is at the core of many of today’s conflicts over the use of federal rangelands, as various environmental laws and regulations have resulted in agencies seeking to reduce or eliminate livestock grazing on many public grazing allotments at the expense of traditional grazing rights.⁸¹

74. 43 U.S.C. § 315b (2012).

75. See LIBECAP, *supra* note 44, at 49.

76. 43 U.S.C. § 315b (2012).

77. *Id.*

78. *Id.*; see also 36 C.F.R. § 222.3(b) (2018) (noting that U.S. Forest Service grazing permits “convey no right, title, or interest held by the United States in any lands or resources.”).

79. See Torell & Doll, *supra* note 73; see also Frank J. Falen & Karen Budd-Falen, *The Right to Graze Livestock on the Federal Lands: The Historical Development of Western Grazing Rights*, 30 IDAHO L. REV. 505, 523 (1994); Leigh Raymond, *Are Grazing Rights on Public Lands a Form of Private Property?*, 50 J. RANGE MGMT. 431, 433 (1997).

80. See Falen & Budd-Falen, *supra* note 79, at 506 (noting that “according to both Forest Service and BLM policy, a grazing preference is a mere privilege and is revocable at will. On the other hand, many ranchers consider their preference to be an equitable estate, a type of property right”); *id.* at 523 (noting that the Internal Revenue Service taxes grazing permits as a property right).

81. See Shawn Regan, *Managing Conflicts over Western Rangelands*, 54 PERC POL’Y SERIES 1, 5, 16 (2016) (discussing property-rights of federal grazing policy and recent conflicts over grazing, noting that the amount of grazing authorized on BLM land is half of what it was in 1954, in part driven by these environmental pressures).

Whether conferring rights or privileges, the institutions governing grazing on federal lands are based on the notion of “use” for the purpose of livestock grazing. While other laws, such as the Federal Land Policy and Management Act (FLPMA)⁸² and the Public Rangelands Improvement Act (PRIA),⁸³ have expanded other recognized uses of public grazing lands to include environmental and recreational values, as well as mandated federal land planning procedures, this fundamental fact remains. To acquire or maintain valid permits to public grazing allotments, permittees must be in the business of grazing livestock. If permittees abandon grazing on a significant portion of an allotment, the BLM could transfer the permit to another rancher willing to use the allotment for livestock grazing.⁸⁴ The overall effect of these various federal policies is a system of grazing management that restricts who can hold the rights and what those rights can be used for. In practice, the system is based on the continued use of forage resources (grass, shrubs, and other vegetation) on public rangelands for the purpose of feeding domestic livestock. Other uses of forage are not permitted under current grazing policy.

Such a system clearly creates barriers for groups or individuals seeking to acquire grazing permits for non-use purposes. Thus, resolving conflicting demands over public rangelands through market mechanisms, such as purchasing use rights for non-use purposes, is largely prohibited within federal grazing laws. With few exceptions, conservation groups often have no direct mechanism for obtain grazing permits from ranchers and choosing not to graze the public rangelands or retiring the grazing permits altogether. These barriers to conservation purchases of federal grazing permits are summarized below:

Use it or lose it: A core assumption of federal grazing policy is that public-land grazing permits will be held by ranchers and used for the purpose of grazing domestic livestock. Allotments may be rested for short periods of time, but grazing cannot be abandoned altogether.⁸⁵ In this sense, the policy is “use it or lose it.” If permittees do not graze at or near the level authorized under the terms and conditions of the federal grazing permit, the permits may be transferred to another qualifying rancher who will make use of the allotment for livestock grazing.⁸⁶ This requirement poses obvious barriers to conservation groups seeking to acquire permits for non-use purposes.⁸⁷

82. 43 U.S.C. §§ 1751-1753 (2012).

83. 43 U.S.C. §§ 1901-08 (2012).

84. Leshy & McUsic, *supra* note 60, at 371-72 (“under current law and policy, there is a serious risk that, if the conservation buyer relinquishes the permits, the federal land manager may allow other ranchers to expand their operations by putting their livestock on these federal lands”).

85. 43 C.F.R. § 4140.1 (2006). Under BLM regulations, grazing permittees are prohibited from “failing to make substantial grazing use as authorized by a permit or lease for 2 consecutive fee years,” subject to civil penalties. *See also* April Reese, *The Big Buyout*, HIGH COUNTRY NEWS (Apr. 4, 2005), <https://www.hcn.org/issues/295/15398> (describing attempts to buy out grazing permits and provisions to rest allotments for certain periods of time).

86. *See* Leshy & McUsic, *supra* note 60, at 371-72.

87. Efforts to reform grazing laws to remove the use-it-or-lose-it requirements have thus far been unsuccessful. In 1994, then-Interior Secretary Bruce Babbitt proposed a set of rangeland reforms that would allow the secretary to issue grazing permits for “conservation use.” *Id.* at 52. The provision

The livestock-ownership requirement: A related barrier is the requirement that grazing permits be limited to those in the livestock business. The provision is based on the Taylor Grazing Act's requirement that permits be issued to "bona fide settlers, residents, and other stock growers," with preference given to those "engaged in the livestock business."⁸⁸ Conservation groups seeking to acquire grazing permits for non-grazing purposes would thus not qualify for such permits, even if it they were to acquire them.

The base-property requirement: The requirement that permit holders must also own or control a qualifying base property creates additional challenges for conservationists. Even if a conservation group could obtain non-use rights to a grazing permit, the permit would only be valid if the group also controlled the rights to a qualifying base property, as determined by the BLM. This requirement can significantly raise the costs of acquiring non-use rights.⁸⁹

Incomplete and insecure grazing rights: The federal government's refusal to formalize grazing permits as property rights instead of a mere "privilege" results in a lack of well-defined and secure property rights to forage resources on public lands. Rather than allocating formal forage rights to a certain amount of forage resources on public rangelands and allowing those rights to be traded to their highest-valued uses, federal grazing policy provides weak access privileges to public rangelands for a certain form of consumptive use and places restrictions on transfers to other uses. This reality undermines market trades that could better allocate forage resources to higher-valued uses, even for non-consumptive environmental purposes.⁹⁰ Although this means that grazing privileges can be readily reduced or eliminated through legal or administrative means in response to environmental concerns or to comply with environmental statutes, it creates barriers to trading for non-consumptive purposes, which in many cases may be a cost-effective and efficient option for conservationists seeking to preserve natural amenities on federal rangelands.⁹¹ If rights were secure and well defined, ranchers could stand to benefit from allowing trades with environmental groups to occur.⁹²

would have allowed permit holders to remove livestock for the full term of the permit (typically ten years). Courts ultimately struck down the provision, arguing that it violated the Taylor Grazing Act.

88. 43 U.S.C. § 315b (2012).

89. Even if a conservation group sought to acquire the rights to a portion of a federal grazing permit—perhaps a sensitive riparian area or an upland meadow for the benefit of wildlife habitat—they would encounter these and other barriers. In particular, obtaining forage rights to even a limited area of a federal grazing allotment would require the group to also acquire qualifying base property in the area, a requirement that undoubtedly raises the costs of such a mutually beneficial potential transfer. See Robert H. Nelson, *How to Reform Grazing Policy: Creating Forage Rights on Federal Rangelands*, 8 *FORDHAM ENVTL. L.J.* 645, 675 (1997).

90. See Lorraine M. Egan & Myles J. Watts, *Some Costs of Incomplete Property Rights with Regard to Federal Grazing Permits*, 74 *LAND ECON.* 171, 171-85 (1998) (noting that "[i]f the rights to grazing permits were secure and transferable, then the grazing permits [sic] values would not decrease in value as non-commercial uses become more desired" and providing evidence that the opposite has in fact. As non-commercial, environmental "uses" have become more valued, grazing permit values have declined, due to the incomplete and insecure nature of federal grazing permits).

91. As several prominent environmental leaders have acknowledged, direct acquisition of grazing permits may in fact be a more practical and effective conservation strategy to ensure environmental protections on federal rangelands than traditional political or legal strategies pursued by many environmental groups. Conservationist Andy Kerr, for instance, has argued that purchasing grazing

The barriers described above have the potential to thwart any number of trades that could establish non-use rights to rangelands to help resolve conflicting demands over federal rangelands.⁹³ Yet, as a result of these barriers, more often than not conflicts over rangeland management are carried out through political or legal means, rather than through direct exchange. Nonetheless, there are important examples of conservation groups seeking to acquire—and in some cases successfully purchasing and holding—grazing permits for non-grazing purposes. These examples, discussed below, illustrate the practical challenges that such barriers impose to establishing non-use rights and provide evidence that, absent such barriers, grazing or forage-use rights could in many cases be acquired effectively for conservation-oriented non-use purposes.⁹⁴

A. Grand Canyon Trust

Conservationists have long sought to protect the environmental or recreational amenities and values of certain tracts of public land. Such efforts often occur in or near areas with additional protections, such as national parks and monuments. One such area is the Grand Staircase-Escalante National Monument, which was set aside by President Bill Clinton in 1996. Like many other national monument designations, it allowed for the continued use of the monument by ranchers that held valid grazing permits prior to its designation.⁹⁵

The Grand Canyon Trust, a conservation group, has attempted to negotiate grazing buyouts with these and other permit holders in the region since 1996.⁹⁶ Between 1999 and 2001, the group spent \$1.5 million to purchase base properties with public-land grazing permits for about 350,000 acres in and near the national

rights would be an “easier” and “more just” approach. See Andrew Kerr, *Removing Hoofed Locusts from the Public Trough*, WILLOWA COUNTY CHIEFTAN, Aug. 15, 1996; Nelson, *supra* note 89, at 650-54. Other leading conservationists such as Johanna Wald, former attorney for the Natural Resources Defense Council, and Dave Foreman, founder of the environmental group Earth First, have also advocated grazing buyouts as a pragmatic approach to achieving conservation objectives on federal rangelands. See *id.* at 655-56 (describing Wald and Foreman’s support for buyouts); see also Dave Foreman, *Around the Campfire*, 5 WILD EARTH 3 (1995) (“The butting-head battles with ranchers over grazing in Wilderness is bad news for all involved. The most practical and fairest way to end grazing in Wilderness is to buy ‘em out”).

92. See Nelson, *supra* note 89 (proposing the creation of secure “forage rights” on federal rangelands that could be transferred for non-grazing purposes).

93. The debate over wild horses occupying federal rangelands is yet another example. See Vanessa Elizondo et al., *You Can’t Drag Them Away: An Economic Analysis of the Wild Horse and Burro Program*, 41 J. AGRIC. & RESOURCE ECON. 1, 18 (2016) (noting that allowing wild-horse advocacy groups to acquire federal grazing permits for the purpose of supporting wild horses “would involve fundamental changes in the structure and provisions of federal grazing leases.”).

94. The following cases draw from and expand upon Regan, *supra* note 81.

95. Gerhard Peters & John T. Woolley, *William J. Clinton: Proclamation 6920—Establishment of the Grand Staircase-Escalante National Monument*, THE AM. PRESIDENCY PROJECT (Sep. 18, 1996), <http://www.presidency.ucsb.edu/ws/?pid=51948> [<https://web.archive.org/web/20180119021149/http://www.presidency.ucsb.edu/ws/?pid=51948>].

96. *Conservation Group Buys Large Grand Staircase Grazing Allotment*, ARIZ. DAILY SUN (Nov. 27, 2001), https://azdailysun.com/conservation-group-buys-large-grand-staircase-grazing-allotment/article_97da725c-ce3d-57ea-b093-423e1c7bd6b3.html.

monument.⁹⁷ The group considered the properties and their associated federal grazing allotment to be important areas worthy of protection from the impacts of grazing, and thus they sought to purchase the base properties for non-use purposes.

The Trust's efforts were complicated due to the use-it-or-lose-it requirements of federal grazing policy.⁹⁸ The grazing permit that came along with the properties required the group to maintain cattle on the allotment or risk losing the permits. Originally, the Trust offered to relinquish the grazing permits to the BLM if the agency declared the allotments closed as part of its land-use plan.⁹⁹ But soon other ranchers applied to the BLM to have the grazing permits transferred to them instead since the Trust had no intent to graze. When that happened, the Trust opted to purchase the minimum number of cattle to graze on the allotment in order to retain control of the grazing permits.¹⁰⁰

This example illustrates the challenges imposed by the use-it-or-lose-it requirements associated with federal grazing permits. Current grazing rules prevent ranchers from trading permits to environmental groups who do not intend to run livestock on the land. And because the base-property requirement attaches grazing permits to specific ranches, the cost for environmental groups to acquire such base properties is increased if the grazing permit values are capitalized into the ranch property value. Such requirements clearly raise the costs of trading for groups that want to use rangelands for purposes other than grazing.

B. American Prairie Reserve

Other conservation groups have been able to work within existing federal grazing policies to accomplish their conservation objectives. As the example of the American Prairie Reserve (APR) illustrates, however, such trading can only be accomplished under specific circumstances due to the constraints of the federal grazing system.

APR is a large-scale private conservation project seeking to protect and restore the prairies of eastern Montana, an ecosystem that has long been impacted by agricultural and ranching operations.¹⁰¹ The group aims to acquire private ranches in the region along with the associated federal grazing permits to create a landscape-scale conservation area larger than Yellowstone National Park.¹⁰² In contrast to many other U.S. environmental groups, APR seeks to accomplish its mission by directly purchasing private lands and the associated public-land grazing permits from ranchers, rather than through litigation or political processes.

APR acquires private base properties and restores the land back to the prairie landscape that once prevailed across much of the West.¹⁰³ Once the group

97. Joe Baird, *Activists Win Fight on Rights to Grazing*, SALT LAKE TRIB., Jan. 31, 2006.

98. See Leshy & McUsic, *supra* note 60, at 385-88.

99. See *id.*

100. See *id.* The Trust also formed a livestock-owning subsidiary to hold the grazing permits. See *id.* at 382.

101. For a related, in-depth discussion of American Prairie Reserve, see James L. Huffman, *American Prairie Reserve: Protecting Wildlife Habitat on a Grand Scale* 59 NAT. RESOURCES J. 35 (2019).

102. Karl Puckett, *Prairie Reserve Still Attracting Fans, Foes*, GREAT FALLS TRIB., June 18, 2015.

103. Huffman, *supra* note 101.

acquires base properties, they often tear down ranch buildings, pull up fences, and remove the cattle herds that have dominated the landscape for the last century. In place of the cattle, APR seeks to restore the wild bison herds as well as other wildlife species.¹⁰⁴ Today, APR owns or leases nearly 400,000 acres (about 92,000 acres of deeded and 308,000 acres of public grazing leases) in the region and maintains a herd of more than 600 genetically pure wild bison.¹⁰⁵

Throughout the region, federal grazing allotments are interspersed with large private ranches, often in a scattered checkerboard of land tenure. This fact can complicate landscape-scale conservation efforts, which aim to protect vast areas in which wildlife species such as bison can roam freely. The existence of federal grazing allotments means that APR must navigate the BLM's grazing policies to accomplish their conservation objectives. In particular, the group must be able to acquire base properties and the associated grazing permits without being forced to graze cattle on the federal allotments.

APR is able to do so due to a fortunate fact: The group's bison herd, which is privately owned by APR, is considered a class of livestock and therefore satisfies the BLM's livestock-grazing requirements. When APR acquires a base property with a public grazing allotment, the group applies to the BLM to change the class of livestock so that bison can graze the allotment instead of cattle.¹⁰⁶ Once the BLM approves the livestock change, APR is able to maintain control over grazing allotments without being forced, as the Grand Canyon Trust was, to graze cattle on the land. APR can also request to change the allotment grazing season to year-round grazing.¹⁰⁷ In some cases, APR is also permitted to remove interior fencing within the allotments so they can manage their private lands along with the public lands as one common pasture.¹⁰⁸

The example of the American Prairie Reserve, while thus far largely successful, reveals a fundamental obstacle to adopting similar conservation approaches elsewhere. The use-it-or-lose-it requirement for federal grazing permits limits the type and scope of conservation work that can be accomplished through private land transactions and grazing permit transfers.

Consider how a similar group might attempt to replicate APR's model in a place like Nevada. Suppose that instead of protecting bison habitat the group

104. *Id.*

105. See *Building the Reserve*, AMERICAN PRAIRIE RES., <https://www.americanprairie.org/building-the-reserve> (last visited Sept. 30, 2018); see also *Bison Management*, AMERICAN PRAIRIE RES., <https://www.americanprairie.org/project/bison-management> (last visited Sept. 30, 2018).

106. See BUREAU OF LAND MGMT., U.S. DEP'T OF INTERIOR, ENVIRONMENTAL ASSESSMENT DOI-BLM-MT-M010-2015-0004-EA, FLAT CREEK ALLOTMENT CHANGE IN USE (2015).

107. See, e.g., BUREAU OF LAND MGMT., U.S. DEP'T OF INTERIOR, OVERVIEW OF AMERICAN PRAIRIE RESERVE'S PROPOSED ACTION (2018), https://eplanning.blm.gov/epl-front-office/projects/nepa/103543/139895/171999/Proposed_Action_Handout_final.pdf.

108. *Id.* This approval process is not without its challenges. APR has recently encountered delays obtaining BLM approval for year-round grazing on the 13,000-acre Flat Creek allotment south of Malta, Montana, over protest comments received during the public comment period objecting to the transition of the allotments out of traditional livestock grazing. This slow approval process has delayed the expansion of the reserve's bison herd, and the group is now having to cull its herd slightly because it cannot yet graze the bison on the BLM allotment. See Karl Puckett, *Bison Grazing on BLM Allotment Prompts Protest*, GREAT FALLS TRIB., Jan. 27, 2016.

sought to create a landscape-scale conservation project to protect desert tortoises. The group would purchase private ranches and leverage the associated public grazing rights to protect wildlife habitat. Under current grazing rules, however—specifically the requirement to graze livestock or lose the permit—a private conservation project such as this would likely not be possible. While in APR’s case, bison can be considered livestock, a conservation group in Nevada would have a much more difficult time making the case that desert tortoises qualify as livestock.

The APR model is feasible within the existing federal grazing system, but it is unlikely that this approach is scalable to other regions or other species. Given their particular interest in bison conservation, a group like APR may find continued success within existing federal grazing laws, but the ability of other groups to replicate their success in other contexts is limited.

C. Voluntary Retirements and Permit Buyouts

What about ranchers who voluntarily relinquish their grazing permits in exchange for compensation from a third-party environmental group? There are, in fact, several ways this can occur to facilitate grazing-permit buyouts, but only under certain limited circumstances: 1) A federal land agency agrees to “retire” the allotment from livestock grazing through administrative processes, or 2) Congress passes special legislation that explicitly enables voluntary grazing permit retirements in a region, often as part of the creation of a wilderness area or other public-land designation.

The first option—retiring an allotment through administrative means—is one possible mechanism to enable the acquisition of grazing permits for non-use purposes, but it is not without considerable challenges. Conservation groups could, for instance, acquire a grazing permit from a rancher and request that the federal land management agency retire the permit from future use. And indeed, federal land agencies have broad authority to retire grazing permits under various land-use planning processes.¹⁰⁹ Yet such actions are limited in duration and are easily reversible, thus providing little or no certainty that the allotments will remain unused.¹¹⁰ If an agency “retires” a permit, they can do so for only ten or fifteen years by amending the area’s resource management plan to reallocate the allotment to wildlife and watershed protection. Federal law requires such plans to be regularly reviewed, at which point the allotment could be reopened to grazing.¹¹¹ Likewise, the secretary of the interior can also “withdraw” certain federal lands from livestock grazing under FLPMA, but such withdrawals are likewise limited in duration and easily revoked.¹¹² Only Congress can permanently retire a grazing allotment.¹¹³

109. The Public Rangelands Improvement Act of 1978 and FLPMA’s land-use planning process both provide authority for retiring public land from livestock grazing. 43 U.S.C. § 1903(b) (2012); see also Leshy & McUsic, *supra* note 60, at 383-84.

110. See Leshy & McUsic, *supra* note 60, at 383-85.

111. 43 U.S.C. §§ 1701-85 (2012).

112. See Leshy & McUsic, *supra* note 60, at 384 (“Withdrawals over five thousand acres may not exceed twenty years in duration...”). The agencies could also amend the relevant resource

The second way to retire a grazing permit is through Congressional legislation that explicitly authorizes the retirement. This option provides more certainty that the allotment will remain unused, but it is likewise limited in scope and difficult to obtain. In short, Congress will occasionally pass legislation pertaining to a particular region, often establishing a wilderness designation or similar public-land protection, and include provisions allowing grazing permit holders to voluntarily retire their permits. For instance, the Sawtooth National Recreation Area and Jerry Peak Wilderness Additions Act, signed into law in 2015, allows some ranchers with federal grazing permits within the wilderness boundaries to voluntarily retire their permits and receive compensation from a third-party conservation group.¹¹⁴ Such legislation is rare, however, and is region-specific.

Despite such challenges, these options have enabled voluntary grazing permit buyouts to occur on a limited basis in certain areas in the western United States. In 1996, for instance, Congress amended the law that established Great Basin National Park to allow grazing permit holders in the park to voluntarily relinquish and retire their permits.¹¹⁵ Three permit holders agreed to donate their permits back to the park in exchange for compensation from several conservation groups.¹¹⁶

Various conservation groups have purchased grazing permits from ranchers and sought to retire them using these mechanisms with mixed results.¹¹⁷ As one example, WildEarth Guardians, a nonprofit environmental organization, is pursuing a voluntary buyout strategy to protect grazing allotments in the Gila National Forest of New Mexico. According to Bryan Bird, a former director of the group responsible for the buyout effort, the strategy represents “a free-market approach” to the longstanding confrontation between environmental groups and ranchers, particularly in light of the reintroduction of Mexican gray wolves in the region in 1998.¹¹⁸ The wolves are a federally protected species, but they often kill livestock and create acrimony between ranchers and conservationists.¹¹⁹

management plan to reduce or eliminate livestock grazing for a particular area, but this comes along with a lengthy administrative process and public input and may be amended at any time in the future to reinstate grazing.

113. Reese, *supra* note 85.

114. Sawtooth National Recreation Area and Jerry Peak Wilderness Additions Act, Pub. L. No. 114-46, 129 Stat. 476 (2015) (stating that “[t]he Secretary shall accept the donation of any valid existing leases or permits authorizing grazing on public land or National Forest System land, all or a portion of which are within [a specific] area depicted [on related map],” and enabling the Secretary to “terminate the grazing permit or lease or portion of the permit or lease” and “ensure a permanent end to grazing on the land covered by the permit or lease.”).

115. Mark Salvo & Andy Kerr, *Permits for Cash: A Fair and Equitable Resolution to the Public Land Range War*, 23 RANGELANDS 22, 22-24 (2001) (describing several examples of laws that enabled voluntary grazing permit buyouts in particular regions).

116. *Id.*

117. Reese, *supra* note 85.

118. Susan Dunlap, *WildEarth Guardians Buying Grazing Permits from Ranchers in the Gila National Forest*, SILVER CITY SUN-NEWS, Aug. 8, 2014.

119. April Reese, *Can a Grazing Buyout Program Ease Life for Wolves and Ranchers?*, HIGH COUNTRY NEWS, Feb. 24, 2014.

WildEarth Guardian's buyout program works as follows: The group negotiates a private agreement with a rancher to buy out their grazing permit. WildEarth Guardians then approaches the USFS to request retirement of the grazing allotment. The USFS evaluates the proposal and decides what to do with the grazing permit. WildEarth Guardians does not own the grazing permit.¹²⁰

This buyout approach is a tenuous process, and success has been limited. The USFS has traditionally been reluctant to retire allotments.¹²¹ WildEarth Guardians acknowledges that the agency could simply issue the grazing permit to another rancher—a function of the use-it-or-lose-it principle governing federal rangeland management.¹²² In two cases, however, USFS officials with the Gila National Forest have approved temporary retirements of a grazing permit purchased by WildEarth Guardians.¹²³

Elsewhere in the United States, environmental groups have pursued similar buyout strategies to resolve livestock-wildlife conflicts. Since 2001, the National Wildlife Federation has secured more than half a million acres of federal grazing land outside Yellowstone National Park to protect habitat for bison, grizzly bears, and wolves.¹²⁴ The group does so by negotiating voluntary buyouts with ranchers and relying on federal land agencies to retire the allotments, albeit with limited security that the allotments will remain unused.¹²⁵ As one example, Montana rancher Rick Jarrett had a permit to graze cattle on 8,000 acres in the Gallatin National Forest, but his livestock operation was increasingly threatened by growing populations of grizzly bears and wolves. The National Wildlife Federation offered to purchase Jarrett's grazing permit, and the USFS, in this case, agreed to retire the permit to alleviate wildlife conflicts on the allotment.¹²⁶

D. Grazing Leases on State Trust Lands

One area where conservation groups have had at least some success acquiring non-use grazing rights is on state trust lands. This unique class of land—owned and administered by states under trust management principles—provides several examples of how non-use rights, if permitted, can be directly acquired to resolve shifting demands over the use of natural resources. Yet, despite limited successes, the experience of state trust lands also illustrates several persistent challenges that nonetheless often impede the emergence of such rights.

120. *Id.*

121. *Id.*

122. See *Grazing Permit Retirement*, WILDEARTH GUARDIANS, <https://wildearthguardians.org/public-lands/greater-gila/grazing-permit-retirement> (last visited Feb. 21, 2019) (noting that “each retirement takes considerable time and lasts only 10 years before the Forest Service can re-issue the permit to someone new”).

123. *Id.*

124. John Carey, *Reducing Conflict on Public Lands*, NAT'L WILDLIFE, Jan. 19, 2011.

125. When endangered species are involved, as in this case, the Endangered Species Act provides some security to conservation groups that grazing permit retirements—if approved by the federal land agency by amending resource management plans—will likely be difficult to undo due to the significant regulatory powers afforded by the Act. See Leshy & McUsic, *supra* note 60, at 387.

126. Carey, *supra* note 124.

State trust lands were granted by Congress to states at statehood for the purpose of supporting common schools and other public institutions, beginning with Ohio in 1803 and ending with Alaska in 1959.¹²⁷ Trust lands were granted in square-mile sections, ranging from one to four square miles per township, depending upon the state. Today, these lands comprise approximately 46 million acres, most of which are located in western states and are often scattered in a checkerboard-like fashion across the landscape.¹²⁸

Compared to other federal and state land institutions, state trust lands have a distinguishing feature: The lands are held in a perpetual, intergenerational trust for the long-term benefit of a variety of beneficiaries, primarily public schools but also universities, hospitals, and other public institutions.¹²⁹ In practice, this fiduciary trust responsibility generally means that states are obligated to manage trust lands for the financial benefit of trust beneficiaries by earning fair market value from the use of trust lands and maximizing revenues earned from the lands.¹³⁰ Throughout their history, western states have generally attempted to satisfy this trust mandate by leasing trust lands for resource-development purposes, including grazing.¹³¹

The requirement that trust managers must maximize revenues and obtain fair-market value has served as a basis upon which conservation groups have attempted to acquire legal non-use rights to state grazing leases. Since the mid-1990s, environmental groups have bid on grazing leases in Arizona, New Mexico, Idaho, Montana, and Oregon.¹³² By outbidding ranchers, the groups have attempted to use states' revenue-maximization obligations to compel trust managers to award them the leases, even if they were to be used for conservation purposes instead of grazing. This has resulted in several legal challenges.¹³³

The conservationists' arguments were straightforward: If states are required to manage trust lands solely for the long-term benefit of trust beneficiaries, then denying high-bidding environmental groups would be a

127. JON A. SOUDER & SALLY K. FAIRFAX, *STATE TRUST LANDS: HISTORY, MANAGEMENT, & SUSTAINABLE USE 1* (1996).

128. PETER W. CULP ET AL., *TRUST LANDS IN THE AMERICAN WEST: A LEGAL OVERVIEW AND POLICY ASSESSMENT 2* (2005). For most western states, the federal government initially granted sections 16 and 36. Utah, New Mexico, and Arizona, were granted sections 2, 16, 32, and 36. While some states have disposed of large amounts of trust lands and others have attempted to consolidate portions of their trust lands, today's state trust lands often reflect those initial scattered land grant patterns.

129. See SOUDER & FAIRFAX, *supra* note 127; see also *Lassen v. Arizona ex rel. Arizona Highway Dep't*, 385 U.S. 458 (1967) (holding that the requirements of the Arizona-New Mexico Enabling Act established an enforceable trust relationship between the state and the state school fund).

130. See SOUDER & FAIRFAX, *supra* note 127.

131. Trust lands are also leased for commercial development. Some states have sold their trust lands, maintaining the revenues in a permanent fund. See *id.*

132. See CULP ET AL., *supra* note 128, at 50-51. Unlike federal grazing leases, state trust grazing leases are generally allocated through some form of competitive bidding.

133. See Sally K. Fairfax & Andrea Issod, *Trust Principles as a Tool for Grazing Reform: Learning From Four State Cases*, 33 ENVTL. L. 341, 349-59, 369-76 (2003) (discussing detailed case studies in Arizona, New Mexico, Idaho, and Oregon in which environmental groups have attempted to bid against ranchers to acquire the rights to lands formerly used for grazing).

violation of a state's trust responsibilities.¹³⁴ In this sense, the argument goes, trust land managers should generally be ambivalent about whether the highest-valued use of a state trust lease is for livestock grazing or for conservation purposes, as long as it maximizes revenue for trust beneficiaries. Such arguments were nonetheless regularly challenged by state officials, with most states initially rejecting bids from environmental groups on the basis that the trust managers should also consider factors such as the stability of the livestock industry, the broader economic effect of displacing ranchers, and the foregone tax revenues generated by the livestock industry.¹³⁵ Environmental groups routinely filed suit in response.¹³⁶

The results have been mixed. In 1995, the environmental group Forest Guardians bid on and received state grazing leases in New Mexico.¹³⁷ In 1997, the group bid on two leases in Arizona—a 5,000-acre parcel for which they offered twice the amount that the previous lessee offered, and a 162-acre lease for which the group offered five times as much as the previous lessee.¹³⁸ Since the group had no intention of grazing the leases, the Arizona State Land Department rejected the applications, arguing that Forest Guardians should first seek to have the leases reclassified from grazing to commercial use and then attempt to bid.¹³⁹ In 2001, the Arizona Supreme Court held that the state must consider Forest Guardian's bids, regardless of whether they sought to graze the land or not, based on the state's fiduciary trust responsibilities.¹⁴⁰ Despite the court victory, the case remains controversial among the ranching community and led to legislative efforts to reduce competition on state grazing leases.¹⁴¹ Today, few non-use lease acquisitions have occurred in Arizona.

Another case involving the environmental group Idaho Watersheds Project (IWP) illustrates similar challenges.¹⁴² In 1994, IWP was the high bidder on a grazing lease, yet Idaho's State Board of Land Commissioners awarded the lease to a rancher instead.¹⁴³ IWP successfully appealed the decision, prompting the state

134. *Id.*

135. See, e.g., Erin Pounds, *State Trust Lands: Static Management and Shifting Value Perspectives*, 41 ENVTL. L. 1333, 1351-52 (2011).

136. See, e.g., *Idaho Watersheds Project v. State Bd. of Land Comm'rs*, 982 P.2d 367 (Idaho 1999); *Forest Guardians v. Wells*, 34 P.3d 364 (Ariz. 2001).

137. Linda Platts, *Environmentalists Use Market Tools*, 14 PERC REP. 4, 9 (1996).

138. See Stacey Allison, *Going Once, Going Twice, Sold: Implications for Leasing State Trust Lands to Environmental Organizations and Other High Bidders*, 25 PUB. LAND & RESOURCES L. REV. 39, 50 (2004).

139. *Id.* at 51.

140. *Forest Guardians*, 34 P.3d 364; see also Fairfax & Issod, *supra* note 133, at 358-59. The Court found that "restoration and preservation are already and must continue to be considered legitimate uses for land that, according to the Commissioner's classification, has no higher and better use than grazing." Importantly, the court also noted that "the high bid is not necessarily the best bid" in terms of what is best for the corpus of the trust and its beneficiaries. Nonetheless, it held that the state land commissioner could not reject such a bid without first determining whether it was in the best interest of the trust. *Forest Guardians*, 34 P.3d at 371-72.

141. CULP ET AL., *supra* note 128, at 71-72.

142. See Fairfax & Issod, *supra* note 133, at 360-69.

143. *Id.*

land board to hold a second auction. Again, IWP outbid the rancher, this time by a factor of 200, yet the state still awarded the lease to the rancher.¹⁴⁴ The group filed suit to challenge the land board's decisions. In response, the state's legislature revised its statutes governing grazing leases applications to stack the deck in favor of livestock lessees and then attempted to amend the state constitution to eliminate the auction requirement for grazing leases.¹⁴⁵

Such cases have resulted in several legal challenges in which courts addressed several key questions, such as whether state trust land boards can consider other factors such as the state's general economy or the livestock industry when leasing trust lands. The Idaho Supreme Court has ruled that the state cannot consider such broad factors, interpreting the state's duty as a trustee to require that its trust lands are leased solely for the benefit of the trust beneficiaries, public schools.¹⁴⁶ In 2000, IWP was awarded its first grazing lease for non-grazing use, and environmental groups have acquired several others since then.¹⁴⁷ The fight over leasing trust lands to environmental bidders in Idaho still remains a subject of much legal controversy.¹⁴⁸

Although significant obstacles remain for environmental bidders on trust lands, the primary obstacle is not a lack of financial resources to acquire the permits but rather the legal and political barriers to acquiring non-use rights.¹⁴⁹ Overall, however, trust lands present an interesting case in the evolution of non-use rights to natural resources. Despite their revenue-generating mandate, they have arguably been more accommodating of non-use rights to grazing leases than their counterparts in federal land agencies. Moreover, the experience of trust lands demonstrates a willingness and ability of groups to directly acquire non-use rights to some state lands that were previously used for grazing purposes. Nonetheless, even though trust land managers have a fiduciary responsibility to ensure fair-market value and maximum economic returns from trust lands, land managers have often been reluctant to uphold that mandate when doing so would allocate rights for non-use purposes.

5. OIL AND GAS

The U.S. Bureau of Land Management (BLM) oversees energy development on the subsurface of vast amounts of federal land, primarily in the western United States. Altogether, these underground resources span more than 700

144. The bid was \$10 to \$2,000. *See id.* at 364.

145. *Id.*

146. *See Idaho Watersheds v. State Bd. of Land Comm'rs*, 982 P.2d 371 (Idaho 1998).

147. *See Fairfax & Issod, supra* note 133, at 368; *see also Allison, supra* note 138, at 41.

148. *See, e.g., John Miller, Idaho to Pay \$50K to Settle Grazing Lease Lawsuit*, ASSOCIATED PRESS (Nov. 18, 2009, 11:39 AM), <https://www.newsday.com/business/idaho-to-pay-50k-to-settle-grazing-lease-lawsuit-1.1602486> (describing a similar controversy over a conservation-oriented bidder who was denied a grazing lease despite offering more money than ranchers).

149. *See Holly L. Fretwell, Trust Alternatives for Range Resource Allocation*, PERC (Jan. 8, 2016), <https://www.perc.org/2016/01/08/trust-alternatives-for-range-resource-allocation/> (noting that "According to John Horning of WildEarth Guardians . . . [g]razing lease costs typically range between \$0.05 and \$10 per acre per year").

million onshore acres.¹⁵⁰ Approximately 113 million acres of onshore federal lands are open and accessible for oil and gas development, and about 166 million acres are off limits or inaccessible.¹⁵¹ Production of oil and natural gas from these lands represent significant sources of federal and state revenues and make up 21 percent of U.S. oil production and 16 percent of U.S. natural gas.¹⁵² In 2015, 32.2 million acres were under lease, of which about 12.8 million acres were in production.¹⁵³

The BLM manages oil and gas development by leasing parcels of federal land to energy developers, who then develop the resources under certain lease terms and conditions. This authority comes from two laws: the Mineral Leasing Act of 1920¹⁵⁴ and the Mineral Leasing Act of 1947.¹⁵⁵ The process works as follows: Members of the public, typically energy companies, nominate parcels of public land that they wish to lease. Before the parcels are offered for lease, the BLM reviews the proposed leases to ensure compliance with the area's Resource Management Plans, and other factors such as environmental concerns, prior to making the lands available for leasing.¹⁵⁶

Leases are either competitive or noncompetitive. The Federal Onshore Oil and Gas Leasing Reform Act of 1987 requires that leases must first be offered by competitive leasing.¹⁵⁷ Only after the agency has offered leases competitively at auction can the leases then be offered noncompetitively.¹⁵⁸ Competitive and noncompetitive leases are issued for 10-year periods at quarterly BLM lease sale auctions. The BLM states that winning bidders must submit "a properly executed lease bid form, which constitutes a legally binding lease offer, and pay an administrative fee, the first year's advance rental (\$1.50 per acre or fraction thereof), and not less than a \$2-per-acre minimum bonus bid."¹⁵⁹ Leases expire at the end of the 10-year primary term; however, the BLM may extend leases if

150. These include the 258 million surface acres managed by the BLM, 57 million acres in which the minerals are federally owned but the surface is in non-federal ownership, as well as another 385 million acres whose surface is managed by other federal agencies. The BLM is responsible for administering mineral leasing on U.S. Forest Service lands, for instance. The BLM also administers energy leasing on more than 1.7 billion offshore acres.

151. MARC HUMPHRIES, CONG. RESEARCH SERV., R42432, U.S. CRUDE OIL AND NATURAL GAS PRODUCTION IN FEDERAL AND NONFEDERAL AREAS 6 (2016).

152. *Id.* at 3-4, tbls.1 & 2.

153. *Id.* at 7, tbl.5.

154. Mineral Leasing Act of 1920, Pub. L. No. 66-146, 41 Stat. 437 (codified as amended in scattered sections of 30 U.S.C. § 181 (2012)).

155. 30 U.S.C. §§ 351-360 (1981).

156. *Parcel Nominations and Lease Sales*, BUREAU LAND MGMT., U.S. DEP'T INTERIOR, <https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/leasing/parcel-nominations> (last visited Sept. 30, 2018).

157. *General Oil and Gas Leasing Instructions*, BUREAU LAND MGMT., U.S. DEP'T INTERIOR, <https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/leasing/general-leasing> (last visited Sept. 30, 2018).

158. *See id.* (explaining that noncompetitive leases can be issued only for parcels that the agency offered competitively but failed to receive a bid. They can be acquired up to two years after a competitive lease sale by submitting an offer and paying an administrative fee and the first year's advance rental payment of \$1.50 per acre. The maximum size for a competitive parcel is 2,560 acres in the lower 48 states and 5,750 acres in Alaska).

159. *Id.*

drilling operations are in progress or if the lease contains a well capable of producing in paying quantities.¹⁶⁰ The BLM may cancel non-producing leases that fail to comply with lease terms.¹⁶¹

The expenses associated with maintaining a federal oil and gas lease include bonds, rents, and royalties. Before drilling, companies must provide the BLM a bond of at least \$10,000 to ensure compliance with all lease terms, including environmental provisions.¹⁶² Annual rental rates for competitive and noncompetitive leases are \$1.50 per acre for the first 5 years of the lease and \$2.00 per acre for each year thereafter.¹⁶³ The federal government also charges a 12.5 percent royalty rate on oil and gas extracted from federal lands.¹⁶⁴

Because many federal lands containing oil and gas resources simultaneously provide significant environmental and recreational values as well, controversies frequently occur over energy development on public lands. Importantly for the theme of this paper, the laws and regulations governing oil and gas leasing on federal lands present largely insurmountable challenges for environmental groups or individuals seeking to directly acquire non-use rights to energy resources on federal lands. Instead, conflicting demands over federal land use are fought through political or legal channels rather than being resolved through market mechanisms. Lease sales are often formally protested or litigated by environmental groups, for instance, with varying degrees of success in terms of delayed or cancelled sales.¹⁶⁵

An examination of the laws governing federal energy leasing reveals that the challenges of resolving conflicts over energy development on federal lands are not due simply to a lack of interest among environmental groups or individuals in acquiring such leases for non-use purposes. Nor is it often due to a lack of financial resources to do so. As the following case studies demonstrate, several groups and individuals have attempted to acquire federal energy leases for non-use, conservation purposes. For the most part, these efforts have been unsuccessful due to institutional barriers that prohibit such non-use acquisitions. Even so, under special circumstances that are explored below, some conservation groups have indeed successfully acquired non-use rights to energy resources on federal lands, although such examples are a rare exception. Moreover, the case studies suggest that others would likely seek to acquire such rights if the rules were amended to more easily allow non-use rights to energy resources to be acquired via market transactions.

160. *Id.*

161. *Id.*

162. *Id.*

163. *Id.*

164. *Id.*

165. See *National Oil and Gas Lease Sale Protested Parcels 1998–2016*, BUREAU LAND MGMT., U.S. DEP'T INTERIOR, https://www.blm.gov/sites/blm.gov/files/oilandgas_ogstatistics_t15_Protest_Table.pdf (last visited Sept. 30, 2018) (showing that in 2016, 72 percent of the parcels offered for sale by the BLM were formally protested).

A. ‘Keep it in the Ground’ Activists Bidding in Utah

One high-profile case helps illustrate some of the key obstacles to acquiring non-use rights to federal energy leases. In 2008, Tim DeChristopher, an environmental activist and student at the University of Utah, entered a BLM oil and gas lease auction in southern Utah and promptly outbid developers on 14 lease parcels comprised of 22,500 acres for a total of \$1.8 million.¹⁶⁶ The bidding turned out to be bogus—simply a tactic to disrupt the auction and prevent the lease sale from going forward—and DeChristopher was arrested for making false statements. He was eventually sentenced to two years in prison.¹⁶⁷

Though the bidding was illegitimate, the example raised important questions: What if DeChristopher had bid in good faith? And what if he had, or could raise, the necessary funds to purchase the leases? The parcels sold at the auction for as little as \$2.25 per acre in a scenic area near Moab outside of Canyonlands National Park, a region with high recreation and amenity values.¹⁶⁸ While other parcels sold for considerably higher amounts, the average price was \$80 per acre, totaling 22,500 acres at \$1.8 million. This price is a substantial amount, but hardly out of the reach of major environmental groups. In fact, when word got out about DeChristopher’s protest effort, he quickly raised \$45,000 in donations, which was enough to cover the down payment required by the BLM for the leases.¹⁶⁹ The episode begged the question: If DeChristopher had done the right things, would he have been able to hold the lease and choose not to develop the resources?

In short, the answer is no. The laws and regulations governing energy development on federal lands require that oil and gas leaseholders must develop the energy resources on their parcels, otherwise their leases can be cancelled. This fact effectively prohibits environmentalists from acquiring and holding federal energy leases. In the end, DeChristopher’s bogus bids were rejected, and the auction’s results were ultimately cancelled.¹⁷⁰

A more legitimate effort helps further illustrate this reality. In 2016, Terry Tempest Williams, the well-known environmentalist author, pursued a similar strategy to protest a proposed energy lease sale in Utah. But unlike DeChristopher, Williams attempted to legally bid for two federal oil and gas leases in good faith, and with the necessary financial resources.¹⁷¹ Williams purchased two noncompetitive leases for \$1,680 (plus a \$820 processing fee) comprising 1,120 acres near Arches National Park in southern Utah. Instead of developing the traditional energy resources beneath the parcels, Williams planned to use the land

166. See Shawn Regan, *DeChristopher Case Bids Question: What If Enviro Were Allowed to Bid on Oil Leases?*, GRIST (July 29, 2011), <http://grist.org/oil/2011-07-28-tim-dechristopher-what-environmentalists-allowed-bid-oil-leases/>.

167. Kirk Johnson, *Federal Jury in Utah Convicts Environmentalist*, N.Y. TIMES (Mar. 3, 2011), <https://www.nytimes.com/2011/03/04/us/04leases.html>.

168. See Regan, *supra* note 166.

169. See *id.*

170. See *id.*

171. Brian Maffly, *Auction of Utah Oil & Gas Leases Spurs Author Terry Tempest Williams to (Legally) Buy Lease*, SALT LAKE TRIB. (Feb. 17, 2016), <http://archive.sltrib.com/article.php?id=3544161&itype=CMSID>.

to promote the burgeoning “Keep It in the Ground” activist movement, which seeks to prevent oil and gas resources from being extracted. To maintain the lease and establish herself as a legitimate energy company, Williams formed Tempest Exploration Company, LLC, and even began paying the annual rental fees associated with the lease. “We have every intention of complying with the law, even as we challenge it,” Williams later wrote in the *New York Times*.¹⁷² “We will pay the annual rent for the duration of the 10-year lease and keep whatever oil and gas lies beneath these lands in the ground.”¹⁷³

Williams’ efforts, however, did not work. The BLM eventually cancelled the lease and returned her payments, arguing that since she had expressed a clear intention not to develop the lease’s oil and gas resources, she was in violation of the BLM’s lease requirements.¹⁷⁴ Specifically, the BLM argued Williams’ violated the “diligent development requirement” of the Mineral Leasing Act of 1920, which states that “lessees must exercise reasonable diligence in developing and producing” leased energy resources, “and must prevent unnecessary damage to, loss of, or waste of leased resources.”¹⁷⁵ As the BLM wrote in a letter to Williams, citing her comments in the *New York Times* as evidence, “an expressed intent by a person offering to purchase a lease to not develop and produce the oil and gas resources on the leasehold would directly conflict with the diligent development requirement and require that the offer be rejected.”¹⁷⁶ Thus, despite her efforts to comply with the leasing provisions, Williams was unable to hold a federal oil and gas permit if she had no intention of developing the energy resources.

B. Leasing in Sage Grouse Habitat in Utah’s West Desert

Due in part to the speculative nature of many federal oil and gas leases, parcels are often sold for relatively modest sums. In the case of the noncompetitive leases acquired by Terry Tempest Williams, for instance, the leasing rights to 1,120 acres of federal land were purchased for just \$1,680 (plus the small per-acre annual rental payments).¹⁷⁷ The entire BLM auction that Williams bid on generated a total of \$278,000 in lease sales—a relatively meager amount for 21 parcels totaling nearly 23,000 acres.¹⁷⁸ Yet other leases have yielded even less. These sales often occur in areas with considerable environmental or recreation values, yet because current leasing rules prohibit conservation groups from directly acquiring lease rights, there are obvious missed opportunities to obtain non-use rights.

172. Terry Tempest Williams, Opinion, *Keeping My Fossil Fuel in the Ground*, N.Y. TIMES (Mar. 29, 2016), <https://www.nytimes.com/2016/03/29/opinion/keeping-my-fossil-fuel-in-the-ground.html>.

173. *Id.*

174. Brian Maffly, *BLM Pulls Back Oil and Gas Leases Bought by Utah Activist, Author Terry Tempest Williams*, SALT LAKE TRIB. (Oct. 20, 2016, 1:42 PM), <http://archive.sltrib.com/article.php?id=4467584&city=CMSID>; see also Terry Tempest Williams, *Oil and Gas Noncompetitive Lease Offers Rejected*, (2016), <https://www.documentcloud.org/documents/3146518-Terry-Tempest-Williams-Letter.html>.

175. 30 U.S.C. § 187 (2012).

176. Tempest Williams, *supra* note 172.

177. See Maffly, *supra* note 171.

178. *Id.*

A recent lease sale in Utah's West Desert provides further evidence that, if laws allowed it, conservation groups could afford to directly acquire certain federal energy leases with high conservation value. In 2017, the BLM conducted a sale of controversial leases in sage grouse habitat near Nephi, Utah, that yielded less than \$15,000 in revenue for the federal government.¹⁷⁹ Conservation groups, including the Center for Biological Diversity, Western Watersheds Project, Wilderness Society, and the National Audubon Society, had protested the sale over concerns about its impact on grouse habitat. The three parcels that sold attracted only the minimum bid of \$2.00 per acre.¹⁸⁰

Given the considerable conservation value of the parcels, it is highly likely that the environmental groups that protested the sale could have successfully outbid energy developers for the leases in sage grouse habitat, if federal energy leasing rules allowed them to do so. Moreover, it is also likely that such groups spent more than \$15,000 in resources formally protesting the leases, suggesting that a more efficient outcome would have been possible through direct market acquisition of the leases. Other recent federal energy lease sales—many of which are located in areas with high conservation, recreation, or other natural amenity values—have resulted in similar low bids.¹⁸¹

C. Hoback Lease Buyout

Although standard federal energy leasing rules preclude environmental groups from bidding for oil and gas leases, there are region-specific exceptions that have allowed conservation groups to purchase existing energy leases from willing sellers and retire the leases from future development. When such trades have been authorized, groups have organized to negotiate buyouts of energy leases in areas with high environmental and recreational value, in essence, acquiring the leases for non-use purposes. Such trades, however, are only possible with special legislation that explicitly enables the purchases to occur.

In 2012, the Trust for Public Land (TPL), a nonprofit conservation group, bought out federal energy leases from the Plains Exploration and Production (PXP) Company on 58,000 acres of Wyoming's Hoback Basin.¹⁸² The \$8.75 million deal secured important environmental and recreational amenities in the region that could have been developed by PXP. The company had long held valid leases to drill up to 136 natural gas wells on 17 well pads, despite opposition from environmentalists.¹⁸³ TPL organized a fundraising campaign to raise the funds

179. Brian Maffly, *Feds Get Just \$15K for Auction of Controversial Oil and Gas Leases on Sage Grouse Habitat*, SALT LAKE TRIB. (Sep. 13, 2017), <https://www.sltrib.com/news/environment/2017/09/13/feds-get-just-15k-for-auction-of-controversial-oil-and-gas-leases-on-sage-grouse-habitat>.

180. *Id.*

181. See, e.g., Brian Maffly, *Criticism High, Bidding Low for Utah's Biggest Oil, Gas Lease Sale Since the Bush Years. Sensitive Areas Near Canyonlands Auctioned*, SALT LAKE TRIB. (Sept. 11, 2018), <https://www.sltrib.com/news/environment/2018/09/11/criticism-high-bidding> (explaining how, of 109 federal lease parcels offered in Utah in September 2018, 42 sold for the minimum \$2-an-acre bid and 40 received no bids at all).

182. Scott Streater, *Conservation Group Agrees to Purchase Drilling Leases in Sensitive Wyo. Basin*, GREENWIRE (Oct. 5, 2012), <https://www.eenews.net/greenwire/stories/1059970949>.

183. *Id.*

necessary to purchase the leases, receiving donations from a variety of groups and donors interested in protecting the Hoback Basin. In 2013, the sale was completed.¹⁸⁴

The deal was only possible thanks to the Wyoming Range Legacy Act of 2009.¹⁸⁵ The Act withdrew 1.2 million acres of Bridger-Teton National Forest from future mineral leasing, but it did not affect valid existing lease rights, which included more than a dozen energy leases covering 120,000 acres.¹⁸⁶ The Act also contained a provision that allowed groups to purchase mineral lease rights if the leases were voluntarily acquired by third-party groups from willing sellers.¹⁸⁷ In exchange, the federal government would retire the leases from future development—in essence, setting up a market process for voluntary retirement of active energy leases. The Act, however, only applies to certain federal lands in Wyoming.¹⁸⁸

Similar energy-lease buyout deals have been proposed elsewhere but have ultimately failed due to a lack of supporting legislation. In 2012, the Thompson Divide Coalition sought to purchase existing federal energy leases on the Thompson Divide near Carbondale, Colorado, to protect the region's scenic, high-country lands from oil and gas development.¹⁸⁹ The coalition originally offered to buy 220,000 acres of lease rights from the energy companies who held the leases for \$2.5 million, an amount equal to what the companies paid when the leases were auctioned by the BLM a decade earlier.¹⁹⁰ When that offer was rejected, the group later claimed it could raise as much as \$50 million for the leases if necessary. "These leases aren't a game-changer for the industry but are a significant game-changer for our ranchers, hunters and communities," the coalition's director told the Denver Post. "We want to make companies whole on their investment — and preserve this area for hunters, ranchers and recreationists."¹⁹¹ The coalition claimed that the economic value of preserving the land outweighed the value of the oil and gas that could be extracted.¹⁹²

To succeed, the Thompson Divide lease buyout would have required special legislation similar to the Wyoming Range Legacy Act that would permit the voluntary acquisition and retirement of federal energy leases in the region. In the

184. *Hoback Drilling Leases Acquired from PXP*, TRUST FOR PUB. LAND (Jan. 2, 2013), <https://www.tpl.org/media-room/hoback-drilling-leases-acquired-pxp#sm.0001ch500kl3segbsrc2e3y46zd37>.

185. *Id.*; Wyoming Range Legacy Act, Omnibus Public Land Management Act of 2009, Pub. L. No. 111-11, § 3201, 123 Stat. 1991 (2009).

186. Streater, *supra* note 182.

187. Wyoming Range Legacy Act, Omnibus Public Land Management Act of 2009 § 3201.

188. *Id.*; Scott Streater, *Billionaire Funds Deal to Retire Wyo. Drilling Leases*, E&E NEWS (Jul. 5, 2018), <https://www.eenews.net/stories/1060087925/print> (In 2018, the Trust for Public Land struck a deal for a similar buyout and retirement of more than 24,000 acres of federal energy leases in Wyoming).

189. Bruce Finley, *Colorado Ranchers, Sportsmen Propose Buy Back of Oil-Lease Land*, DENV. POST (Nov. 14, 2012), <https://www.denverpost.com/2012/11/14/colorado-ranchers-sportsmen-propose-buy-back-of-oil-lease-land>.

190. *Id.*

191. *Id.*

192. *Id.*

case of the Thompson Divide, however, such legislation did not pass, and the coalition's proposed buyout never occurred.¹⁹³ The controversy over drilling in the region simmered until November 2016, when the BLM cancelled 25 of the oil and gas leases in the Thompson Divide region during the waning days of the Obama administration.¹⁹⁴

6. TIMBER

The U.S. Forest Service is responsible for managing 193 million acres of land in the United States, with most of its landholdings located in western states.¹⁹⁵ The agency's mission is "to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations."¹⁹⁶ Among the many diverse land uses that occur on national forests—from recreation and livestock grazing to watershed protection and energy production—is commercial timber harvesting.¹⁹⁷ According to the agency, approximately 73 percent of its lands are considered forested, and of that forested land, an estimated 35 percent is available for timber harvesting, with about 0.5 percent being harvested in a given year.¹⁹⁸

National forests have traditionally been managed for multiple uses, with timber harvesting being a primary use. But increasingly, recreation and environmental concerns have become more prevalent.¹⁹⁹ Today, in addition to timber harvesting and other forms of natural resource development, the USFS manages for wilderness, recreation, endangered species habitat, soil and forest health, ecological restoration, and other conservation purposes. Environmental protection has typically been accomplished through acts of Congress or through the

193. In 2013, Sen. Michael Bennet of Colorado introduced a bill that would have enabled the coalition's proposed buyout of the Thompson Divide leases by allowing the voluntary retirement of the mineral rights from future development. See Dorothy Atkins, *Sen. Bennet Introduces Bill to Protect Thompson Divide*, ASPEN DAILY TIMES (Mar. 22, 2013), https://www.aspendailynews.com/sen-bennet-introduces-bill-to-protect-thompson-divide/article_b272b345-e95a-522e-951a-a3305b645203.html. The bill has yet to pass the U.S. Senate. See *S.481 - Thompson Divide Withdrawal and Protection Act of 2017*, CONGRESS.GOV, <https://www.congress.gov/bill/115th-congress/senate-bill/481> (noting that the bill was introduced but has not passed the Senate).

194. Ryan Summerlin & John Stroud, *Thompson Divide Leases Formally Canceled*, ASPEN TIMES (Nov. 17, 2016), <https://www.aspentimes.com/news/thompson-divide-leases-formally-canceled/>.

195. *Meet the Forest Service*, U.S. DEP'T AGRIC., FOREST SERV., <https://www.fs.fed.us/about-agency/meet-forest-service> (last visited Sep. 29, 2018).

196. *Id.*

197. 36 C.F.R. § 223.1 (2017).

198. *Today*, U.S. DEP'T AGRIC., FOREST SERV., <https://www.fs.fed.us/forestmanagement/aboutus/today.shtml> (last visited Sep. 29, 2018) (the agency notes that the remaining 65 percent of its forested land "is designated for non-timber uses, such as wilderness and other areas set aside for recreation, or cannot be harvested due to environmental conditions, such as steep slopes and fragile soils.").

199. *FY 1905-2016 National Summary Cut and Sold Data and Graphics*, U.S. DEP'T AGRIC., FOREST SERV. (Mar. 17, 2017), https://www.fs.fed.us/forestmanagement/documents/sold-harvest/documents/1905-2016_Natl_Summary_Graph.pdf (throughout much of the 1960s, 1970s, and 1980s, more than 10 million board feet of timber was harvested from national forests each year, reaching a peak of 12.7 million board feet in 1987, an amount that is five times higher than today's annual harvest.).

courts—for example, by designating wilderness areas, re-classifying lands as national parks and monuments, or by limiting certain forms of development or use for environmental purposes. Laws such as the Endangered Species Act,²⁰⁰ National Forest Management Act,²⁰¹ and National Environmental Policy Act²⁰² require the agency to account for the environmental impacts of the agency’s land management plans, often restricting certain forms of natural resource use, such as timber harvesting.

Nonetheless, timber harvesting remains a significant component of national forest management. In 2016, the USFS harvested 2.5 million board feet of timber from national forests from more than 150,000 timber sales.²⁰³ The objective of timber management is “[t]o cultivate and maintain tree stands in a manner that promotes and achieves a diverse pattern of vegetation that best meets the needs of people now and in the future.”²⁰⁴ Other stated objectives include: to provide a continuous supply of timber for the use and necessities of U.S. citizens; to provide an even flow of timber “to facilitate the stabilization of communities and opportunities for employment”; “to manage and provide for regeneration of tree stands”; “to maintain a diversity of forest vegetation types and resources consistent with forest plans”; “to plan and conduct cost-effective timber sales”; and “to restore and maintain healthy forest conditions through the reduction of hazardous fuels.”²⁰⁵

To conduct a timber sale, the USFS leases the rights to cut a stand of timber in a national forest at a competitive auction using either sealed bids or oral auctions.²⁰⁶ Prior to a sale, the agency appraises the value of the timber to be cut and provides the details of that appraisal to prospective bidders.²⁰⁷ Sales are made to private commercial timber companies, which then harvest timber according to the terms and conditions of the sale contract. The contract describes the area where harvesting can occur, the length of time that cutting is permitted, and the road building and replanting requirements that are necessary.²⁰⁸ The USFS establishes a minimum bid price based on the appraisal, and the contract is awarded to the highest bid that conforms to the conditions of the sale.²⁰⁹

Importantly for this article, federal timber sale contracts are essentially “must-cut” contracts.²¹⁰ Winning bidders are required to harvest timber within a

200. Endangered Species Act of 1973, 16 U.S.C. § 1531 (2012).

201. National Forest Management Act, 16 U.S.C. § 1600 (2012).

202. National Environmental Policy Act of 1969, 42 U.S.C. § 4321 (2012).

203. U.S. DEP’T. AGRIC., FOREST SERV., *supra* note 199.

204. *Forest Service Manual 2400 - Timber Management, Chapter - Zero Code*, U.S. DEP’T AGRIC., FOREST SERV., at 1, 7 (Sept. 28, 2009), https://www.fs.fed.us/cgi-bin/Directives/get_dirs/fsm?2400.

205. *Id.*

206. 36 C.F.R. § 223.88 (2018); see *Forest Service Contracting: A Basic Guide for Restoration Practitioners*, U.S. DEP’T AGRIC., FOREST SERV., https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5190646.pdf (2006).

207. 36 C.F.R. § 223.60 (2017); 36 C.F.R. § 223.63 (2017).

208. 36 C.F.R. § 223.32 (2017).

209. 36 C.F.R. § 223.100 (2017).

210. See Peter H. Nickerson, *Markets for Preservation: Old-Growth and Forest Service Auctions*, 66 LAND ECON. 4, 475, 476 (1990) (noting that “A basic premise of the National Forest timber auction system is that participants intend to cut the trees. The rights that are purchased by winning bidders are

certain time period (not to exceed 10 years) in accordance with the terms of timber sale contract.²¹¹ If harvesting does not occur with this period, the contract may be cancelled. This must-cut requirement effectively precludes environmental groups from participating in the federal timber leasing process.

This fact has led some observers to question the efficiency of the federal government's must-cut provision. Economist Peter H. Nickerson, for instance, has noted that the "must-cut" requirement limits the emergence of markets for preservation on national forests.²¹² Nickerson argues for "an open market approach to old-growth timber" that would allow conservation groups to bid to protect timber stands that have important conservation or amenity value.²¹³ "Allowing only harvesters of trees the right to bid on them implies that the cutting of the timber is the highest valued use of it," writes Nickerson.²¹⁴ "Removal of the must-cut specification from these contracts would allow the auction mechanism to generate the highest valued use of the timber, not merely the highest timber cutting value."²¹⁵

The examples briefly described below provide some evidence that, at least in several important cases, markets could emerge to resolve conflicting demands over the use or non-use of forests managed by federal and state agencies—if the laws and institutions that governed those forests allowed it. Yet, in practice, such markets have been slow to emerge due to these barriers, and even when they have emerged (particularly at the state level), difficulties have often arisen due to the use-based structure of the laws and institutions that presumes that the rights will be used in a traditional form—namely to harvest rather than to protect timber.

A. Okanogan National Forest Salvage Timber Sale

Despite these challenges, some groups have tried to acquire non-use rights to federal timber leases. In 1996, the Northwest Ecosystem Alliance (NWEA), a nonprofit conservation organization that later became Conservation Northwest, was the high bidder for a timber sale in the Okanogan National Forest in Washington.²¹⁶ The group bid \$28,875 for a 275-acre sale of salvage timber on Thunder Mountain after a wildfire had burned through the area.²¹⁷ NWEA previously sought to halt timber sales through litigation and lobbying, but Congress had recently passed a temporary salvage timber bill that barred legal challenges or administrative appeals to stop the sale of timber damaged by fire or disease.²¹⁸ So the group had to get

rights to cut. Failure to cut the timber in the designated time voids the contract. The winning bidder loses all rights to the trees.").

211. 36 C.F.R. § 223.31 (1987).

212. See Nickerson, *supra* note 210, at 476.

213. See *id.*

214. See *id.*

215. See *id.*

216. Linda E. Platts, *Environmental Group Bids on Salvage Sale*, PERC REP. 6 (1996).

217. *Id.* (Salvage timber sales are conducted to remove dead, downed, infested, or damaged trees from an area to improve forest conditions, often in the aftermath of a wildfire).

218. Emergency Supplemental Appropriations for Additional Disaster Assistance, For Anti-Terrorism Initiatives, For Assistance in the Recovery from the Tragedy That Occurred at Oklahoma City, and Rescissions Act, Pub. L. No. 104-19, 109 Stat. 240-245 (1995).

creative. Their bid on the Okanogan salvage timber sale marked the first time NWEA sought to preserve forest lands with a direct market transaction.²¹⁹

To raise the money, NWEA sent out mailers asking supporters to “adopt an acre” of federal forest land for \$100 each.²²⁰ The effort generated more than \$10,000 in donations. But in the end, it did not matter. NWEA’s bid was ultimately rejected by the USFS, and the contract was awarded to a logging company instead.²²¹ The sale was part of the national forest’s land management plan, which in part was designed to provide timber to local mills. According to forest officials, if NWEA refused to log the area, the group’s bid would be rejected. “For any high bidder to come in and decide what to do with the land short-circuits . . . the Forest Service plan,” the USFS official in charge of the sale told High Country New at the time.²²²

Similar attempts by environmental groups to bid on federal timber sales occurred in Arizona and New Mexico in the mid-1990s. In Arizona, the Southwest Center for Biodiversity (now called the Center for Biological Diversity), tried to bid on a 2,000-acre salvage timber sale in the Gila National Forest in New Mexico, proposing to leave the trees standing and plant new vegetation in the aftermath of a recent wildfire.²²³ The USFS declined to consider the bid. The agency also refused to accept the group’s high bid of \$4,000 for a timber sale in the Coronado National Forest in Arizona.²²⁴

B. Loomis State Forest

Much like the USFS, states regularly conduct timber sales on trust lands to generate revenue for trust beneficiaries. Timber harvesting is an important revenue source for many state trust agencies, and because states have a relatively clear mandate to generate revenues from trust lands, they are less susceptible to the litigation, administrative appeals, and political controversy that has contributed to a decline in timber harvesting at the federal level.²²⁵

Nonetheless, despite states’ mandate to maximize revenues, the trust mandate has enabled interesting market-like buyouts of timber harvest rights for non-use, conservation purposes. After the USFS rejected their bid on the salvage

219. Jenny Emery, *Can a Salvage Sale Save the Trees?*, HIGH COUNTRY NEWS (Jan. 22, 1996), <https://www.hcn.org/issues/51/1581> (quoting an ecologist from NWEA stating that, because the group was barred from opposing the sale in other ways, “one of our few tools is to put our money where our mouth is”).

220. Kim Murphy, *Ecologists Battle Timber Industry at Auction Block*, L.A. TIMES (May 26, 1997), http://articles.latimes.com/1997-05-26/news/mn-62759_1_forest-service.

221. *Id.*

222. *See* Emery, *supra* note 219.

223. *See* Murphy, *supra* note 220.

224. *Id.*

225. Although the USFS has been criticized for routinely conducting below-cost timber sales, state trust agencies are required to generate net revenues from timber sales. From 2009-2013, the USFS earned 32 cents for every dollar spent on timber management, while Montana and Idaho generated \$1.58 and \$2.82, respectively, for each dollar spent managing timber on trust lands. *See* Holly Fretwell & Shawn Regan, *Divided Lands: State vs. Federal Management in the West*, PERC PUB. LANDS REP., PROP. & ENV’T RES. CTR. 4, 14, 19 (2015), <https://www.perc.org/2015/03/03/divided-lands-state-vs-federal-management-in-the-west/>.

timber sale in the Okanogan National Forest, NWEA spearheaded a similar effort to protect a large forest on nearby state trust lands in Washington.²²⁶ Unlike the Okanogan case, this effort succeeded. In 1999, a coalition of environmental groups led by NWEA bought the right not to cut timber on 25,000 acres of the Loomis State Forest for \$13.1 million.²²⁷ The purchase protected the last remaining roadless area in the 2 million-acre forest, which has stunning mountain vistas and abundant wildlife, including important habitat for endangered Canada lynx and grizzly bears.

The deal came about after NWEA and several other environmental groups sued the Washington Department of Natural Resources, claiming that its timber management plan violated water quality laws and the Endangered Species Act.²²⁸ But because state trust lands are required to earn revenue to support the state's public schools, there was little that could be done to halt the timber sale. Instead, NWEA negotiated a buyout deal with the state, in which the group, along with other supporters, would pay the state the fair market value of the standing timber to compensate the school trust for the foregone revenue it could have earned by selling the timber to logging companies. In exchange, the state would preserve the forest and the group would drop its lawsuit.²²⁹ In short time, a coalition of 70 organizations and businesses raised the necessary funds from private individuals and foundations to compensate the state.²³⁰ The coalition also agreed to pay the state to purchase additional lands elsewhere that could be leased for logging for the benefit of the school trust fund. The deal marked the first time that such a transfer would be accomplished through private funds raised to compensate the school trust. Today, the state continues to own and manage the Loomis State Forest, which is open to the public for hiking, hunting, and other recreational uses, but the trees remain standing.²³¹

The state's legal requirement to maximize economic returns to the school trusts, however, presented long-term challenges for the conservation-minded coalition that enabled the buyout of the Loomis forest. As part of the buyout agreement, the state reclassified the forest as a Natural Resource Conservation Area.²³² As Samuel P. Hays explains, this change shifted the management of the forest "in a direction of multiple uses, much like the national forests, and the alliance found itself struggling to inject ecological objectives into the management program."²³³ As a result, "the broad ecological goals of the Loomis purchase, including elimination of future wood harvest and road building, were threatened amid the intricate political maneuvering within the Department of Natural

226. *Loomis State Forest: Environmentalists Agree to Pay State Not to Log Forest*, KITSAP SUN (Apr. 9, 1998), https://web.kitsapsun.com/archive/1998/04-09/0025_loomis_state_forest_environmenta.html.

227. *Id.*

228. *Id.*

229. See *How We Saved the Loomis Forest*, CONSERVATION NORTHWEST, <https://www.conservationnw.org/our-work/wildlands/loomis/> (last visited Mar. 16, 2018).

230. *Id.*

231. *Id.*

232. See SAMUEL P. HAYS, *WARS IN THE WOODS: THE RISE OF ECOLOGICAL FORESTRY IN AMERICA* 43 (2007).

233. *Id.*

Resources.”²³⁴ Still, the buyout is regarded as a success by NWEA (which is now Conservation Northwest), who call it a “landmark agreement” that fulfilled the state’s trust obligations while also protecting the forest as a state natural resource conservation area.²³⁵

C. Montana’s Timber Conservation License in Lieu of Sale

A recent controversial plan to cut timber on state lands near Bozeman, Montana, illustrates other practical challenges of acquiring non-use rights to public timber resources. In 2016, the Montana Department of Natural Resources and Conservation (DNRC) proposed a 730-acre timber sale on trust lands on Mount Ellis, just south of the town.²³⁶ The logging would be visible from much of the city and would negatively impact the viewshed of some neighborhoods at the foothills of the mountain. In response, local community groups formed to oppose the sale.²³⁷

Montana law provides a means for such groups to acquire a form of non-use timber harvest rights on trust lands by applying for a “timber conservation license in lieu of sale.”²³⁸ The license works as follows: During the environmental review process for a proposed timber sale, any person may request that the DNRC authorize a conservation license for the sale.²³⁹ The license would represent a temporary deferral of a timber harvest, or a portion of a harvest, over a specified geographic area. The department then prepares and recommends the timber sale for consideration by the state land board, using the alternatives of the sale with and without a conservation license included.²⁴⁰ Through this application process, conservation license applicants reserve the right to bid against logging companies during the bidding phase of the project. The department then solicits bids simultaneously for each alternative authorized to ensure that the full, fair-market value is secured for the trust beneficiaries.²⁴¹

In practice, the conservation license provision presents several challenges for the DNRC as well as prospective bidders: First, the DNRC is required to set the terms and length of the license as well as other provisions contained within it.²⁴² But how long should such a license apply? Would a winning conservation bidder compel the state to protect the area from logging for 5 years or 99 years? Or would the license apply only to the current generation of timber on the landscape, and how long should that be? The law provides no answers to these questions. Instead,

234. *Id.*

235. *See* CONSERVATION NORTHWEST, *supra* note 229.

236. *Limestone West Proposed Timber Sale Project*, MONT. DEP’T NAT’L RESOURCES, BOZEMAN UNIT, <http://dnrc.mt.gov/divisions/trust/forest-management/limestone-west> (last visited Mar. 16, 2018).

237. *See, e.g.*, SAVE OUR GALLATIN FRONT!, <http://www.saveourgallatinfront.org/> (last visited Mar. 18, 2018).

238. MONT. CODE ANN. § 77-5-208 (1999).

239. *Id.*

240. *Limestone West Timber Sale Draft Environmental Impact Statement*, MONT. DEP’T NAT’L RESOURCES, BOZEMAN UNIT, 3-4 (2018), http://dnrc.mt.gov/divisions/trust/forest-management/limestone-west/limestone-west-environmental-documents/LimestoneWestTimberSale_DEIS_08312018_Website.pdf.

241. *See id.*

242. *Id.*

the DNRC must determine the length of a conservation license during the environmental review process, and such determinations are to be made on a case-by-case basis.²⁴³

This uncertainty creates obstacles for prospective non-use bidders. The duration of a conservation license, for instance, influences how much a group would be willing to bid for it. A license that is valid for only a few years is unlikely to garner a higher bid than a logging company would pay to harvest the timber crop, while one that ensures protection for a longer period could generate more interest among conservation bidders. For these reasons, the conservation license provision has rarely been used in Montana.²⁴⁴ In the case of the proposed timber sale near Bozeman, a local group has applied for a conservation license but has expressed a reluctance to bid for the license due to the unclear and potentially short duration of it.²⁴⁵ In August 2018, the DNRC's draft environmental assessment for the Bozeman sale included a proposed action alternative that would offer a conservation license in lieu of a timber sale for a term of 10 years.²⁴⁶

Other complications include the potential effects that a conservation license could have on the future value of the timber resource. In addition to determining the duration of a conservation license, the Montana DNRC studied the impacts associated with deferring the Bozeman timber sale for various lengths of time. These impacts could include a loss of timber value due to infestation, disease, price changes, or wildfire.²⁴⁷ In short, from the perspective of state trust managers responsible for maximizing financial returns from trust lands over the long run, a short-term conservation license could have lasting negative consequences for trust beneficiaries if it reduces the future value of the timber resource.

7. WATER

Surface water rights in the western United States provide a useful example of how institutions that initially developed to support extractive resource use can be adapted to accommodate private provision of non-use values. Traditionally, property rights could not be established for water left in stream under Western water law, but over the past 50 years most western states have implemented legal changes to create a basis for establishing environmental water rights. In principle, this system creates a vehicle for market-based provision of amenities values associated with stream flow and allows the opportunity cost of these "uses" of water to be reflected in the market prices facing traditional water users. In practice, however, states have had mixed success using markets to secure instream flow.

243. *Id.*

244. *Id.*

245. Personal correspondence with Brad Webb, Member of Save Our Gallatin Front (Mar. 12, 2018); see also Michael Wright, *Logging Opponents to Bid Against Timber Companies for Project South of Bozeman*, BOZEMAN DAILY CHRON. (Sept. 6, 2017), https://www.bozemandailychronicle.com/news/environment/logging-opponents-to-bid-against-timber-companies-for-project-south/article_de40f516-92f7-568c-a77e-febfd82de4e2.html.

246. MONT. DEP'T NAT'L RESOURCES, BOZEMAN UNIT, *supra* note 240, at 16.

247. *Id.*

These successes and failures illustrate both the promises and the challenges of creating property rights to non-use characteristics of natural resources.

Across most of the West, surface water is allocated under the prior appropriation doctrine, which was developed during the latter half of the nineteenth century to facilitate coordinated investment in irrigation infrastructure that made farming in the arid West feasible.²⁴⁸ Appropriative water rights were allocated on a first-come, first-served basis. To establish a water right, users are required to divert water and put it to “beneficial use.” Once established, the rights are subject to the “use it or lose it” doctrine, which threatens the loss of a water right that is not continually put to a legally approved beneficial use.²⁴⁹ As with other natural resources in the West, these provisions were meant to forestall speculation and ensure broad access for potential migrants.

Over time, the relative scarcity of surface water flows in western states has forced institutional change as new demands for water emerge. Although agriculture accounts for 80 percent of surface water withdrawals in the West, population growth and urbanization are becoming increasingly important sources of demand even as climate change threatens to reduce both the availability and reliability of water resources.²⁵⁰ Today, many streams across the West are over-appropriated, meaning that legal claims to water exceed actual water available within a given year, often leading to the complete “dewatering” of streams during especially dry years.²⁵¹

In response to these changes a fundamentally different type of water demand has emerged: the demand for instream flows (ISF)—essentially a non-use form of water right. Increasingly, researchers, policymakers, and recreational enthusiasts have come to appreciate the economic value of water left in streams that supply natural amenities, water quality benefits (via dilution), and critical habitat for endangered and recreationally valuable species. Estimates of the value of ISF for recreation and amenity provision vary according to the base level of flow, time of year, and location across the West.²⁵² Often, augmented instream flows are also required at specific times and locations for compliance with federal regulation such as the Clean Water Act and the Endangered Species Act.²⁵³

248. The prior appropriation doctrine was adopted on a state-by-state basis. See Bryan Leonard & Gary D. Libecap, *Collective Action By Contract: Prior Appropriation and the Development of Irrigation in the Western United States* 3 (Nat'l Bureau of Econ. Research, Working Paper No. 22185, 2016), <http://nber.org/papers/w22185.pdf>.

249. Jedidiah Brewer et al., *2006 Presidential Address Water Markets in the West: Prices, Trading, and Contractual Forms*, 46 *ECON. INQUIRY* 91, 94 (2008).

250. Sheila M. Olmstead, *The Economics of Managing Scarce Water Resources*, 4 *REV. ENVTL. ECON. POL'Y* 179, 179-198 (2010).

251. Richard E. Howitt, *Spot Prices, Option Prices, and Water Markets: An Analysis of Emerging Markets in California*, in *MARKETS FOR WATER: POTENTIAL AND PERFORMANCE* 119, 119-40 (1998).

252. *Id.* at 183; see also John W. Duffield et al., *Recreation Benefits of Instream flow: application to Montana's Big Hole and Bitterroot Rivers*, 28 *WATER RESOURCES RES.* 2169 (1992); John Loomis & James McTernan, *Economic Value of Instream Flow for Non-Commercial Whitewater Boating Using Recreation Demand and Contingent Valuation Methods*, 53 *ENVTL. MGMT.* 510 (2014).

253. Lynne Marie Parechan, *Choreographing NGO Strategies to Protect Instream Flows*, 42 *NAT. RESOURCES J.* 33, 34-37 (2002).

The tradeoff between traditional off-stream uses of water and these in-stream uses is sharpened by the fact that ISF is most valuable when flow is low and water is scarce in the late summer, which is exactly when off-stream demand for irrigation is greatest.²⁵⁴ Much like hydrocarbons, grazing, and timber, the benefits of extractive water use are private and appropriable, whereas the amenity and existence value generated by ISF are public goods that are potentially global in nature.²⁵⁵

Unlike the other resources discussed in this article, a legal framework exists for the provision of instream flows for environmental purposes by both private and public entities. Water rights are administered on a state-by-state basis, and there is significant heterogeneity in the nature and success of different states' efforts to support market-based provision of instream flows. The starting point for market-based provision in any state is the capacity for a secure property right to water that is left instream. Traditionally, ISF was essentially treated as unused water left in the public domain and was therefore appropriable for subsequent extraction. To enable non-use rights to water, states would have to revise the definition of what is considered a "beneficial use" of water to include instream flows, as many have done.²⁵⁶

Beginning in the 1960s, each of the western states has made at least some move to categorize environmental flows as a "beneficial use" of water, but the legal certainty surrounding these rights varies by state. In California, Colorado, and Oregon, for instance, instream flows are defined as a beneficial use by statute.²⁵⁷ In other states, such as Nevada and New Mexico, this determination is based on judicial precedent, making ISF rights much less secure.²⁵⁸ States vary on other margins including whether private parties can transfer or hold ISF rights, the degree of oversight and administrative approval required for transfers to environmental uses, and the level of funding for instream flow purchases.

Defining a property right to ISF raises a variety of conceptual challenges even after its status as a beneficial use is legally secure. Enforcement of traditional off-stream water rights involves monitoring when, where, and how much water is diverted. Enforcing ISF rights requires a different framework because no diversions occur. Instead, protecting an ISF right requires determining how much water must be *left* in a stream and measuring ISF at a particular point in time along a particular stream reach.²⁵⁹

Another question that arises in defining ISF rights is their duration. In practice, some states have allowed short-term leases of ISF rights while others only accommodate environmental water rights in the form of a permanent retirement of

254. John W. Duffield et al., *supra* note 252.

255. *See id.* Studies suggest that even the relatively congestible recreational benefits created by ISF provision are shared by non-residents who travel cross-country to enjoy unique opportunities for fishing and rafting.

256. *See* Jesse A. Boyd, *Hip Deep: A Survey of State Instream Flow Law from the Rocky Mountains to the Pacific Ocean*, 43 NAT. RESOURCES J. 1151 (2003).

257. *See generally* LEON F. SZEPTYCKI ET AL., ENVIRONMENTAL WATER RIGHTS TRANSFERS: A REVIEW OF STATE LAWS (2015).

258. *Id.* at 37, 39.

259. Boyd, *supra* note 256.

existing off-stream rights.²⁶⁰ Leases can be advantageous for helping to meet critical streamflow thresholds during unexpected droughts, whereas permanent rights are often more contentious with traditional water users. States also vary in whether they allow private parties to hold ISF rights—in many cases only the state can formally hold these rights due to fears of speculation.²⁶¹

In practice, the conceptual difficulties of creating property rights to “non-use” water are not the primary barrier to ISF transactions. Rather, problems arise because ISF transactions have the potential to impair the property rights of existing water users by altering the timing, nature, and amount of flow on stream systems.²⁶² There is a large literature in law and in economics exploring impairment and third-party externalities of water markets more broadly, with ISF as a special case. We emphasize that these problems, though important, are unlikely to arise in the context of federally owned minerals, land, and timber where there are not pre-existing and overlapping private property rights. In what follows, we focus on legal and administrative factors that can make market-based provision of ISF more or less robust.

260. *Id.*

261. *Id.*

262. Janet C. Neuman, *The Good, the Bad, and the Ugly: The First Ten Years of the Oregon Water Trust*, 83 NEB. L. REV. 432, 484 (2004).

Table 1: Summary of States' Instream Flow Success²⁶³

State	Status of ISF as "Beneficial Use"	Ability of Private Parties to hold ISF Rights	Average Review Time	Number of ISF Transactions
Arizona	Limited Statutory	Limited	N/A	0
California	Statutory	Yes	4-15 months	34
Colorado	Statutory	No	6.5 years	34
Idaho	Limited Statutory	No	4 months	7
Montana	Limited Statutory	Yes	16-24 months	50
Nevada	Not Statutory	Yes	NA	57
New Mexico	Not Statutory	Unknown	NA	1
Oregon	Statutory	No	1-36 months	1800
Utah	Statutory	Limited	1-2 years	8
Washington	Statutory	Limited	6 months - 6 years	1118
Wyoming	Statutory	No	1 year	1

Table 1 summarizes the legal status of ISF rights, who can hold those rights, the degree of administrative oversight, and the total number of ISF transactions in each of the 11 western states as of 2015. Table 1 makes it clear that there is no simple recipe for success of ISF programs, as some states with relatively restrictive ISF rights have nonetheless seen active provision of funds for devoting water to ISF. Oregon stands out as a leader in ISF transactions even though private parties cannot hold ISF rights. On the other hand, Arizona has not had a single successful ISF transaction despite appearing to have the requisite legal framework in place. We briefly review these two states' experience with ISF transactions and draw lessons for the design of non-use rights more broadly.

263. See SZEPTYCKI ET AL., *supra* note 257.

A. Oregon's Instream Flow Success

Despite not allowing private parties to hold ISF rights, Oregon nevertheless has one of the most robust legal frameworks for supporting private provision of ISF.²⁶⁴ Flows to benefit fish, wildlife, and recreation are all recognized as beneficial uses under statute.²⁶⁵ Private parties can convert existing rights to ISF rights, which are then held in trust by the state.²⁶⁶ Unlike many other states, Oregon places few limitations on the spatial or substantive nature of transfers from traditional to environmental uses. Perhaps the most crucial feature of Oregon's institutional framework is its expedited approval process for short-term leases (less than 5 years), which has dramatically reduced administrative delay—leases make up the majority of ISF transfers denoted in Table 1.

Oregon has seen more environmental water transfers than any other state, driven both by state-mandated conservation and efforts by private parties. On the mandatory side, over 500 previously established regulatory minimum flow requirements have been converted to ISF rights.²⁶⁷ Private actors have also played a pivotal role in transferring water to environmental uses throughout the state. The Oregon Freshwater Trust, a private nonprofit entity, successfully protected over 124 cubic feet per second across 11 river basins between its founding in 1993 and 2004.²⁶⁸ Rather than litigating or lobbying to reduce water use, the Trust works with ranchers, farmers, and other stakeholders to find ways to conserve water and convert existing extractive rights to ISF rights.

The Freshwater Trust is not the only facilitator of ISF transactions in Oregon. Other players include the Deschutes River Conservancy, Environmental Defense Fund, and the Nature Conservancy.²⁶⁹ Although leases and permanent rights are ultimately held in trust by the state, private non-profit groups play a crucial role organizing and financing transfers. Overcoming opposition from existing water users who fear potential impairment of their rights often involves repeated negotiations and innovative contractual arrangements. Although these agreements can be costly to arrange, they ultimately result in mutually beneficial exchange, with existing users being compensated for changes in their water use.

B. Arizona's Struggle to Dedicate Instream Flow

In contrast to Oregon, Arizona has yet to approve a transfer of an existing water right to instream uses. The state has initiated a variety of new ISF rights that are junior to existing off-stream uses but struggles with multiple barriers that bar private groups from successfully facilitating ISF transfers. Environmental and recreational uses are protected by statute but are considered a lower priority than traditional extractive uses. Private parties initiate and receive transfers of ISF rights, but those rights only maintain their priority date if the state acts as the

264. Boyd, *supra* note 256.

265. *Id.* at 1181-88.

266. *Id.* at 1181.

267. Neuman, *supra* note 262.

268. *Id.* at 433.

269. *Id.*

recipient. The administrative review process for establishing a new ISF right is also burdensome and slow.²⁷⁰ Taken together, these factors increase the cost of protecting water via property rights while also creating uncertainty about the potential benefits of this approach.

Administrative hurdles aside, the generally uncertain nature of surface water rights in Arizona presents perhaps the greatest challenge for ISF transfers. According to state law, surface water is allocated under the prior appropriation doctrine, but groundwater is subject only to “reasonable use” restrictions.²⁷¹ The hydrologic connectivity of surface and groundwater resources, combined with this dual regulatory framework, has generated considerable uncertainty about the security of many surface water rights across the state.²⁷²

The general lack of reliable protection of surface water rights from impairment via groundwater pumping reduces the utility of ISF rights. Private parties can establish new ISF rights, but those rights would be junior to any “reasonable” groundwater users and so have limited capacity to secure crucial flow during drought.²⁷³ The reality of these barriers is underscored by the fact that 35 percent of perennial streams in Arizona no longer flow.²⁷⁴ Thus, the failure of ISF rights in Arizona has less to do with difficulties associated with non-use in particular and more to do with broader uncertainties in Arizona’s approach to water law.

When drawing lessons for non-use rights in general, it is important to note that many of the barriers to successful ISF programs are based on conflicts over the existing distribution of property rights to water. Oregon has successfully mitigated many of these conflicts by adopting a streamlined administrative review process with backstop protections that allow ISF rights to be cancelled if harm is established *ex post*.²⁷⁵ On the other end of the spectrum, Arizona’s struggle with ISF stems from an inability to resolve border disputes between surface and groundwater users. In theory, establishing non-use property rights should be much easier for federally owned resources where conflicts among many competing private property holders are not at issue.

8. CONCLUSION

Environmental issues are often characterized as inherently political issues given the realities of public goods and the free-rider problems associated with them. However, a fundamental point of this article is that such concerns are not the only factors that drive the outcomes we observe. The legal ability—or inability—of

270. See generally SZEPTYCKI ET AL., *supra* note 257; see also Boyd, *supra* note 256.

271. Boyd, *supra* note 256, at 1154.

272. See generally Joseph M. Feller, *The Adjudication That Ate Arizona Water Law*, 49 ARIZ. L. REV. 405, 440 (2007) (Water users in the Verde River Valley have been mired in a contentious adjudication of rights involving conflicting surface and groundwater claims since the mid-1970s, and the Gila River adjudication has been similarly contentious).

273. Boyd, *supra* note 256, at 1154, 1155.

274. Lawrence J. MacDonnell, *Environmental Flows in the Rocky Mountain West: A Progress Report*, 9 WYO. L. REV. 335, 343, 396 (2009).

275. See SZEPTYCKI ET AL., *supra* note 257, at 19; Neuman, *supra* note 262, at 469, 481.

conservation groups to purchase, trade, or bargain for non-use rights to natural resources is at the core of the issue.

This article casts doubt on the popular view held by environmental economists, legal scholars, and policymakers that the non-use values associated with natural amenities can only be provided through public ownership of natural resources and landscapes with high conservation value. The special characteristics of unique landscapes and natural amenities raise the possibility that private parties' efforts to protect these environmental goods could be much closer to the socially efficient level than is often supposed. Preferences for environmental amenities are likely to be heterogeneous and satiable, so that the highly motivated few may provide something close to efficient conservation for the many.

The existing structure and distribution of state and federally administered property rights to natural resources evolved to facilitate traditional, extractive uses during westward expansion and is not well-suited to accommodate non-use values. As non-use demands increase, there is mounting pressure for institutional change. If the lessons from federal grazing policy, oil and gas leasing, timber sales, and western water rights are any guide, institutional change will be slow and hard fought. This thinking is consistent with Libecap and other economic historians, who emphasize how high political transaction costs stymie property rights reform, even if existing rights do not promote efficient resource use.²⁷⁶ Nevertheless, an important starting point for institutional reform is a more complete understanding of how existing institutions prevent welfare-enhancing trades from occurring.

To be sure, conceptual difficulties arise when developing property rights to protect non-use values associated with landscapes and resources. Should transactions be temporary contracts, or last in perpetuity? Who should be allowed to hold non-use rights? How can these rights be defined and enforced? We propose these as excellent questions for future research by both legal scholars and economists. But we emphasize that, as examples from surface water and other state-managed natural resources illustrate, the barriers to developing non-use rights are not insurmountable.

276. See Libecap, *supra* note 5, at 2, 3.