



Ranching realities in the  
**21<sup>ST</sup> CENTURY**

Holly Fretwell and Mark Milke,  
Contributing Editors

# Contents

<b>Introduction</b> . . . . .	<b>1</b>
Holly Fretwell and Mark Milke	
<b>1. Land Use in Alberta: Early Policy and Present Conflicts</b> . . . . .	<b>7</b>
Mark Milke	
<b>2. Privatizing Half a Million Crown Acres: The Saskatchewan Experience</b> . . . . .	<b>28</b>
Mark Milke	
<b>3. Managing Conflicts Over US Federal Rangelands.</b> . . . . .	<b>39</b>
Shawn Regan	
<b>4. Trust in Reform: Trust Alternatives for Range Resource Allocation.</b> . . . . .	<b>64</b>
Holly Fretwell	
<b>5. Managing Australia’s Rangelands</b> . . . . .	<b>87</b>
Jeff Bennett	
About the Authors . . . . .	107
Acknowledgments . . . . .	107
Publishing Information . . . . .	108
Supporting the Fraser Institute . . . . .	109
Purpose, Funding, and Independence . . . . .	109
About the Fraser Institute . . . . .	110
Editorial Advisory Board . . . . .	111

# Introduction

## Public Land, Private Land, Optimal Outcomes

Holly Fretwell & Mark Milke

Movies about the West in North America romanticize cattle rustlers, roundups, and shootouts. Conflict certainly played a role on the range but there was also much cooperation. When ownership rights were secure, either formally or informally, competing interests could be resolved through negotiation and trade (Anderson and Hill, 2004). When property rights were not well delineated, the allocation of resources caused conflict over cooperation, as interested parties fought for use.

Competing demands are even more acute today. Grazing, timber, recreation, and mineral interests all vie to use the resources. Further competition comes from environmental interests in protecting amenity values and providing ecosystem services. In the private sector, these interests compete by bidding in the market. In such a world, each user realizes the alternative use values and the highest bidder wins. The market price signals the value of the various uses. Winning means taking management responsibility and realizing the costs and benefits of ownership and resource use. Ownership encourages cooperation through recognition of the alternative use values.

On government land, also known as “public” land, the allocation of resources is quite different. Government or government agencies own the land and allocate use rights. Rights are articulated by law with less flexibility to change with the dynamic nature of social desires and environmental understanding. There are multiple organizational structures for public land agencies, but few of them demonstrate good economic and ecological management. The organizational structure of management defines the incentives that drive the outcomes.

Managing government-owned lands is more complicated in part because of a lack of clear objectives, but also due to insecure rights. Such lands allow for a variety of uses, meaning that most of the agencies involved (federal, provincial, and state) grapple with how to prioritize alternative resource uses through a political decision-making process that can be cumbersome and lead to less than ideal outcomes.

## **Political and legal realities on government land: An absent feedback effect**

Terry Anderson and Gary Libecap (2014) have noted how public ownership of land is not a panacea and can exacerbate environmental problems. In one example from Yellowstone National Park, the desire of conservationists to protect buffalo stock conflicts with snowmobilers. The issue is “resolved” by politics which translates into political lobbying and litigation. The result was illustrated by a photograph (p. 43) that shows snowmobiles racing through the park parallel to a slow-moving buffalo herd only two meters away. Even if public ownership of land is desirable for some other reason, such as a permanent desire for parkland, the problem with public-use allocation is that decisions are often based on who has the “loudest voice” or the most successful lawyers. In some years, that means conservationists may win; in others, it may be snowmobilers, regardless of the effect on the buffalo herd or on the land itself.

Even where, as in the case of US state trust lands, a market mechanism exists to allocate resources among competing uses (states are required to maximize net revenues and often do so through a competitive bid process), use rights are still restricted and not transferable so political decisions and legislative rules override what could be better market outcomes.

In short, government owned lands are missing the feedback mechanism. In the case of leased land in Canadian provinces, for example, while lessees are aware of potential revenues and management modifications that could enhance future productivity, it is no longer a one-to-one return to the lessee; leases are neither perpetual nor guaranteed for any length of time, reducing the incentive to invest in future productivity. Furthermore, the lessee may have little influence on agency decision making and is instead subject to prescriptive outcomes. The number of livestock and timing of grazing are nearly always agency determined, allowing the lessee little flexibility to respond to changing landscape and climatic conditions.

## **Getting to optimal outcomes: Five essays**

The essays in this collection summarize the common public land agency organizational forms. Focusing on different regions and outcomes, the essays show where conflict and cooperation result from the organizational structures. Each province, state, or federal jurisdiction, as the case may be, might find lessons that can be applied locally to reform land use practices. Whether in Alberta, where a recent energy boom highlighted the exacerbated conflicts on the land, or elsewhere, reform of government-owned land has the potential to enhance both economic and ecological stewardship of the land.

### **Market-friendly approaches in Alberta**

In Canada, control over most land (government-owned or private) is under provincial jurisdiction. As of 1867, provincial governments were given constitutional jurisdiction over all but minute amounts of federal land; the Prairie provinces that were an exception to this rule were finally awarded control in 1930 (with formal control transferred in 1931).

Just under one-fifth of farm and ranch land in Alberta is leased from the government, with the rest held privately. Private property and management is already a substantial part of Alberta land management, serving as an ongoing case study of its benefits or drawbacks. The province has long nodded to the importance of how privately managed Crown land and fee simple private property are functionally useful and produce significant environmental benefits. This essay discusses additional ways in which the province should match its long-stated preferences, the result of significant consultation over the years, with policy.

Critically, the essay notes the importance of accounting for specific, local knowledge of Alberta's land base when designing policy. In an example from Alberta's own history, the author points out how "general" knowledge, i.e., knowledge based on first principles or derived from "textbook" assumptions, has been disastrous in past policy experiments in Alberta, which were injurious to its land and people.

### **Recent market movement in Saskatchewan**

Mark Milke continues his discussion of market-based approaches to land use by focusing on Saskatchewan. This Prairie province recently converted almost half a million acres, which had previously been leased to ranchers and farmers, from government ownership to fee simple private ownership. That this occurred in Saskatchewan is remarkable, as that province was governed for much of the past century by a highly interventionist political party with roots in agrarian socialism. Its influence was so strong that even subsequent non-socialist governments reversed few of the policies enacted under the New Democratic Party. Still, as of 2008, Saskatchewan's government offered for sale up to 1.6 million acres of leased government land for conversion to fee simple private property.

In this essay, Mark Milke discusses how the land was valued, financed, and ultimately sold. He also notes how government policy restricted a robust market-based approach that otherwise might have seen even more land converted to fee simple and higher revenues for the province. Nevertheless, the Saskatchewan experience is instructive in that it demonstrates a reversal of historic collectivist political and policy assumptions in Saskatchewan. The conversion also offers lessons in how government land might be converted to fee simple, albeit with more robust private property rights if a government desires to realize the full effect of markets on land values and land use.

### Conflict over cooperation in the United States

Grazing rights on US federal lands were delineated over 80 years ago. The terms of grazing leases remain much the same, though the permitted number of livestock has been more than halved. Grazing leases are tied to adjacent private lands, eliminating most competition. Lease terms are fixed, allowing managers little flexibility to respond to changing conditions of the land or desires for use. Changing lease terms is costly, so rare.

In his essay, Shawn Regan provides examples of changing grazing terms on the US federal estate through raid or trade. The US federal system encourages conflict because the only way for competing users to gain use rights is to lobby for top-down change. In essence, it is necessary to raid the rights of others through political means rather than to negotiate with existing resource users through trade. As Regan describes it, the conflict on federal grazing land is the result of insecure and non-transferable permits.

A handful of private groups have worked with the system in an effort to reduce the trade barriers. Using examples on the range, Regan demonstrates the win-win outcomes that can occur when trade is allowed. Lowering the costs of trade encourages cooperative exchange over conflicts from raiding. Regan clarifies the US federal policies that create barriers making trade and cooperation costly, hence raid the more common outcome.

In another essay on American practice, grazing rights on the state trust lands are shown to have a different set of agency incentives. These agencies are run more like businesses because they are required to maximize revenues. In theory, trust land use would be traded in the market, allowing a comparison of use values and movement toward the greatest return. Holly Fretwell explains the history and theory of the state trust lands, and demonstrates how trust management actually plays out.

No doubt the trust agencies have better economic outcomes than their federal counterparts. The trust goal to generate revenues is clear. The comparable federal agencies are instead directed to provide for multiple benefits for multiple users. Even so, the reality of trust outcomes is far from efficient. Politics and other barriers increase the costs of trade. The struggles of the state land agencies to reach cooperative outcomes demonstrate the political realities of public versus private management.

Furthermore, Fretwell demonstrates that the ecological outcomes on comparable lands managed by various ownerships are not as expected. Though there are great examples of private management, there is not a clear and strong correlation between good stewardship and tradable resource use. The story that presents itself is one of missing information. Until recently, measuring environmental quality on the range has been poor. So demonstrating the value of ecosystem services that can be provided, such as water absorption, enhanced stream flow, and aquifer recharge, is also lacking. Without good metrics the feedback from good stewardship that would motivate investment is indistinct. The continually

changing nature of livestock costs, prices, and the environment make tracking the return on rangeland improvements difficult without good metrics.

### **An Australian shift to freehold title**

Jeff Bennett discusses the rangelands of Australia. Much like the open vista in the Canadian or American West, Australia's "red centre" is iconic and evocative of wide-open spaces. These days, the outback faces numerous challenges including land degradation, species extinction, and depopulation.

As Bennett notes, past management of the competing uses of rangelands resources was driven by an institutional structure that resulted in overgrazing and resource degradation. He points to some institutional reforms that have mitigated this past pattern of ecological decline. The reforms have included "lengthening the period of leasehold tenure, the encouragement of private sector conservation initiatives, and the determination of 'native title.'" Still, Bennett spots the problem of continued insecurity of title coupled with certain perverse incentives (drought relief policy) that mean pressure to maintain practices that cause resource degradation persist. He suggests additional institutional reform involving converting leasehold titles to freeholding, the abolition of drought relief subsidies, and the integration of native title rights into freehold titles over lands that were formerly held under a pastoral lease, as means to ensure the sustainability of Australia's iconic outback.

### **Getting past political incentives to better land use policy**

The public land laws are designed more for political than for scientific, environmental, or economic interests. The five essays that follow demonstrate different management structures across a variety of rangelands across two continents. What they all have in common is government ownership, but the range, the climate variability, and the competing demands on the resources vary.

Economists have long been aware of the importance of voluntary trade to encourage win-win outcomes. According to Delworth Gardner, "the inability of the resources to move to their highest economic use impedes economic development by diminishing the product that might have been taken from the resource" (Gardner, 1962: 63). Though it is often believed that grazing is mutually exclusive of protecting critical habitat and ecosystem function (Fleischner, 1994), many ranchers have demonstrated the mutually beneficial results that can be obtained by paying attention to time and timing of foraging animals over quantity (personal communication with Gregg Simonds; see also Dagget, 1995, and Sayre, 2001).

This series of essays demonstrates the incentives that arise from various forms of government ownership and public management disentangling the lessons to enhance future range management, public and private. The essays tell a story of resource allocation through coercion and cooperation, through government and private ownership and management. It is a story of the past, present, and future. It is a story that can improve outcomes by helping us understand the experiences of the past and make use of the lessons for a cooperative future.

## References

- Anderson, Terry L., and Peter J. Hill (2004). *The Not So Wild, Wild West: Property Rights on the Frontier*. Stanford University Press.
- Anderson, Terry L., and Gary D. Libecap (2014). *Environmental Markets: A Property Rights Approach*. Cambridge University Press.
- Dagget, Dan (1995). *Beyond the Rangeland Conflict: Toward a West that Works*. The Grand Canyon Trust and Gibbs Smith, Publisher.
- Fleischner, Thomas L (1994). Ecological Costs of Livestock Grazing in Western North America. *Conservation Biology* 8, 3 (September): 629–44.
- Gardner, B. Delworth (1962). Transfer Restriction and Misallocation in Grazing Public Range. *Journal of Farm Economics* 44, 1 (February).
- Sayre, Nathan F. (2001). *The New Ranch Handbook: A Guide to Restoring the Western Rangelands*. Quivira Coalition.



LAND USE IN ALBERTA:

# Early Policy and present conflicts

~ Mark Milke

# 1. Land Use in Alberta: Early Policy and Present Conflicts

Mark Milke

The prairies provide an example of how tensions between conservationists and other land-users can be healed and need not be permanent. In the past there was animosity between conservationists and ranchers with the former accusing the latter of overgrazing and using exotic grasses to reseed pastures.

For their part ranchers regard themselves as ‘conservers’ and resent being called ‘destroyers’, pointing out that their open ranges give native flora and fauna some chance of survival. They regard themselves as custodians of the land and its natural organisms, and resent being moved off conservation areas. Fortunately, understanding between ranchers and conservationists has improved enormously. (Atkinson, 2009: 109)

In Alberta, disputes over the proper use of land have multiplied. Population growth, increased oil and gas exploration, agricultural demands on the land, more recreational use, an increasing ecological sensitivity, and other factors have exacerbated the potential for conflict.

This essay provides context for reforms to the land base in Alberta, considering a variety of particular goals—economic development, environmental protection, or some combination thereof. It first provides the history of how Crown land came to exist in Alberta. The history of leased land is then profiled, and the current ownership status—how much land is private- and government-owned—is detailed. The most relevant legislation and regulations that govern land use in Alberta are noted, and a snapshot of grazing leases provided. Current land use problems and conflicts are reviewed. Finally, a lesson is offered from Alberta’s history on how general knowledge of the land base is inadequate and why specific knowledge is preferable, a lesson that is relevant today.

## Alberta's land base: A brief history since leasing began

Conflicts over the land base in Alberta are nothing new and result in part from government decisions in the nineteenth century. Those decisions led to a substantial though minority portion of Alberta's agricultural land base being retained by government, setting the parameters and possibilities for land management in Alberta today. That history, insofar as it explains why some land (such as leased land) might be ripe for reform, is helpful to understand if present conflicts over the land base are to be sensibly addressed. This essay will explain the history of that land base with a particular focus on leased and occupied Crown land.<sup>1</sup>

### Crown land in Canada

Before detailing current provincial land policy in Alberta, it is helpful to understand how land in Canada was first treated under the British Crown, then at Confederation, and finally as of 1931 with the Natural Resources Transfer Agreement (Flanagan and Milke, 2005: 166).

At the beginning of colonization in British North America, the Imperial Crown retained ownership of public land, also known as Crown land, as part of assumed royal prerogative. This meant that Crown lands were controlled by the governor and his appointed council, and were ultimately subject to instructions from the Colonial Office in London; such instructions then trumped any locally elected legislatures and officials that might exist.

As demands for local control of government increased, demands for local control of Crown land grew in tandem (Flanagan and Milke, 2005: 166). The demand for local control of public land was met by the Crown with the 1840 Act of Union. That Act officially joined the colonies of Upper Canada and Lower Canada into one province, the province of Canada. The 1840 Act of Union and the 1854 Union Amendment Act had the joint effect of assigning public lands to the Province of Canada. The 1840 Act of Union assigned the cost of maintaining such public lands to the Province and the 1854 Union Amendment Act designated the lands as provincially owned. In 1867, provincial control of public lands became a fixed principle of Confederation, enshrined in the Constitution (British North America) Act, 1867 (Flanagan and Milke, 2005: 166).

In practice, after 1867, most Crown land was controlled by the provinces, with exceptions for federal public land related to defence, federal buildings, national parks, and Indian reserves. Another notable exception was in the Confederation-era ownership and treatment of what later became the Prairie Provinces, modern-day Alberta, Saskatchewan, and Manitoba. At the time of Confederation, those lands were still part of Rupert's Land, which had been granted a Charter and ownership of the land by Charles II in 1670 (Flanagan and Milke, 2005: 167).

---

1. To analyze *unoccupied* Crown land, such as a mountain, would be a distraction given that the fact of human occupation is what leads to potential improvements or destruction of the land. Also, occupied non-agricultural Crown land such as an Indian/First Nations reserve will not be analyzed as such land brings with it constitutional matters beyond the scope of this series of essays.

The Rupert's Land Act of 1868, an agreement between the Dominion of Canada (the modern-day federal government) and the Hudson's Bay Company, led to the sale of 95 per cent of that land to the Dominion government, effective in 1870 (Canada, undated; Wade, 1995: 397; Flanagan and Milke, 2005: 167–68). Thus, after the transfer of large swaths of the Canadian West, most land was controlled by the Dominion government.

Even after the entry of the Prairie Provinces into Confederation—Manitoba in 1870, followed by Saskatchewan and Alberta in 1905—it was not until federal passage of the 1930 Natural Resources Transfer Agreement that most public land in those three provinces came under the control of provincial legislatures, officially as of 1931, in the manner in which the earliest provinces in Confederation had controlled their own public lands since 1867 (Flanagan and Milke, 2005: 166).

### Nineteenth century realities and leases

In the later nineteenth century, Prairie property, other than the then-small “postage stamp” province of Manitoba, was subject to Dominion laws and policy. As with other Western land, property was given and sold to a variety of interests. They included farmers and other settlers to the Canadian West, who would often be given Crown land free of charge to begin farms and build homesteads in order to encourage Western settlement. Railway companies were given Crown land in exchange for transportation networks, as were local authorities in order to create villages, towns, and cities (MacGregor, 1981: 115–16).

Grazing leases were granted by the Dominion government to encourage ranching in western Canada. The first came as a result of 1872 legislation and could be cancelled with six months' notice. The first range cattle were introduced to the Canadian prairies the next year, in 1873 (Breen, 1983: 9).

The leases and the subsequent land use were not without controversy and conflict, especially in southern Alberta. The relative insecurity of the leases led to further reforms. In 1876, the Dominion government extended the cancellation notice period to two years (Breen, 1983: 9). Further reforms occurred after the 1878 election of the Conservative government of John A. MacDonald, a government to which local ranchers were politically close (Breen, 1983: 17). In 1880, Senator Matthew Cochrane, a rancher and Conservative partisan, recommended that the Dominion government offer longer and larger leases on Crown land (Breen, 1983: 16–18). The government mostly agreed, and in 1881 lease terms for individuals or corporations were allowed for up to twenty-one years and 100,000 acres. The price was set at one cent per acre every year (Graybill, 2005: 257). As of 1881, there were an estimated 9,000 head of cattle and 200 ranchers in southern Alberta (Graybill, 2005: 256).<sup>2</sup>

---

2. While “stock growers” is the official term for ranchers, I will use the more colloquial term (ranchers) on the assumption that most readers will be more familiar with it.

The government chose to lease most land rather than sell it outright as had occurred in Texas, where ranchers and others could purchase large tracts of land, something that was state policy after Reconstruction. The end goal in Canada was the same as in Texas: to develop the western economy. As Andrew Graybill (2005: 255) notes, “Canadian officials recognized the significance of the cattle trade to the industrial growth of the new nation. In addition, ranchers put marginal land to profitable use and the export of their animals allowed Canada to profit from an expanding global economy.”<sup>3</sup>

In Alberta, the threat of American expansionism and invasion made filling the lightly populated Canadian west with loyal immigrants a priority for the Dominion government. As the deputy minister of the Interior wrote in 1883 to a local Alberta newspaper, “the grazing leaseholders are fulfilling a vitally important function in the North-West and the true interests of the government, the settlers and the country generally are intimately connected with their success” (Graybill, 2005; 258, 261).

From the start of Confederation, the Dominion government possessed legislative and policy control over the ranching interests and desired to keep it that way. The government favoured existing large leaseholders and those with political connections, which meant farmers and ranchers of modest means had difficulty obtaining additional land and cattle. Initially, the federal policy discouraged settlement for other purposes. The justification was that the land could not support other uses beyond cattle ranching, such as large-scale farming. All of this resulted in conflict over Alberta’s land base (Graybill, 2005: 257–61).

The Dominion government later amended the leases to meet demand for purposes other than grazing, such as for homesteads and accompanying rural townships in southern Alberta and Saskatchewan. This demand was heightened by additional migration late in the nineteenth century, and brought with it added tension between the cattle industry and others including new, smaller ranching interests, settlers on farms, and “squatters.” The latter resided illegally on Crown land and in some cases along waterways; some would later become small-scale ranchers themselves or be granted homesteads (Brado, 1984: 18).

As additional settlements were encouraged and townships created in the 1880s, tensions over land continued into the 1890s when land was still sparse for settlement. In response, the Dominion government began to cancel selected earlier leases to facilitate an expansion of the stock-watering reserve system (Graybill, 2005: 267–68, 272). Those reserves were parcels of land that bordered on or contained large bodies of running water, and were meant to be

---

3. In the twenty-first century, Alberta’s economy is heavily dominated by the resource sector. From the perspective of economics, that fact is neither “good” nor “bad” but a simple reflection of opportunities available: Investments are made by those who risk capital in the obvious hope of gaining a return. However, among the food manufacturing industries in Alberta, meat product manufacturing accounts for the largest share, accounting for almost \$5.7 billion or 49.1 percent of the \$12.5 billion in food and beverage manufacturing sales in Alberta in 2013 (Alberta, 2012a).

unavailable for lease, purchase, or enclosure. The point of the stock-watering reserves was to allow all owners of cattle, small operations and large, access to water for their animals, especially in winter months when others sources were frozen. In practice, though, homesteaders and smaller ranchers who wished to increase the size of their herds often found the costs of expansion prohibitive (Graybill, 2005: 262–64).

In 1896, party control of the Dominion government shifted. With the election of Wilfrid Laurier's Liberals, political priorities led to a changed policy focus. Politically, the influence of the larger ranching interests declined as the Laurier government favoured non-ranching settlers, a significant part of its voting base in the West. This had an effect on land policy there. The Laurier government policy curtailed enforcement of the eviction of squatters and others on stock-watering reserves to ensure that new settlers were not discouraged from settling permanently and to allow small-scale ranchers and farmers needed access to water for their animals. These two groups also supported the Liberals.

The policy change also resulted from an ideological shift in government and academia, one that will be profiled in more detail in the next section: Both the Laurier government and civil servants in the Dominion's Ministry of the Interior were convinced that the dry southern Prairie belt could support many more farms and people than assumed in previous decades.

The result of politics and ideology was a new government determined to encourage immigration to the Prairies, and which was "no less resolved [than past governments] to maintain tight control over those lands and thus chose to lease rather than sell off vast portions of southern Alberta" (Graybill, 2005: 271–72). At least in the view of the Dominion government, Crown land should continue to be leased and not sold. After all, legislation that applied to leases could always be amended and terms changed. That was unlike fee simple property where interference was more politically problematic (Graybill, 2005: 275–76).

As it turned out, there were negative consequences from the earlier Dominion government decision to promote large-scale farming settlements in the southern part of the Prairies, which proved to be inhospitable terrain, as the Palliser Triangle in southern Alberta and southern Saskatchewan is a dry belt.<sup>4</sup> The dry belt and the policy response to it later in the nineteenth century has relevance to the debate over land use in Alberta today and how policy should be formed. First, we consider the current state of property ownership in Alberta.

---

4. The Palliser Triangle was named after British Captain John Palliser, who surveyed the area for the British government between 1857 and 1860. It includes virtually all of south-eastern Alberta and substantial parts of south-western Saskatchewan (Jones, 1985: 136–46).

## Current land ownership in Alberta

Property in Alberta, as in the rest of Canada, consists of private property and government land, also referred to as public or Crown land.<sup>5</sup> Public land accounts for approximately 60 percent of the land base, or approximately 100 million acres (Alberta, 2013a: 6).

50.5 million acres is categorized as farm land, with pasture (ranch) land accounting for 21.8 million acres (Alberta, 2011: 58, 61). By tenure, 18.3 percent is leased from governments and 57.1 percent is privately owned (table 2) (Alberta, 2011: 4).

Since 1948, all land in Alberta (public and private) has also been divided into two other classifications, related to usage rather than ownership. The first classification is the Green Area, mainly forested areas and mainly in the north with some in the mountains and foothills, of which 61 per cent is Crown land. Public land in these areas has been designated mainly for timber production, oil and gas development, tourism and recreation, conservation of natural spaces, watershed protection, and fish and wildlife habitat. The White Area is designated as settled lands, with about three-quarters owned privately, and is located primarily in the populated central, southern, and Peace River areas. The main uses here are settlements, agriculture, oil and gas development, tourism and recreation, conservation of natural spaces, and fish and wildlife habitat (Alberta, 2008: 6, 10).

**Table 1: Alberta farmland area by use of land, 2011**

	Acres	Percentage of total
Land in crops	24,102,289	47.7%
Summerfallow	1,263,051	2.5%
Tame or seeded pasture	5,920,507	11.7%
Natural land for pasture	15,903,273	31.5%
Woodland and wetland	2,209,124	4.4%
All other land	1,100,590	2.2%
<b>Total</b>	<b>50,498,834</b>	<b>100.0%</b>

Source: Alberta, 2011: 58, 61.

5. In Alberta, since the 1970s, “Crown” land governed by the Public Lands Act is referred to as “public” land to distinguish it from federal government holdings (Alberta, 1997: 1). However, this report will refer to Crown and public land interchangeably given that historical discussions used the term Crown land. Responsibility for natural resources and with it selected Crown leases was transferred from the federal government to the provincial government in 1930 (Alberta, 1997; Flanagan and Milke, 2005, 165–89).

**Table 2: Alberta farmland area by tenure, 2011**

	Acres	As a percentage of 52.9 million total acres
Owned	30,233,516	57.1%
Leased from governments	9,676,836	18.3%
Rented/leased from others	11,012,038	20.8%
Crop shared from others	1,455,589	2.8%
Used through other arrangements	546,417	1.0%
Total	52,924,396	100.0%
Area used by others	2,425,562	
Total after subtracting area used by others	50,498,834	

Source: Alberta, 2011: 4.

## Leases

Alberta's land base is governed by a variety of legislation and related regulation which applies depending on the type of ownership and use of land in question (see *Appendix* for more details).

### The rights of the Crown

In Alberta, the Public Lands Act allows the provincial government multiple options for public lands (Alberta, 2013b: 7):

- Sell it;
- Set it aside for public uses such as parks, historic sites, heritage rangeland, forest reserve, recreation area, wildlife sanctuary, habitat conservation area, public shooting ground, or public resort;
- Develop it as a natural resource;
- Use land in conjunction with the federal government;
- Transfer it from one government ministry or Crown corporation to another;
- Settle veterans on it;
- Transfer land to the national park system;
- Make any and all orders necessary to carry out the foregoing.

In short, the province can use or direct the use of such Crown land in almost any manner. The province also reserves the right to charge for the use of such land, including applying royalties for its use to resource companies and to leaseholders including ranchers and farmers (Alberta, 2013b: Part 2).



### The rights of existing leaseholders

Leaseholders already possess some property rights vis-à-vis other entities. For example, in the case of pipeline companies who wish to explore or exploit subsurface resources, existing Crown land leaseholders are entitled to some compensation for disturbances to their existing above-ground operations (Alberta, 2009a). Similarly, approval must be sought prior to any seismic tests on leased lands (Alberta, 2012b). Here too, rights already exist for the surface leaseholder to accommodate for the existing business (ranching) before a new enterprise (seismic activity in anticipation of oil or gas exploration) is allowed.

Despite what might appear to be relatively straightforward demarcation of rights and responsibilities set out in legislation and in regulations, conflict over leased land in Alberta exists and is pointed to in government reports which serve as the basis for government policy. Recreational users and hunters, for example, desire access to leased land for their own purposes, but it is the same land ranchers are legally tasked to protect. Ranchers and conservationists occasionally disagree over the care and control of wildlife populations. Both ranchers and conservationists may take a dim view of how motorized recreational vehicles affect the land base (Hope, 1999: 22; Alberta, 2014: 58–62).

### Leases and terms

In Alberta, the normal lease length is ten years but can be for up to 20 years. All leases can be renewed, assigned, mortgaged, transferred, sublet, or reinstated (Alberta, 2013a: 25, 28). The lessee is responsible for improvements and maintenance. If the land is not grazed or if the lease is undergrazed when conditions do not warrant, the lease will be considered not in good standing and potentially terminated if not brought back into good standing (Alberta, 2007: 10–11). The lessee has exclusive right to the use of the land for grazing purposes but must also provide recreation and exploration access to Public Rangeland. Grazing leases are not considered by Alberta courts to be “true” leases in the legal meaning of that term and thus do not carry rights of exclusivity (Alberta, 2013a: 25, 28).<sup>6</sup>

Rental rates for Crown grazing land in Alberta are determined using a formula that combines the grazing capacity of the land, the average weight gain of cattle on grass, and the average sale price per pound. The result is a rental rate per “animal unit months” or AUM. As Alberta Agriculture describes it, “by

---

6. Here is the full description of exclusivity as it concerns grazing leases: “While the Public Lands Act and PLAR refer to certain formal dispositions as ‘lease, licence, easements, and agreements,’ these terms can be misleading. In law, ‘lease, licence and easement’ have specific meaning and convey specific rights. However, their use under the Public Lands Act and PLAR are not necessarily the same as in the common law. For example, a grazing lease has been interpreted by the Alberta courts as an interest in land that has elements of a lease but not exclusive rights to the land. In law, a true lease by definition grants exclusivity during its term. The Courts have said that a grazing lease only gives exclusivity to the extent required to use the grazing resource. When the land is not being used for grazing, then exclusivity does not apply” (Alberta, 2013a: 25).

definition, the AUM is the amount of forage needed by an “animal unit” [for] grazing for one month” (Alberta, 2015a, 2015b).

Lessees must pay the rental rates based on the estimated AUM capacity for their leased grazing lands, whether or not the allowable numbers of animals (or more precisely, the total AUM equivalent allowed) are on the land. Rates differ by zone, with the lowest fees for the northern zone, followed by higher fees in the central and southern zones (table 3). The differing fees were based upon a 1960 formula that took into account the distance to livestock markets and also the understanding, at that point, of forage quality (Alberta, 2015a).

In addition to rental rates, assignment fees (in essence a tax) are also charged and were initially designed to capture 50 per cent of the capitalized value of a grazing lease (table 4). Assignment fees are charged according to another formula, and also vary by zones, of which there are four (Alberta, 2015a).

**Table 3: Grazing rental rates for leases, licenses and permits, 2015**

	Rent per AUM
Zone A (Southern)	\$2.79
Zone B (Central)	\$2.32
Zone C (Northern)	\$1.39

Source: Alberta, 2015a.

**Table 4: Assignment fees for grazing leases**

	Fee per AUM
Zone A1	\$48.53
Zone A2	\$99.80
Zone B	\$48.53
Zone C	\$3.84

Source: Alberta, 2015a.

### Possibilities for reform on lease fees

In 2015, the ministry responsible for grazing policy and regulation in Alberta, Environment and Sustainable Resource Development (ESRD), released a proposal for reforming grazing lease rates to mimic royalty rents in the forestry and conventional energy sectors (Alberta, 2015a). In those sectors, stumpage fees (for cutting trees) and royalty rates (applied to oil and gas production) are sometimes linked to both the cost of doing business and to the market prices for the product. The proposal aims to set a minimum lease rate per AUM that would still have to be paid when cattle prices are low and even when there is no profit. When beef prices rise to the level where a profit is earned, 10 percent of

the projected net income from the lease is to be added to the base rent as variable rent. That percentage would increase as returns to the leaseholder improve. The province labels this a market-based administrative formula, and indeed it is. The reform is in line with the province's stated goal of using market-friendly policy as part of any reform for land management in Alberta, reforms meant to help ameliorate some of the problems noted in the next section.

### Land use problems identified by Alberta

In Alberta, the 2008 Land Use Framework serves as the template for land use planning for the entire province (Alberta, 2008). That document, and the recently released South Saskatchewan Plan (Alberta, 2014), lay out the priority issues as articulated by the provincial government for both public and private land. The Land Use Framework raises a concern that Alberta's prosperity and growing population has "created challenges for Alberta's landscape," with "industrial activity, municipal development, infrastructure, recreation and conservation interests often competing to use the same piece of land." This competition between user groups "creates conflict and often puts stress on the finite capacity of our land, air, water and habitat" (Alberta, 2008: 2). The province lists the following critical concerns:

- The population grew by one million in the 25 years to 2008, and was projected to grow to 5 million by 2026 from 4.1 million in 2015;
- The number of vehicles on Alberta's roads grew by one million from 1980 to 2006, reaching 2.6 million;
- The number of registered all-terrain vehicles more than tripled to 67,000 in 2006, from 19,000 in 1995;
- Oil and gas wells doubled in number between 1995 and 2007; coal bed methane wells increased by a factor of almost twelve between 2003 and 2007;
- Timber harvesting increased fivefold between 1980 and 2005;
- The number of cattle in Alberta more than doubled to 6.4 million in 2006 from 2.9 million in 1960.

All this leads the province to conclude that Alberta has "reached a tipping point" (Alberta, 2008: 12–13; Statistics Canada, 2015).<sup>7</sup>

---

7. One does not have to agree with the arguably extreme language used by the Province—that Alberta has reached a "tipping point"—to recognize the reality that more people, more vehicles, more harvesting, more wells, and more cattle put additional pressure on Alberta's land base.

### **Provincial vision and goals for the land**

To address its concerns about land use, the province has identified three desired outcomes and ten guiding principles as official policy (Alberta, 2008: 15–17). The outcomes are:

- Healthy economy supported by the land and natural resources;
- Healthy ecosystems and environment;
- People-friendly communities (with ample recreational and cultural opportunities).

The ten guiding principles to policy are:

- Sustainable;
- Accountable and responsible;
- Supported by a land stewardship ethic;
- Collaborative and transparent;
- Integrated;
- Knowledge-based;
- Responsive (to changing economic, environmental and social factors over time);
- Fair, equitable, and timely;
- Respectful of private property rights;
- Respectful of the constitutionally protected rights of aboriginal communities

However, achieving such outcomes and finding some balance between them has been problematic. In pondering reforms to land use in Alberta, government policymakers over the years have been clear that private management, private landowners, and markets are helpful in resolving land use problems. It is useful to review recent provincial positions to understand why market-friendly policy approaches matter.

### **Provincial thinking about private management, private landowners, and markets**

In Alberta, just under one-fifth of farm and ranch land is leased from the government, with the rest in private hands (Alberta, 2011: 4)— an ongoing case study of the benefits or drawbacks of private management. The province's conclusion, as outlined in their various plans, is that privately managed Crown land and fee simple private property are both functionally useful and produce significant environmental benefits. Regarding the former type, in the South

Saskatchewan Regional Plan, the province praises ranching management as key to the ecological health of such land.

On Green and White Area public land, existing grazing leases will continue as carefully managed cattle grazing and traditional grazing practices on long-term grazing leases contribute to the ecological health of large tracts of the continent's finest remaining native grasslands. **Good stewardship and proper grazing management** has helped to retain much of the existing healthy native and intact rangelands. (Alberta, 2014: 62–63; emphasis in original)

The South Saskatchewan Regional Plan appreciates the benefit of existing grazing leases, so much so that it promises that leaseholders with high stewardship management standards will be eligible for grazing tenures of up to twenty years (an increase from ten years), to encourage planning and investment (Alberta, 2014: 63, 70). Three pages later, the province notes that traditional grazing practices on long-term grazing leases contribute to “the ecological health of large tracts of remaining native grasslands” (Alberta, 2014: 66). The importance of markets is similarly recognized in the Land Use Framework. In the section on conservation and stewardship, the province acknowledges the “strong tradition of stewardship” on the part of private landowners, though it adds this caveat:

Although land users and landowners have a primary role in land stewardship and conservation, the Government of Alberta has a responsibility to partner with Albertans, industry and other levels of government to facilitate new stewardship opportunities and strategies to protect and enhance the environment. (Alberta, 2008: 33)

The province is also clear that, when it comes to environmental protection, “there has been a shift away from traditional regulatory mechanisms to market-based instruments” (Alberta, 2008: 33). The Alberta Land Use Framework gives various examples of such instruments. They include “green tax reform” such as environmental fees and taxes, deposit-refund systems, tradable permits (where a heavy polluter could pay a light polluter), subsidies (“incentives for environmental action”) and liability assignments (“polluter pays”) (Alberta, 2008: 33).<sup>8</sup>

---

8. Most of the listed items can be considered market-based instruments. Full-cost accounting, which assumes polluters should pay for their pollution, is indeed a market-based measure of dealing with and accounting for pollution. Deposit-refund systems—deposits on plastic bottles, for example—also use the market to help keep the environment cleaner as an economic incentive exists for someone to bring the plastic bottles to a return depot and avail themselves of the deposit money. However, environmental fees and taxes without any clear effect on behaviour are not accurately called market-based if there

Elsewhere, the South Saskatchewan Regional Plan praises farmers and ranchers and notes that “they have a strong tradition of land stewardship and conservation—whether working alone, or in partnership with [others] ... The landscapes many Albertans value today are a result of their efforts” (Alberta, 2014: 66.) The compendium of recent provincial government thinking on land use in Alberta is clear in its acknowledgment that those closest to the land, whether leaseholders or owners, are integral to desired environmental outcomes. In essence, the province is arguing that a feedback loop exists whereby those closest to the land are most able to provide useful, specific knowledge on how best to manage it. It is to that acknowledged reality that I now turn.

### The distinction between general knowledge and specific knowledge

The provincial acknowledgment of the critical role of private management, private ownership, long-term leases, and markets is a recognition that those who live on and work the land matter. They matter to properly identifying and remedying problems on Alberta’s land base, be they economic or environmental.

In essence, the province makes a useful distinction between general and specific knowledge, a distinction relevant to real-world circumstances and proposed reforms of land use and management in Alberta. Understanding these two types of knowledge is critical if policymakers and others are to achieve certain ends. The desired outcomes require the proper means.

The distinction matters because some property-based conflicts over the past decade have involved disputes between conservationists, ranchers and farmers, and the government on private and leased land. In some disputes, it was assumed that a conservationist approach is the opposite of a commercial approach—that ecological protection is necessarily at odds with ranching and farming.

To be sure, potential for conflict always exists. But as British professor Ken Atkinson wrote in a 2009 article on preserving grassland in southern Saskatchewan, “The prairies provide an example of how tensions between conservationists and other land-users can be healed and need not be permanent” (Atkinson, 2009: 109). Atkinson pointed out that some conservationists accuse ranchers of overgrazing and using exotic grasses to reseed pastures. That is accurate in some cases but at the same time ranchers steward the land. Atkinson wrote that “[r]anchers regard themselves as custodians of the land and ‘conservers’ ... their open range gives native flora and fauna some chance of survival.” He presented evidence of cattle grazing having “a beneficial role in managing prairie grassland” (Atkinson, 2009: 109).

---

is no strong correlation between what is being taxed and behaviour in the first instance. Moreover, some items on the provincial list are not market-based at all, such as subsidies. Subsidies presume that a certain activity—the purchase of a battery-operated automobile to use one example—would not otherwise occur in a market left to itself. Subsidies are the very opposite of a market-based activity.

Atkinson noted that the benefits of paying close attention to those nearest the land has meant that the “understanding between ranchers and conservationists has improved enormously” (Atkinson, 2009: 109). This hints at what can occasionally be forgotten in policy disputes: Those closest to a problem have the best chance of managing and solving it. Evidence-based discussions should always start there.

### **The failure of general knowledge applied to land use: One historical example**

This approach has not always been the preferred government policy in Alberta’s own history. That should serve as a cautionary tale for present-day policymakers. In the past, in Alberta, general knowledge failed because it was mistakenly derived from experiences elsewhere or from general principles not applicable to local conditions. This part of the historical record should be understood in advance of any policy changes brought to land management.

In the late nineteenth and early twentieth centuries, assumptions abounded regarding the suitability of southern prairie land for farming. But the accuracy of the assumed expertise depended on the degree of contact with the land and the empirical realism, or lack thereof, on the part of the observer.

Certain nineteenth-century civil servants at the federal Department of the Interior were aware that much of southern Alberta was inhospitable for farming. Their views and their advice to the government originated from firsthand, specific knowledge. For instance, William Pearce was a long-time surveyor for the Department of the Interior and its Superintendent of Mines in 1884. He was critical of the belief that southern Alberta could be settled by farmers. He was also concerned about overgrazing (Breen, 1983: 53–54). Pearce’s views, grounded in empirical observations, are described by historian David Jones: “To Pearce southern Alberta and western Assiniboia were arid expanses, too dry for farming but ideal for ranching. The desert was real, requiring specific, responsible treatment of its natural resources” (Jones, 2002: 10).

As noted earlier, in 1880, Senator Matthew Cochrane, a rancher and Conservative partisan, had already recommended that the Dominion government offer longer and larger leases on Crown land. That self-interest mattered here should be assumed, but it was also an example of specific knowledge in action: Cochrane and other early ranchers were aware that the dry southern land could not support large numbers of people (Breen, 1983: 16–18).

Later changes in the assumptions of educators, civil servants, and politicians led to the removal of empirically based knowledge specific to the dry belt. That was replaced with general knowledge derived from elsewhere, and from theory. As to how this happened, historian David Jones found that the “spirit of progress” prevalent in the late nineteenth century heavily influenced educators, who in turn produced students, most notably from the Ontario Agriculture College, who migrated west. “The core of their belief was expressed by agriculture professor Thomas Shaw, when he postulated there was ‘a force

inherent in the human mind which could make the elements subservient to man's purposes” (Jones, 1985: 137).

In the west, in the new departments, schools and colleges of agriculture, on the new experimental stations or the staffs of new farm papers, agrarians began to help fashion a country life ideology. Adherents believed that the new tools of science could surmount any obstacles, that the land being occupied could in fact be occupied, that God was in nature, and that nature nourished man physically, emotionally, and morally ... While these metaphysical precepts were being cast, westerners of a more practical bent set about confirming what to many was the first proposition—namely, that man could render livable the arid west of the Territories, the inhospitable Palliser's triangle, the barren tip of the fabled Great American Desert. (Jones, 1985: 137)

In contrast to civil servants such as Pearce with on-the-ground empirical thinking, other civil servants had little connection to local reality. A. M. Burgess, the Deputy Minister of the Interior, was heavily influenced by the academic thinking of John Macoun, a botanist from Belleville, Ontario. In 1876, Macoun informed a federal committee on agriculture and colonization that the greater part of the Palliser Triangle “is just as well suited for settlement as Ontario.” Writes Jones: “Macoun spent half his life in the self-imposed and oft-misguided mission of debunking Palliser's warning of deficient moisture” (2002, 12–13).

Others also propagated the notion that dry farming could work. Richard Temple, of the British Association for the Advancement of Science, “claimed that from Winnipeg to the foot of the Rockies there was ‘hardly a foot’ of useless turf.” The famous “dry farming professor” W. H. Campbell claimed “the farmer can protect himself against loss from too little rainfall but not from too much rainfall.” F. H. Newell, chief of the United States Reclamation Service, predicted: “Hard times will never affect Southern Alberta. The interests of this district are now so diversified that there is no possibility of a pronounced depression.” In 1918, the Saskatchewan Minister of Agriculture remarked that “success or non-success is chiefly, if not entirely due to straight good or bad farming.” Interior Minister Clifford Sifton ordered the department to paint the prairie dry belt in a positive manner. The promotional material included the claim that “there is no desert country” with regards to the very dry Palliser Triangle (Jones, 2002: 15, 20, 24, 138).

Other factors that led to the unfortunate switch included the removal or demotion of experienced civil servants in the department, including Pearce; a misleading wet cycle in the Medicine Hat region in the late 1890s (Jones, 1985: 135); and political pressure for mass migration—the desire to “sell” the vision of the southern prairies as habitable for many more homesteaders (Jones, 2002).



General knowledge of land management was derived either from experiences in Ontario or from theorizing at the academic, bureaucratic, and political levels, and by the late nineteenth and early twentieth century, a core of educators, civil servants, and politicians believed that outside general knowledge was superior to expertise derived from direct contact with the land. On-the-ground specific knowledge was discounted or ignored in favour of esoteric general knowledge.

Those factors, along with the above-noted theoretical assumption that dry belt farming could be productive, prevalent ideology, and the Laurier government's political preferences meant that by the later 1890s, specific knowledge was replaced by general knowledge. All of it contributed to the doubling of the size of dry belt farms, a development that was to portend disaster.

Between 1917 and 1926, the reality on the ground would demonstrate once again that much of the land in southern Alberta was unsuitable for farming due to permanently poor soil and drought. That led to dramatic reductions in the farming populations of such areas. Yet, experts in the provincial government and academia continued to advise local farmers to simply double down on existing advised farming methods (Jones, 1985: 136–46).

Unsurprisingly, as Jones writes, “many settlers deeply resented the experts’ response to their dilemma” and the “unwillingness of the departments of Agriculture in Saskatchewan and Alberta to admit that crops had failed repeatedly over large tracts ... they detected an insensitivity, a smugness, and ultimately a disturbing ignorance in certain experts” (Jones, 2002: 109). By the early 1920s, writes Jones, “the federal department of the Interior gave up on farming in the region just after most settlers and somewhat before the province of Alberta” (Jones, 2002: 214).

It was only later, with more sober analysis based on empirical data, that specific knowledge would again be taken seriously and trump the general knowledge derived from theory or from inapplicable comparisons (i.e., southern Ontario farmland). That latter day specific knowledge echoed the conclusions of nineteenth century Interior department civil servants such as Pearce and early leaseholders in the region with their evidence-based conclusions: much of southern Alberta was unsuitable for farming. Thus, a 1940 review of the eight million acres in the dry belt concluded that “80 percent of the total region possessed not marginal but sub-marginal soil.” That conclusion, the study authors point out with a nod to local, specific knowledge, “will not surprise those familiar with this part of the province” (Jones, 1985: 143).

If there is a lesson for today's Alberta policymakers from this late nineteenth and early twentieth century conflict over general and specific knowledge, it is that if those on the land can be accessed for local, specific knowledge, and their data incorporated into policy, that is exactly what should occur.

It is critical to note the importance of price signals to the formulation of specific knowledge. Market prices reflect the “knowledge of the particular

circumstances of time and place,” as Friedrich Hayek (1945) famously observed. Having regulators who reflect more accurately the specific conditions can be helpful, but if the end goal is a market-based approach to land management, institutions (property rights in this case) which generate specific knowledge are preferable to institutions that do not (a regulated, leased regime). Different institutional arrangements, particularly government versus private ownership, will generate different signals. Seldom does government ownership allow resources to be traded in the free market. Price signals, however, are derived from the buyer and seller interaction that places value on resource use.

### Summary and recommendations

Population growth, increased oil and gas exploration, agricultural demands on the land, more recreational use, an increasing ecological sensitivity, and other factors have exacerbated the potential for conflict on Alberta’s lands. Such conflict is nothing new, even if it is now more acute. It results, in part, from government decisions in the nineteenth century to retain public land, and has formed part of the reality of land management in Alberta ever since. That history, insofar as it explains why some land (such as leased land) might be ripe for reform, is also helpful to understand if present conflicts over the land base are to be ameliorated through new approaches.

Current provincial policy, developed in part through significant consultation, has produced a list of three desired outcomes with ten guiding principles, several of which are connected to possible market-based reforms. They include a knowledge-based approach, a correct assumption that those closest to the land will endeavor to know as much about it as possible, and respect for private property rights.

Roughly four-fifths of farm land in Alberta is in private hands, and the province has already discovered that stewardship and grazing management practices are complementary. There is an inherent importance of markets to stewardship and environmental protection efforts in general; it is clear that private management and private landowners are seen as potentially helpful in resolving land use problems in Alberta.

Three recommendations follow from such specific knowledge and existing legal and regulatory realities. They utilize the ideas about how different institutions function (or fail) to produce signals, from Alberta’s history, and from government policy preferences for market-based remedies.

- First, insofar as those on the land can be accessed for local knowledge, that should be encouraged as the basis for future policy.
- Second, methods of collecting and processing information from on-the-ground experts (often the private landowner or leaseholder) should be designed in a manner that best allows for a feedback loop. For example, government oversight of land now falls to Environment and Parks. One

might assert that this is preferable given that all land and its use has environmental consequences. However, the use of land also has legal and financial consequences, and few would suggest that necessitates that agriculture be placed under the regulatory structure of the ministries of Justice or Finance. Given that agriculture issues require their own special knowledge, it would seem advisable to return the day-to-day oversight of agricultural land to the Ministry of Agriculture and Forestry, with other ministries and agencies involved via relevant legislation and regulation.

- Third, market-based approaches to agriculture, to leases, and to the environment are optimal and should be implemented. Market-based approaches include both environmental “polluter pays”-type principles and profit-sensitive “royalty”-type rental leases; market-based approaches could also include converting leased property into fee simple property (as has occurred in Saskatchewan, as profiled in the following essay). Given that four-fifths of agricultural land is already in fee simple—and has been widely and consistently praised by the province in Alberta’s land-use documents (Alberta, 2008, 2011, 2014)—the conversion of leased land to fee simple is another alternative for a market-based approach. It is also the approach which will allow for signals to be sent, and thus will reinforce specific knowledge optimal for land management and use.

To summarize, to avoid mistakes made by policymakers in Alberta in the past regarding Alberta’s land base, specific local knowledge should be used to create and reform Alberta’s land policy in the 21st century. That implies policy and processes based on local, near-to-the-ground knowledge about the land, derived from existing fee simple property owners, leaseholders, and others who already have a direct interest in the land that they manage on a day-to-day basis. More broadly, optimal policy would allow for a closer feedback loop between the land and those on it, and more closely tie the interest of the land with the financial interest of those on it. One approach that is more market-oriented was developed in Saskatchewan in recent years and is profiled in the next essay.

## References

Alberta (1997). *Public Lands*. Government of Alberta. <<http://esrd.alberta.ca/forms-maps-services/directives/documents/PublicLands-Sep-1997.pdf>>

Alberta (2007). *Grazing Lease Stewardship Code of Practice*. Government of Alberta. <<https://landuse.alberta.ca/LandUse%20Documents/Land-use%20Framework%20-%202008-12.pdf>>

*All websites retrievable as of July 26, 2015.*

Alberta (2008). *Alberta Land Use Framework*. Government of Alberta. <<https://landuse.alberta.ca/LandUse%20Documents/Land-use%20Framework%20-%202008-12.pdf>>

Alberta, Ministry of Agriculture and Rural Development (2009a). *Pipelines in Alberta: What Farmers Need to Know. Revised 2009*. Government of Alberta. <[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex1125?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex1125?opendocument)>

Alberta (2009b). *Alberta Land Stewardship Act*. Government of Alberta. <<http://www.qp.alberta.ca/documents/acts/a26p8.pdf>>

Alberta (2011). *2011 Census of Agriculture for Alberta. Alberta Agriculture and Rural Development*. Government of Alberta. <[http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/agdex14855/\\$FILE/852-6.pdf](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/agdex14855/$FILE/852-6.pdf)>

Alberta, Ministry of Agriculture and Rural Development (2012a). *Agriculture Statistics Factsheet. 2013*. Government of Alberta. <[http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/agdex4091/\\$FILE/853.pdf](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/agdex4091/$FILE/853.pdf)>

Alberta, Ministry of Agriculture and Rural Development (2012b). *Seismic Operations and Landowners' Rights*. Government of Alberta. <[http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/agdex1127](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/agdex1127)>

Alberta (2013a). *Handbook of Instruments Pursuant to the Public Lands Act & Public Land Administration Regulation*. <<http://esrd.alberta.ca/lands-forests/public-lands-administration-regulation/documents/PLARHandbookInstruments-Feb19-2014A.pdf>>

Alberta (2013b). *Public Lands Act*. Government of Alberta. <[http://www.qp.alberta.ca/1266.cfm?page=p40.cfm&leg\\_type=Acts&isbncIn=9780779749850](http://www.qp.alberta.ca/1266.cfm?page=p40.cfm&leg_type=Acts&isbncIn=9780779749850)>

Alberta (2014). *South Saskatchewan Regional Plan*. Government of Alberta. <[https://landuse.alberta.ca/LandUse%20Documents/SSRP%20Final%20Document\\_2014-07.pdf](https://landuse.alberta.ca/LandUse%20Documents/SSRP%20Final%20Document_2014-07.pdf)>

Alberta, Ministry of Environment and Sustainable Resource Development (2015a). *Grazing Lease Royalties Alberta's Grazing Lease Framework. Background, Proposed Changes, Rational & Implementation*. Government of Alberta.

Alberta, Ministry of Agriculture and Rural Development (2015b). *Using the Animal Unit Month Effectively*. Government of Alberta. <[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex1201](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex1201)>

Atkinson, Ken (2009). Shared Visions, Shared Wilderness: Wilderness Conservation in the Grasslands of Southern Saskatchewan. *British Journal of Canadian Studies* 22 1: 87–114.

Brado, Edward (1984). *Cattle Kingdom: Early Ranching in Alberta*. Douglas & McIntyre.

Breen, David H. (1983). *The Canadian Prairie West and the Ranching Frontier*. University of Toronto Press.

Canada, Department of Justice (undated). *Rupert's Land Act, 1868-Enactment No. 1*. Government of Canada. <<http://www.justice.gc.ca/eng/rp-pr/csj-sjc/constitution/lawreg-loireg/p2t11.html>>

Canada (1870). *Rupert's Land and North-Western Territory Order*. Government of Canada. <[http://www.solon.org/Constitutions/Canada/English/rlo\\_1870.html](http://www.solon.org/Constitutions/Canada/English/rlo_1870.html)>

Flanagan, Thomas, and Mark Milke (2005). Alberta's Real Constitution: The Natural Resources Transfer Agreement. In Connors, Richard M., and John Law (eds.), *Forging Alberta's Constitutional Framework* (University of Alberta Press), 165–89.

Graybill, Andrew R. (2005). Rural Police and the Defense of the Cattleman's Empire in Texas and Alberta, 1875–1900. *Agricultural History* 79, 3: 253–80.

Hayek, Friedrich (1945). The Use of Knowledge in Society. *American Economic Review* XXXV, 4: 519–30.  
<<http://www.econlib.org/library/Essays/hykKnw1.html>>

Hope, Philip (1999, April 26). Renters, Not Owners. *Alberta Report* 26, 18.

Jones, David C. (1985). The Canadian Prairie Dryland Disaster and the Reshaping of “Expert” Farm Wisdom. *Journal of Rural Studies* 1, 2: 135–46.

Jones, David C. (2002). *Empire of Dust: Settling and Abandoning the Prairie Dry Belt*. University of Calgary Press.

MacGregor, James G. (1981). *A History of Alberta: Revised Edition*. Hurtig Publishers.

Statistics Canada (2015). *Estimates of Population, Canada, Provinces and Territories, first quarter 2015*. Statistics Canada. <<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=0510005&paSer=&pattern=&stByVal=1&p1=1&p2=31&tabMode=dataTable&csid=>>

Wade, Mason (1955). *The French Canadians: 1760–1945*. MacMillan.

## Appendix: Relevant legislation and regulations

In Alberta, legislation that applies to public (Crown) land includes the Public Lands Act, provincial parks legislation, the Forests Act, and the Highways Development and Protection Act. Regional plans are governed by this legislation (Alberta, 2014: 4). Private land is primarily governed by the Municipal Government Act, so private property owners are subject to provincial legislation and the municipal legislation that results from provincially delegated power.

One critical piece of legislation that affects both public and private land is the Alberta Land Stewardship Act (Alberta, 2009b). Its purpose is to allow for the “co-ordination of decisions by decision-makers concerning land, species, human settlement, natural resources and the environment,” and it allows for further legislation in the pursuit of sustainable development (Alberta, 2009b: sec. 1(2)(c)(d)). Section 15(1) allows for the Regulatory Details contained in regional plans to be “enforceable as law and bind the Crown, decision-makers, local government bodies and subject to Section 15.1 ... all other persons (Alberta, 2014: 8). The Act envisions multiple, legally binding regional land use plans (Alberta, 2009b: sec. 3(1)). The first such plan, the South Saskatchewan Regional Plan 2014–2024, was released in July 2014 (Alberta 2014). It was the first of six to be released; along with the others, it is legally binding as per the Alberta Land Stewardship Act.<sup>9</sup>

---

9. The South Saskatchewan Regional Plan (SSRP) is explicit that “the SSRP does not change this or alter private property rights.” However, this is not precisely accurate, as the SSRP notes on the very same page that “Municipal planning and development decisions will, however, have to be in alignment with the regional plan to achieve the regional outcomes established in the plan” In addition, two pages later the SSRP repeats this very point (Alberta, 2014: 3, 5). The question of infringed private property rights is not the subject of this report. However, the province of Alberta is explicit that market mechanisms are to be used in the pursuit of better land use in Alberta (as noted in the *Land Use Framework*, Alberta, 2008).

Privatizing  
half-a-million  
Crown Acres –  
*The Saskatchewan  
experience*

~ Mark Milke

## 2. Privatizing Half a Million Crown Acres: The Saskatchewan Experience

Mark Milke

If the province of Alberta wished to examine options for the conversion of leased land to fee simple private property, it would not be novel in the larger Canadian context. This is a policy option that was implemented in Saskatchewan with the Agricultural Crown Land Sales Program (ACLSP), which started in 2008 and was completed by 2015. The program led to nearly half-a-million acres of Crown land (sometimes known as “public” land; the terms will be used interchangeably in this essay) being converted to fee simple, private property.

### Crown land in Saskatchewan

Prior to the ACLSP, Prairie land in Saskatchewan was treated in the same manner as described in my essay in this volume on Alberta. All public property on the Prairies was treated as belonging to the British Crown at the beginning of colonization in British North America. The land was then possessed by the province of Canada (as of 1840) and continued as federal property under the Dominion (federal) government at the time of Confederation (1867). It was only as of 1931, with the Natural Resources Transfer Agreement, that most Crown land was transferred to provincial ownership (Flanagan and Milke, 2005: 166). After 1931, each province finally controlled its own public lands, with the exception of lands reserved specifically for the Dominion government (federal public land related to defence, federal buildings, national parks, and Indian reserves).

In the nineteenth century, present-day Saskatchewan was part of the Northwest Territory, along with what is now Alberta and parts of Manitoba.<sup>1</sup> Grazing leases, granted by the Dominion government to encourage ranching

---

1. Manitoba joined Confederation in 1870, but that province then was a “postage stamp” size encompassing Winnipeg and environs. It was not until 1905, when the Northwest Territory was split into three distinct provinces—Alberta, Saskatchewan and Manitoba—that Manitoba’s present-day expanded boundaries were established.



in the Northwest Territory, were under the same institutional arrangements as existed in Alberta, as described in my essay on that topic in this volume. The first leases granted by the Dominion government came as a result of 1872 legislation and could be cancelled with six months' notice. In 1876, the Dominion government extended the cancellation notice period to two years. In 1881, it changed lease terms for individuals or corporations and allowed for terms of up to twenty-one years, for up to 100,000 acres (Graybill, 2005: 257). From the start of Confederation, Ottawa desired to maintain control over ranching interests (Graybill 257–61). This allowed the Dominion government to later amend leases to meet the demand for intensive farming and town settlements in southern Alberta and Saskatchewan (Brado, 1984: 18).

Ranches in what is now Saskatchewan were smaller both by acreage and by the number of cattle than those in Alberta (Archer, 1980: 102–103). The first was on the Wood Mountain Plateau, when an American rancher leased the land in 1886 and drove in between five and six thousand head of cattle.<sup>2</sup>

### Collective ownership in Saskatchewan

The decision by the Saskatchewan government to privatize Crown land was all the more remarkable given Saskatchewan's political history. Few provincial governments had been as consistently interventionist as Saskatchewan in the previous century, particularly from the 1940s until roughly the 1990s. This was in large measure due to a highly interventionist and collectivist political party. Saskatchewan was home to one of North America's avowedly socialist parties, the Co-operative Commonwealth Federation (CCF), which had some electoral success in the twentieth century. The CCF was openly interventionist and collectivist, and in the 1930s it proposed "social ownership"—i.e., government ownership—of all resources. Core CCF beliefs also "included more radical elements such as the eradication of capitalism and socialized planning" (Marier, 2013: 623).

Before obtaining power, the CCF's approach to property in Saskatchewan, including farmland and ranch land, was to propose a system of "use-leases" and then "use-hold" for farmland. The latter was apparently more reassuring to farmers, who thought use-leases impermanent sounding. However, even that term was dropped after poor election results for the CCF in 1936, when it failed to gain power (Burbank, 1977: 177).

The CCF won power for the first time in 1944, and subsequently intervened in many sectors of the economy. The new government nationalized air and bus transportation and automobile insurance, constructed factories to make shoes and boxes, and owned and ran tanneries and printing plants. Once in power, however, in contrast to these business interventions and to

---

2. The Wood Mountain Plateau is in southern Saskatchewan, near both the American and Alberta border, and forms part of the dry Palliser Triangle suitable for ranching but not for farming.

its 1930s-era proposals, the party made no substantial attempts to nationalize farmland and ranch land. Instead, Saskatchewan simply retained ownership of the land base delivered to the province in 1931 by the Dominion government.

### Crown leases in Saskatchewan

Crown lands in Saskatchewan are administered by the Ministry of Agriculture, as governed by relevant legislation including the Agricultural Leaseholders Act, the Provincial Lands Act, and the Sale or Lease of Certain Lands Act (Saskatchewan, 2012: 34).

According to Natural Resources Canada, federal Crown land accounts for 4.3 per cent of the landmass in Saskatchewan. The remainder (95.7 per cent) is either owned by the province or privately; an exact breakdown is unavailable, but the best estimate available is that roughly half of the non-federal land in the province is Crown land and roughly half is private property (Natural Resources Canada, 2015).<sup>3</sup> At present, 61.6 million acres are classified as farmland, which encompasses land for crops and grazing (table 1) (Saskatchewan, 2011a: 2). Of that, just over 60.8 percent is directly managed by those who own the land, with another 26.7 percent leased or rented from others and just under 12.5 percent leased from government (table 2) (Saskatchewan, 2011b: 1).

**Table 1: Saskatchewan farmland area by use of land, 2011**

	Acres	Percentage of total
Land in crops	36,395,993	59.1%
Summerfallow	3,571,933	5.8%
Tame or seeded pasture	5,085,323	8.3%
Natural land for pasture	11,902,529	19.3%
All other land	4,672,370	7.6%
Total	61,628,148	100.0%

Source: Saskatchewan, 2011a: 2.

3. The NRC estimates are based on a variety of federal, provincial, and private sources, and only the federal percentage for Saskatchewan is considered precise (Natural Resources Canada, 2015).

**Table 2: Saskatchewan farmland area by tenure, 2011**

	Acres	As a percentage of 65.2 million total acres
Owned	39,620,980	60.8%
Leased from governments	8,170,094	12.5%
Rented/leased from others	14,668,947	22.5%
Crop shared from others	2,315,973	3.6%
Used through other arrangements	398,385	0.6%
Total	65,174,379	100.0%
Area used by others	3,546,231	
Total after subtracting area used by others	61,628,148	

Source: Saskatchewan, 2011b: 1.

Crown agricultural land leases can be awarded for a period as long as 33 years. The lessee is responsible for the cost of infrastructure on the property (which does not affect lease rates). The lessee may, during the course of the lease, request a decrease in the rental fee (in the base) if the government determines that some land previously allowed for grazing is better suited for perennial forage (Saskatchewan, 2013a: 2013b). The lessee has the right to sublet, and also the right of first refusal when the lease is up for renewal—assuming the lessee has met the required lease terms such as ensuring that tax payments are current, that the farm/ranch has been managed and operated in a manner that demonstrates satisfactory performance, including the use of acceptable agricultural practices, and the payment of rent (Saskatchewan, 2013a: 2013b).

To reform Crown leases requires legislative or regulatory changes, depending on the change in question. Lease length terms are subject to legislation and fee amounts are established by regulation. The relevant legislation for both is the Provincial Lands Act (Saskatchewan, 2014a, 2014c, 2015b).

At present, grazing rent on Saskatchewan Crown land is based on a formula calculated on the price per pound multiplied by the animal unit month rating and discounted to 80 per cent of the established carrying capacity of the land. This accommodates the possibility of a drought in one of every five years, as has been the historic average. There has been little change to this formula since the 1980s (Saskatchewan, 2015b).<sup>4</sup>

4. A more detailed breakdown of the formula is as follows: The preceding October/November weighted value of beef (i.e., calves, feeders, and cull cow) times 46 pounds (the amount of beef actually produced from one AUM) times animal unit month rating (productivity rating of a specific lease) times 80 percent (a conservation factor that allows the leaseholder to stock at 80 percent of the established

**Table 3: Grazing rates**

	Rent per AUM (\$)
2009	3.93*
2010	3.93*
2011	5.00
2012	6.09
2013	5.99
2014	6.42
2015	11.19

\* Prices were held at 2008 rates due to low commodity prices in the cattle industry.

Source: Saskatchewan, 2015b.

Grazing rents in Saskatchewan are one obvious model for how Alberta could reform Crown leases to be more market-friendly and to account for realities on the ground, such as the price per pound and the occasional drought.<sup>5</sup> But there is another possibility for reform: The conversion of Crown leased land into fee simple private property, a program that got underway in Saskatchewan in 2008.

### Lessons for Alberta reform: Saskatchewan’s Agricultural Crown Land Sales Program

Although sales of leased land have occurred in Saskatchewan since 1947, the quantities were relatively small until 2008. Then, in a departure from the more collectivist public policy that had dominated since at least the 1940s, and indeed from Confederation-era practice by the Dominion government, the province began to take a market approach to at least some Crown land, offering it for sale to existing leaseholders and, in some cases, to other parties if leaseholders chose to not renew their leases.

In 2007, a Throne Speech from the newly elected government contained a promise to sell some existing Crown land to leaseholders. An updated policy on land sales was released in 2008 (Saskatchewan, 2008a), and the stated goal of the Agricultural Crown Land Sales Program was to “help Crown land lessees purchase their leased agricultural land and improve their

---

carrying capacity of the land, thus allowing for constant stocking of the land—and actually allowing one year’s free rent in five to account for the drought years) times 12.75% (percentage share that the Crown takes for rent) (Saskatchewan, 2015b).

5. Another market-based approach on Saskatchewan Crown land is worth noting. For land where crops are planted, similarly to grazing land, a market rent is charged by the Province. It is, however, based on a projection of market prices for crops in the current year. This is a recent change and is designed to avoid a scenario where farmers must pay rising Crown land cultivation rents (based on last year’s prices for crops) when their actual income might decline due to decreased crop prices in the present year (Saskatchewan, 2015b).

equity position” (Saskatchewan, 2014a). The provincial government offered to sell as much as 1.6 million acres of Crown land—land considered by the province to be without any restrictions (Saskatchewan, 2008a, 2014a).

The program started in November 2008 and continued until December 31, 2014. It had two components. The first was a sliding scale of land prices that varied depending on when the land was purchased; the earlier the purchase, the greater the discount. The second part of the program offered financing options (Saskatchewan, 2014a).

### **How Saskatchewan’s leased land was valued, financed, and sold**

In determining the total price of the land to be sold and converted to fee simple, three options were available to the Saskatchewan government and to existing lessees in the 2008–2014 period (Saskatchewan, 2014a):

**Option one:** The lessee could have the land appraised, choosing from a list of accredited rural appraisers and paying for the appraisal. If the lessee or the government was concerned about the appraised value, either party could, at their own expense, obtain another appraisal from an accredited appraiser. An average of the two appraisals would be used to determine the purchase price. The cost of the first appraisal would be deducted from the purchase price.

**Option two:** The lessee could request a land value report from the Saskatchewan Ministry of Agriculture. If the lessee was concerned about the assigned value, the lessee could, at their own expense, obtain another appraisal from an accredited appraiser and provide it to the Ministry. An average of the land value report and the appraisal would then be used to determine the purchase price. The cost of the appraisal would be deducted from the purchase price.

**Option three:** The Ministry could choose to have the land appraised but the lessee would choose the appraiser from a list of accredited rural appraisers. The Ministry would pay for this appraisal. If either party was concerned about the value assigned by the appraisal, a second appraisal could be sought. An average of the two appraisals would then be used to determine the purchase price of the land. In this option, if the lessee was the party requesting the second appraisal, the appraisal cost would not be deducted from the purchase price.

In each option, the Saskatchewan government ensured that the sale price of the land included an extra cost for the lessee if the leased land contained extra or potential extra value unrelated to grazing: “If land deemed eligible for sale has timber stands, sand and gravel deposits, petroleum and gas leases or

pipelines, the higher of the current value or the present value of future earnings of these special features will be added to the sale price of the land alone” (Saskatchewan, 2014a).<sup>6</sup>

If the lessee’s home was already on the land in question, that land too was to be sold prior to or in conjunction with the sale of the lessee’s other agricultural land. As regards improvements to the land—housing, sheds, etc.—the Saskatchewan policy was that “[i]f the market value of the improvements on the land being purchased is less than the total outstanding on any sale agreements for those improvements, the market value of the improvements will be included in the sale price” (Saskatchewan, 2014a).

Once the purchase price was determined, the privatization program offered existing lessees a sliding incentive scale for the purchase of land. Early purchase applications (between 2008 and 2010 inclusive) were offered a ten percent discount off the appraised price. Subsequently, the discounts were eight per cent in 2011, six percent in 2012, four percent in 2013, and two percent in 2014 (Saskatchewan, 2014a).

The financing part of the program allowed for either outright full payment up front or 50 percent down with the rest to be paid to the government over the period of the payment schedule, with a guarantee from a recognized financial institution. Usually, the term to pay out the remaining 50 per cent was four years (Saskatchewan, 2008b).

### **Analysis of the Saskatchewan program**

Between April 1, 2008 and December 31, 2014, the province of Saskatchewan converted 481,138 acres of Crown land into fee simple private property, at an average price per acre of \$327. In total, the province earned \$157.2 million from the Agricultural Crown Land Sales Program (table 4). There is no estimate of land administration savings (Saskatchewan, 2014a).

The sale of leased land gave leaseholders an incentive not to delay purchases until the end of the program by offering a discount from the appraised price. However, there is no reason to offer an incentive to purchase leased land. That incentive is an explicit subsidy. The same end could be achieved by imposing an extra cost the longer the sale is delayed; e.g., in the first year of the program, an existing lessee could buy the property for 100 percent of its assessed value, but for 102 percent in the following year, and so forth. This limits the likelihood that leaseholders will wait until the end of the program and preserves the full value of the sale at the appraised price for the provincial treasury.

The policy to increase the price of the property if the leased land contained extra value unrelated to grazing (pipelines, forest stands, and so forth) was

---

6. The land is sold only with surface rights. However, sub-surface activity has the potential to produce income for the surface owner and such potential value would be added to the sale price (Saskatchewan, 2015c).

**Table 4: Agricultural Crown Land Sales Program, 2008/09–2014/15**

Gross sales revenue	\$157,175,449
Total acres sold	481,138
Average per acre	\$327

Note: As of December 21, 2014..

Source: Saskatchewan, 2015a.

sensible, protecting the value of the land in the transaction for the existing owner, i.e., the provincial government.

Land deemed likely ineligible for sale included: land subject to the Wildlife Habitat Protection Act; land identified as being of a fragile nature and sensitive to environmental disturbance; land lying above subsurface minerals, petroleum and gas, sand and gravel, or subject/potentially subject to exploration for these resources in the foreseeable future; land with commercially harvestable timber stands or that would have harvestable timber in the foreseeable future; land with significance related to the heritage of the province and its people; land located on a major water body or forming the bed or bank of a surveyed water body that could not be classified as permanently dry; land which would, if sold, fragment and decrease the value of other adjoining Crown land or limit access to other Crown land; land that may have been required for a future public use; or land the Minister had determined should not be sold (Saskatchewan, 2014a).

While Saskatchewan converted over 481,000 acres from leased land to fee simple, it restricted the possibility for additional Crown land to be sold, including some which might produce future revenue for the province and/or was deemed environmentally sensitive. Revisions to the Wildlife Habitat Protection Act and the Conservation Easements Act set the parameters for Crown land and possible sales. The result was that 1.3 million acres were deemed to have moderate ecological value and were eligible to be sold with the protection of a Crown conservation easement, 525,000 acres were deemed lower ecological value and available for sale without restrictions, and a further 1.7 million acres were deemed of high ecological value and ineligible for sale (Saskatchewan, 2014b).<sup>7</sup>

The Ministry of Agriculture offers three reasons as to why only one-third of the 1.6 million acres available for sale was not purchased by leaseholders or

7. Despite this approach in Saskatchewan in selected cases, fee simple land and environmental considerations could potentially be paired. Regulation and oversight of land occurs at present over all fee simple land; that would continue regardless of who owns the property, whether private, government, or non-profit owners.

others. First, continued leasing of the land in question might, in some cases, have been more economic than purchasing the land; second, some of the land that could be sold came with a Crown Conservation Easement, reducing the possibility for profiting from the land in the future and so dissuading buyers; and third, leased land was only available for purchase by the general public if an existing leaseholder wished to forego the lease (Saskatchewan, 2015c).

## Conclusion

Saskatchewan is an example of a jurisdiction where a partially market-based approach to land has been in evidence for several years. The Agricultural Crown Land Sales Program demonstrated certain market-oriented features, including accounting for improvements already made to the land and housing thereon. Also, a clear example of a market-based approach is in how the province's Crown leases account for market realities, such as the price of cattle and also the occasional drought.

Not all aspects of the program were market-based. Insofar as existing leaseholders decided not to buy, judging leasing a better financial deal, that raises the possibility that either existing lease rates had been set below estimated market value or the government had set the sale price too high.

A deeper problem, though, is the difficulty of arriving at a true market value given restrictions on open bidding. The leased land in the ACLSP was not available for purchase by the general public unless an existing leaseholder first allowed the lease to lapse and then also chose not to purchase the land. Only after this could an outside buyer purchase the land. That translated into fewer potential buyers. An obvious future remedy is to allow any and all bidders for the land to come forward once a lease expires, perhaps giving a right of first refusal to the leaseholder whose lease is expiring.

In general, Saskatchewan's approach to land sales through the ACLSP was an improvement on the status quo, though it did not create the conditions for a fully open market and thus the province may have foregone revenue. The program's restrictions may or may not have been justifiable for other reasons, such as perceived ecological management or simply for political expediency. In the future, if the full value of such land sales is to be realized, a government may wish to impose fewer restrictions than was the case in Saskatchewan. Competitive bids without restrictions on the potential buyers are the best way to determine the true market value of land. That would be a more consistent market-based approach and one that would allow for higher sale revenues.

That Saskatchewan chose to offer up to 1.6 million acres for sale, and did sell almost half a million acres of Crown leased land for conversion into fee simple private property, was a start on the path to a more market-friendly public land policy. It is one available for imitation by governments that recognize that land management can be enhanced if those on the land have an ownership stake.



## References

- Archer, John Hall (1980). *Saskatchewan, A History*. Western Producer Prairie Books
- Brado, Edward (1984). *Cattle Kingdom: Early Ranching in Alberta*. Douglas & McIntyre.
- Burbank, Garin (1977). Agrarian Socialism in Saskatchewan and Oklahoma: Short-Run Radicalism, Long-Run Conservatism. *Agricultural History* 51, 1: 173.
- Flanagan, Thomas, and Mark Milke (2005). Alberta's Real Constitution: The Natural Resources Transfer Agreement. In Richard Connors and John Law (eds.), *Forging Alberta's Constitutional Framework* (University of Alberta Press), 165–89.
- Graybill, Andrew R. (2005). Rural Police and the Defense of the Cattleman's Empire in Texas and Alberta, 1875-1900. *Agricultural History* 79, 3: 253–80.
- Marier, Patrik (2013). A Swedish Welfare State in North America? The Creation and Expansion of the Saskatchewan Welfare State, 1944–82. *Journal of Policy History* 25, 4.
- Natural Resources Canada (2015, February 13). Private correspondence.
- Saskatchewan, Department of Agriculture (2008a, November 3). *Agricultural Crown Land Sale Program Announced*. News Release. Government of Saskatchewan. <<http://www.gov.sk.ca/news?newsId=4307b43d-a8a5-44e7-b79e-4c526c23f503>>
- Saskatchewan, Department of Agriculture (2008b). *Agricultural Crown Land Sale Program: Programs and Services*. News Release. Government of Saskatchewan. <<http://www.agriculture.gov.sk.ca/Default.aspx?DN=98616e34-3d1b-4e1a-80f7-ed00fec2644c>>
- Saskatchewan, Department of Agriculture (2011a). *Census Fact Sheet: Saskatchewan Farm Land Use*. Government of Saskatchewan. <<http://www.agriculture.gov.sk.ca/Default.aspx?DN=f52109b9-ce4a-41f1-b5a1-7688a1f76927>>

Saskatchewan, Department of Agriculture (2011b). *Census Fact Sheet: Tenure of Saskatchewan Farms*. Government of Saskatchewan. <<http://www.agriculture.gov.sk.ca/Default.aspx?DN=999eda41-36b2-42e9-b8df-0427e542d40f>>

Saskatchewan, Department of Agriculture (2012). *2011/12 Annual Report*. Government of Saskatchewan. <<http://www.agriculture.gov.sk.ca/Default.aspx?DN=f853b2d4-fa12-4275-92a4-b2b3b631c200>>

Saskatchewan, Department of Agriculture (2013a). *Agricultural Crown Land Lease Policy*. Government of Saskatchewan. <<http://www.agriculture.gov.sk.ca/Default.aspx?DN=fa5ef4c4-6409-48f9-8fe4-3af00d560f6a>>

Saskatchewan, Department of Agriculture (2013b). *Agricultural Crown Land Improvement Policy*. Government of Saskatchewan. <<http://www.agriculture.gov.sk.ca/Default.aspx?DN=0caabf57-78b5-4077-a53c-7fe2405e4bf6>>

Saskatchewan, Department of Agriculture (2014a). *Agricultural Crown Land Sales to Lessee Policy*. Government of Saskatchewan. <<http://www.agriculture.gov.sk.ca/Default.aspx?DN=86a28699-d41f-4b1b-a664-4b927e1f9951>>

Saskatchewan (2014b). *Recent Changes to the Wildlife Habitat Protection Act (WHPA)*. Government of Saskatchewan. <<http://www.agriculture.gov.sk.ca/WHPA>>

Saskatchewan (2014c). *Provincial Lands Act*. Government of Saskatchewan. <<http://www.qp.gov.sk.ca/documents/English/Statutes/Statutes/P31.pdf>>

Saskatchewan, Department of Agriculture (2015a, January 15). *Agricultural Crown Land Sales Program Yearly Statistics*. Personal correspondence.

Saskatchewan, Department of Agriculture (2015b, March 6). *Crown Land Grazing Rent*. Personal correspondence.

Saskatchewan, Department of Agriculture (2015c, May 19, 20). *Crown Land Grazing Rent*. Personal correspondence.

MANAGING U.S. FEDERAL RANGELANDS:

# Conflicts over Rangeland Resources

~ Shawn Regan

## 3. Managing Conflicts Over US Federal Rangelands

Shawn Regan

For a few short weeks during the spring of 2014, the intricacies of the US federal grazing system garnered national attention in the United States. Major newspapers ran front-page stories. Television crews rushed to cover the issue live from the western range. Cable networks broadcast videos of cattle grazing on the evening news. If only for a moment, it seemed as though the entire nation was debating federal grazing policy as a tense standoff unfolded between the Bureau of Land Management (BLM) and one Nevada rancher named Cliven Bundy.

Mr. Bundy, as the story went, was a scofflaw—a recalcitrant rancher who illegally grazed his cattle on federally owned lands for decades without paying the required federal grazing fees. An outspoken critic of the BLM, Bundy refused to acknowledge the federal agency’s authority over the land outside Bunkerville, Nevada. “As far as I’m concerned, the BLM don’t exist,” he said during a presentation a few months earlier. He had a vested right to graze cattle on the vast rangelands outside of Bunkerville, he said, just as his family had for generations. “When I decided that I was paying grazing fees for somebody to manage me out of business, I said, ‘Hell no,’” Bundy told the audience. “And what did I tell them? I no longer need your service as a manager over my ranch, and I’m not going to pay you for that no more” (Turner, 2014).

The BLM, however, disagreed, and in April 2014 the agency began rounding up hundreds of Bundy’s cattle from the federal rangeland. The agency claimed that Bundy owed nearly \$1 million in unpaid grazing fees and fines. The cattle were not only trespassing; they were trampling sensitive habitat for the desert tortoise, a federally protected species. The BLM dispatched hundreds of federal agents along with contract cowboys and helicopters to descend upon the Nevada desert to capture, impound, and remove Bundy’s cattle from federal land (BLM, 2014). When Bundy refused to back down, the situation escalated quickly. Dozens of anti-government activists rallied in support of Bundy to stop the roundup and fight back against the BLM.

To many observers, the roundup was a clear example of federal overreach. Within a few days, a full-on range war was brewing in Bunkerville. Mobs of angry protesters and armed militiamen confronted BLM agents as they attempted to corral Bundy's cattle. At one point, guns were drawn. One protestor—one of Bundy's sons—was shot by federal agents with a stun gun.

The standoff captured the nation's attention. Almost overnight, Bundy became an icon in conservative media outlets for standing up against an oppressive and powerful federal agency. In other media circles, Bundy was portrayed as a "welfare cowboy" who blatantly disregarded the law and grazed his cattle at the expense of US taxpayers. To still others, he was simply a criminal with a rogue militia gang—a clear indication that the violence and lawlessness of the wild, wild West is still alive and well in the desert of Nevada.

In the end, the BLM backed down, citing concerns over the safety of their employees and the public. The cattle were released back on to the federal rangeland, where they remain today. The range war in Bunkerville gradually defused, and Bundy emerged unscathed. But for Bundy, the limelight did not last for long. A few days later, he was recorded making offhand racist remarks to a journalist and was swiftly denounced by the media. Almost as quickly as it began, the grazing debate—along with Mr. Bundy himself—faded from the headlines.

### **The rest of the story**

The conflict between Cliven Bundy and the BLM transformed federal grazing policy into a salient political issue in the minds of many Americans, if only for a brief time. Bundy's story, however, is far more complicated than it was portrayed on national television. The narrative that emerged in the media implied that the conflict was straightforward: A rancher refused to pay his grazing fees and, as a result, was nearly evicted from the land.

But in fact, the standoff on the Bundy ranch was the product of a long-standing confrontation between ranchers and environmental groups over the nature and security of federal grazing rights in the United States. That debate is embedded within the unique and complex history of the US federal grazing system. It's a story that illustrates one of the central challenges facing the federal grazing system today—namely, how to resolve conflicting demands on the federal rangeland in an era of new and competing environmental values.

Consider the more nuanced version of Bundy's dispute: For generations, Bundy's family grazed cattle on the vast federal rangelands of the western United States. Like many ranchers in the West, Bundy had a federal grazing permit, issued by the BLM, which authorized him to graze a certain number of cattle on the 160,000-acre Bunkerville Allotment in southeastern Nevada. The federal grazing system requires that grazing permittees must own certain private properties that are legally recognized by the federal government as qualifying for federal grazing privileges (BLM, 2015). In this case, Bundy's right to graze cattle on federal land was dependent upon his ownership of a 160-acre

parcel located in Bunkerville, Nevada (Siegler, 2014). In effect, his grazing permit was attached to this particular “base property.” Along with the ranch, Bundy also secured groundwater rights, which together with the base property enabled him to secure and maintain grazing privileges to the Bunkerville Allotment. The value of Bundy’s property was enhanced and dependent upon the public grazing privileges it provided to the nearby allotment.

For years, Bundy grazed his cattle on the federal grazing allotment and paid the required grazing fees—which typically amounted to approximately \$1.35 per animal unit month (Vincent, 2012).<sup>1</sup> But in 1993 the federal government made an adjustment to Bundy’s grazing permit. Under pressure from environmental groups, the agency significantly reduced the number of cattle that Bundy was authorized to graze on the allotment in an effort to protect desert tortoises, a species that had recently been declared as threatened by the US Fish and Wildlife Service. This modification had a significant effect on Bundy’s cattle operation as well as the value of his base property. Because Bundy’s ranch came with federal grazing privileges, reductions to his grazing permit could cause a corresponding reduction in his base property value. And with just 160 acres of deeded private land—nowhere near the amount necessary to sustain a cattle herd in the arid West—reductions such as this could threaten Bundy’s future livelihood as a cattle rancher (Turner, 2014).

Bundy refused to accept the BLM’s modified grazing permit and continued grazing his cattle on the Bunkerville Allotment. He also refused to pay the grazing fees and trespass fines levied against him. In 1994, the BLM formally revoked his grazing privileges for “knowingly and willfully grazing livestock without an authorized permit,” setting in motion Bundy’s decades-long battle with the BLM (US Department of the Interior, 1994). After several court orders to remove the cattle and ban Bundy from grazing on public lands—in addition to nearly \$1 million in grazing fees and fines owed by Bundy—the conflict finally reached a boiling point in April 2014 when the federal government began to roundup the trespassing cattle.

Bundy’s story is not unique. Ranchers across the West increasingly face similar challenges to their traditional grazing use of the federal rangeland. This has contributed in part to a general decline in grazing on federal rangelands and a perception among many ranchers that their future is threatened by the emergence of environmental regulations.<sup>2</sup> Today, the amount of grazing authorized on BLM land is half of what it was in 1954 (BLM, 2015). Bundy’s case is simply the most salient and well-documented dispute in recent years.

---

1. An animal unit month, or AUM, is a standard grazing measurement equal to the amount of forage needed for one animal unit (one cow and calf, one horse, or five sheep or goats) for one month. The federal grazing fee has remained at or near \$1.35 per AUM, the minimum amount the government is allowed to charge by law.

2. Environmental regulations are not the only factor contributing to a decline in grazing. Other factors include drought, wildfire, and broader economic influences contributing to a general decline in US livestock production.

This more nuanced story illustrates the central challenge explored in this essay: In the United States, grazing conflicts such as Bundy's are born out of a federal grazing system that encourages conflict, not negotiation. Competing user groups often have no way of coming together to resolve conflicting demands except through top-down political or judicial means. Environmentalists, for their part, frequently file legal challenges over land management, forcing federal land agencies to restrict grazing rights and declare more areas off limits to grazing and other historic land uses. Environmental statutes such as the Endangered Species Act and National Environmental Policy Act (NEPA) serve as regulatory weapons to reduce the impacts of grazing on federal lands, undermining the traditional grazing rights. The result is a federal land system strangled by what former US Forest Service chief Jack Ward Thomas described as a "Gordian knot" of litigation and regulation (Fitzsimmons, 2012: 1).

The problem of the "Gordian knot" is intensified by the vast reach of the federal government's authority over western lands in general and over western livestock grazing in particular. Federal agencies control nearly half of the land in the western United States, including more than 60 percent of Idaho, 67 percent of Utah, and more than 80 percent of Nevada (Gorte et al., 2012). As a result, in many ways, livestock grazing in the West is a federal land issue. Due to the relatively small amounts of private land in the West, along with the region's arid conditions, which require large amounts of land to sustain livestock operations, western ranchers have relied on access to federal land for forage resources for more than a century.

Today, the BLM administers nearly 18,000 grazing permits and manages more than 21,000 grazing allotments on 155 million acres of public lands managed for livestock grazing (BLM, 2015). The US Forest Service also administers a federal grazing program in the agency's national forests and grasslands, comprising more than 95 million acres of land with nearly 6,000 permittees (US Department of Agriculture, 2015). In 2013, together, these agencies provided 15 million animal unit months (AUMs) worth of forage resources for livestock grazing, or enough forage to feed 15 million cow-calf pairs or 75 million sheep or goats for a month.

Federal control over grazing in the American West means that debates over who gets to do what on the land are ultimately determined through political or legal processes rather than a market process. As a result, disputes are riddled with acrimony, litigation, and in some cases even violence or intimidation. In 1997, when the BLM proposed to significantly reduce public land grazing in Owyhee County, Idaho, the local sheriff threatened to throw federal agents in jail if they enforced the reductions (Layzer, 2006). Prior to the standoff on Bundy's ranch, Nevada ranchers have repeatedly resorted to violence and intimidation to resist similar grazing restrictions. Environmentalists have even sabotaged grazing operations by cutting barbed-wire fences and otherwise disrupting public land grazing practices (Brooke, 1998).

This essay examines the US federal grazing system and explores its ability—or inability—to resolve competing demands through negotiation rather than conflict. Federal grazing policies in the United States have largely proven unable to reconcile conflicting demands on the western range. In many cases, existing policies may even exacerbate the problem. The central issue, this essay will argue, is the security and transferability of property rights to rangeland resources. In particular, conflicts over grazing on federal lands are the product of poorly defined grazing rights and restrictions on the transferability of grazing permits. Environmental groups and other competing user groups effectively have no way to bargain with livestock owners to acquire grazing rights. Their ability to trade is prohibited or severely limited under existing federal grazing policies. As a result, federal rangelands are too often the subject of conflict, litigation, or regulation, rather than exchange, negotiation, or cooperation.

In the sections that follow, this chapter explores these challenges and identifies key issues and opportunities for reform. It offers a framework for thinking about how grazing conflicts are resolved, borrowing from a theory known as raid or trade, and explores several efforts by conservation groups and private landowners to overcome the barriers to trading rights to the federal rangeland. The chapter concludes by exploring the lessons learned from these limited efforts in the United States and discusses how the US federal grazing experience might inform rangeland policy in other jurisdictions. In the process, it suggests several opportunities for reforming the US federal grazing policy to promote more sensible, peaceable solutions to conflicts over the western rangeland.

### **To raid, or to trade?**

How to resolve competing demands over the western range is perhaps the most challenging and important federal grazing policy question today. It can be explored within the raid-or-trade framework introduced by Anderson and McChesney (1994) to explain violence on the American frontier. This framework modeled an important decision that white settlers and Indians faced when conflicts arose over land claims: Would the two groups fight or negotiate to resolve disputes? In other words, would they raid or trade?

According to Anderson and McChesney, the answer depended on the relative costs of raiding and trading. If the costs of fighting decreased, perhaps because one side developed superior weaponry or commanded significantly more manpower, then disputes were more likely to turn violent. But if the costs of negotiation fell, perhaps because a tribe's land rights were clearly defined and recognized by other tribes, then groups were more likely to bargain to get what they wanted. Trade, after all, is mutually beneficial. Fighting is costly. Looking through the frontier accounts of Indian-white relations, Anderson and McChesney found that this straightforward economic logic explained much about the interactions between the two competing groups.



The raid-or-trade model is useful beyond the old western frontier, and can be helpful for understanding modern-day conflicts over western rangelands. On federal grazing lands today, it is simply too easy to raid and too costly to trade. Environmental groups, for instance, use policies such as the Endangered Species Act and the National Environmental Policy Act as regulatory weapons to force restrictions on federal grazing to protect land and species. Raids like the one on Cliven Bundy's ranch are common across the West, as ranchers' grazing permits have been reduced or suspended by the federal government at the behest of environmental groups or as a result of decisions coming through the legal system. Because federal grazing permits are attached to specific base properties, raids such as these can cause substantial losses for ranchers, creating considerable controversy and fueling bitter political battles.

The institutions that govern federal grazing lands have failed to evolve to accommodate new environmental demands in a manner that encourages trading instead of raiding. The blueprints of the federal grazing system were conceived at a time when environmental demands were far less prevalent. Today, however, that system has proven unable to reconcile competing environmental demands in an effective or cooperative way.

In particular, current federal grazing policies impose significant barriers to resolving conflicting demands through trading. Competing user groups have little or no means to exchange rights to federal rangeland resources. In contrast to other areas of western natural resource management such as western water law, in which many states allow environmental groups to purchase water rights from agricultural rights holders and hold them for conservation purposes, no similar trading mechanism has emerged on a large scale within the US federal grazing system (Scarborough, 2010). As a result, raiding is far more common than trading as a means of resolving rangeland disputes on federal land.

The raid-or-trade model provides a clear and useful lesson for rangeland management: If property rights are well defined and transferable, then disputes among even the most diverse groups are more likely to get resolved peacefully and in a mutually beneficial way. Therefore, if grazing rights are clear and tradable, then conflicts over the federal rangeland are more likely to get resolved through trading. Thus, finding ways to define and secure grazing rights will encourage more trading and less raiding on federal rangelands.

As Mr. Bundy discovered when his grazing rights were curtailed in the early 1990s, federal grazing permits are far from secure property rights. They can be reduced or revoked by the federal government at any time. Federal grazing rules refer only to "grazing privileges" rather than formal grazing rights, and the security of those privileges has been gradually weakened by environmental regulations (Layzer, 2006). Despite repeated attempts to clarify and establish more formal rights to rangeland resources, the federal government has been unable or unwilling to grant secure grazing rights.

There have been several proposals to establish secure and transferable forage rights on the federal rangeland as a means of resolving grazing disputes

through trading. In 1963, Delworth Gardner, a leading agricultural economist, called for the government to “create perpetual permits covering redesignated allotments . . . and issue them to ranchers who presently hold permits in exchange for those now in use” (1963: 117). These new permits “would be similar to any other piece of property that can be bought and sold in a free market.” Likewise, resource economist Robert Nelson has called for the creation of a formal “forage rights” on federal rangelands (Nelson, 1997: 649). These rights could be traded to environmental groups to use for non-grazing purposes such as conservation.

Economists such as Gardner and Nelson are not alone in their recommendations. Mark Sagoff, a leading environmental philosopher, views markets in tradable grazing permits as a practical institutional arrangement that would “enable traditional antagonists to gain the benefits of exchange” (Sagoff, 2004: 198–99). In addition, several prominent environmental activists and conservation groups have also acknowledged the benefits of establishing clear and transferable grazing rights. Dave Foreman, a radical environmentalist and founder of the Earth First! Movement, has expressed support for transferable grazing rights that can be purchased by environmental groups, arguing that the most practical and fair way for environmentalists to resolve grazing conflict was simply “to buy ‘em out” (Foreman, 1995: 2–3). Andy Kerr, another environmental activist, has likewise advocated for transferable grazing permits that could be bought out by environmental groups or the federal government itself (Sagoff, 2004: 185–86). Kerr argued that under current federal grazing policies, environmentalists have “no option but to exercise traditional environmental protection strategies in the areas of administrative reform, judicial enforcement, and legislative change” which “can cause social and political stress and are not always successful.”

The establishment of formal grazing rights would likely promote more responsible rangeland management and alleviate the bitter conflicts that are common over grazing. “The lack of any clear rights on federal rangelands has resulted in blurred lines of responsibility which have been as harmful to the environment as they have been to the conduct of the livestock business,” according to Nelson (1997: 649). He argues that the creation of secure and transferable grazing rights on federal lands “offers the best means available for resolving the severe gridlock and polarization that have beset federal rangelands for the past quarter century or more” (1997: 650). Environmental groups “would have a realistic way to accomplish their goals, other than by seeking to influence the exercise of government command-and-controls”—that is, they could trade instead of raid, allowing the debate over western land use to no longer be resolved solely by federal regulations, bureaucratic planners, or judges, but rather “by the competitive workings of the marketplace” (1997: 690).

Despite these calls for reform, however, efforts to establish clear and secure grazing rights have experienced limited success. Only a few environmental

groups have completed buyouts of grazing permits to protect grazing allotments, but these have occurred on a limited basis and are carried out at high costs. Other groups have purchased base properties but in some cases have been forced to graze cattle to comply with the use-it-or-lose requirements of the current federal grazing system. In other cases, environmental groups have been able to work within existing federal grazing policies to accomplish their conservation goals, but these efforts are limited. Nonetheless, despite these small victories, raiding is still rampant on federal grazing lands, and the reforms necessary to encourage more trading have not been forthcoming.

Environmental demands are increasingly recognized as important and legitimate demands on the western rangeland, but they currently have little or no way to express themselves other than through controversial regulatory or legal processes, which—as the story of Cliven Bundy demonstrates—has the potential to rip apart the social fabric of many western communities.

### **Historical description of US federal grazing policy**

To understand why raiding displaces trading on the federal rangeland, consider the history of the US federal grazing system, which has evolved over more than a century. The evolution of federal grazing policy helps explain today's complicated—and in many ways antiquated—federal grazing system. To many observers, the contours of today's system defy explanation apart from this historical understanding, which helps explain many of the barriers to resolving modern-day conflicts on the western range.

### **The open range**

“There is perhaps no darker chapter nor greater tragedy in the history of land occupancy and use in the United States than the story of the western range,” according to a 1936 US Department of Agriculture report (1936: 3). In the late nineteenth and early twentieth centuries, overgrazing was common on the public domain rangelands of the western United States. US land policies gradually encouraged more settlers to venture westward, where they were met with vast open rangelands on which they grazed livestock, primarily cattle and sheep. Today, this unregulated system of open-range grazing is often seen as the root cause of severe range depletion, erosion, and other devastating environmental consequences.

However, as many historians have documented, the legacy of uncontrolled grazing on public rangelands was largely the result of federal policies that limited the establishment of property rights to the open range and, in effect, created an open-access rangeland regime (Libecap, 1981: 2–3). US land policies such as the Homestead Act limited settlers to 160-acre claims, which were ill-suited for the realities of the western landscape. Because traditional agriculture practices were often impractical in the West's dry and remote landscapes, grazing was the dominant land use of the era. Even with the expansion of homestead

claims to 640 acres in 1916, this was still not enough land in many areas of the arid west to sustain livestock on a year-around basis.

The General Land Office, the former agency responsible for public domain lands in the United States, refused to issue larger homestead claims that were better suited for the West's arid landscape. Due to the land's low carrying capacity, and the inability of settlers to establish rights to large enough properties to sustain ranching operations, livestock owners relied upon the public domain without formal rights to the rangeland. Predictably, open-access conditions often prevailed during this period, resulting in overgrazing, erosion, and poor livestock conditions.<sup>3</sup>

### Taylor Grazing Act

Efforts to regulate public domain grazing began in the early twentieth century, but it was not until 1934 that Congress passed the Taylor Grazing Act, which created the foundation for the federal grazing system in the United States today.<sup>4</sup> Responding to the perception that the self-interested private actions of ranchers were the root cause of overgrazing and abuse on the public domain, the Act established federal control over grazing on the remaining public domain lands. The Act was intended "to stop injury to the public grazing lands by preventing overgrazing and soil deterioration" as well as "to provide for their orderly use, improvement, and development."<sup>5</sup> The Act also led to creation of the US Grazing Service, which later merged with the General Land Office to form the Bureau of Land Management in 1946 (BLM, 2011).

The Taylor Grazing Act gave the Secretary of the Department of the Interior the authority to create regulated grazing districts on unclaimed public lands, issue permits to graze livestock on public lands, and charge a grazing fee. Ranchers were eligible to receive grazing permits if they met two conditions: First, they must have ownership of a nearby "base property" and second, they must demonstrate a recent history of grazing on the open federal rangelands. The base property, which may also include water rights, is often a nearby ranch that qualifies as a base for the permittee's livestock operation, as determined by the BLM. Grazing permits cannot be held by or transferred to individuals that do not hold qualifying base properties. When these base ranches are sold, the permits are transferred along to the new property owners (Nelson, 1997: 663). Permits are issued for a period of up to ten years, and permit holders have priority over others to renew the permit for additional ten-year periods without competition.

---

3. Informal property rights arrangements often emerged under these open-access conditions, including local arrangements such as livestock associations, illegal fencing of federal lands, and other extralegal efforts to overcome the tragedy of the commons (Libecap, 1981: 14–23).

4. The creation of the US Forest Service in 1906 resulted in some control of grazing on forest reserves as well.

5. 43 USC. 315 (1934).

Under the Act, preference was given to those within or near a grazing district and who are “engaged in the livestock business, bona fide occupants or settlers, or owners of water or water rights,” largely to ensure that ranchers who had been using public rangelands would still be able to graze cattle on the federal rangeland. The Act also states that “grazing privileges recognized and acknowledged shall be adequately safeguarded,” but it states that the issuance of a grazing permit “shall not create any right, title, interest, or estate in or to the lands.”<sup>6</sup> The Secretary may also “specify from time to time numbers of stock and seasons of use.”

### **Federal Land Policy and Management Act and Public Rangelands Improvement Act**

Enacted in 1976, the Federal Land Policy and Management Act (FLPMA) directs the BLM to manage its lands “under principles of multiple use and sustained yield” in a manner that protects “scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values.”<sup>7</sup> The Act did not repeal the major provisions of the Taylor Grazing Act, but rather it expanded the other recognized uses of public grazing lands to include environmental and aesthetic values, as well as providing federal land planning procedures. FLPMA also marked the official end of homesteading by repealing the earlier homestead acts. The Act established that the federal government was no longer in the business of disposing of public land, and instead would retain federal ownership of the remaining federal lands.

The Public Rangelands Improvement Act (PRIA), passed in 1978, further clarified the BLM’s grazing management goals. The Act specifically called for improving range conditions on BLM lands. The policy led to a number of conservation-oriented range management projects and cutbacks in grazing permit allocation levels, all aimed at promoting the improvement of public rangeland conditions. Together with FLPMA, the Act shifted the BLM’s priorities from livestock and grazing management to the protection of specific rangeland resources, including riparian areas, threatened and endangered species, and historic and cultural resources (BLM, 2015).

PRIA also provided a formula for determining annual federal grazing fees on both BLM and Forest Service lands (Vincent, 2012). Grazing fees are paid based on the number of animals grazed per month, known as animal unit months (AUMs). PRIA was designed to establish an “equitable” grazing fee that ensures that the western livestock industry is protected from significant economic disruptions. The grazing fee formula is adjusted each year based on three factors: (1) the rental charge for grazing cattle on private rangelands, (2) the sale price of beef, and (3) the cost of livestock production. Annual fee

---

6. 43 US Code § 315b.

7. 43 US Code § 1732(a) (1976) and 43 US Code § 1701(a)(8).

adjustments cannot exceed 25 percent of the previous year's fee. The minimum fee that can be charged is \$1.35 per AUM. Since 1981, the federal grazing fee has ranged from \$1.35 per AUM to \$2.31 per AUM. The federal grazing fee in 2015 was \$1.69 (Glaser, Romaniella, and Moskowitz, 2015).

PRIA also defined the term "grazing preference" as "the total number of animal unit months of livestock grazing on public lands apportioned and attached to base property owned or controlled by the permittee" (Epperson, 2001). This definition remained until 1995, when the BLM issued new regulations that many believed weakened the security of ranchers' grazing rights to federal land. The 1995 regulations introduced the term "permitted use" to refer to the authorized number of AUMs allocated during the applicable land use plan. In other words, grazing privileges could be curtailed as part of the broader federal land-use planning process. Many ranchers argued that these new rules effectively reduced the security of their grazing privileges by eliminating their prior right to graze predictable numbers of livestock from year to year. Moreover, they argued that the new regulations violated the Taylor Grazing Act's provisions that required grazing privileges to be "adequately safeguarded" (Baldwin, 2003).

### Grazing rights vs. privileges

The enactment of FLPMA and PRIA, along with the new BLM regulations promulgated in 1995, highlights a longstanding debate over the nature and security of grazing rights to federal rangelands. Do ranchers have secure grazing rights to public lands, or do they merely have grazing privileges that can be reduced or revoked by federal agencies? This question has been at the center of many rangeland conflicts over federal range policy.

The question still remains unclear today. Public land agencies insist that grazing permittees do not have actual property rights to rangeland resources. Indeed, the Taylor Grazing Act speaks only of grazing "privileges," not formal rights. The Act also states that the secretary of the Interior can specify "from time to time numbers of stock and seasons of use." However, the Act also states that grazing privileges "shall be adequately safeguarded." Moreover, in many ways, grazing permits have historically been perceived as implying formal grazing rights (Nelson, 1997: 663). Federal capital gains and estate tax calculations reflect the value of the grazing permit. Ranchers' base property values are affected by the grazing permits attached to them. The values of grazing permits are effectively capitalized into the value of these base properties. Banks collateralize loans to ranchers on the basis of grazing permit values.

The US Supreme Court took up several related issues in *Public Lands Council v. Babbitt* (2000). The Court affirmed the BLM's authority to reduce grazing levels to comply with new environmental laws and upheld the 1995 regulations that redefined grazing preferences. The Court also took up the issue of whether environmental groups could acquire grazing permits for "conservation

use,” a practice that was prohibited under the existing rules. Specifically, the Court focused on whether grazing permittees were required to be engaged in the livestock business. In the end, the Court upheld an appeals court ruling that a BLM regulation allowing conservation use that excludes livestock grazing for the full term of a grazing permit was invalid (Baldwin, 2003).

Apart from the legal debate over grazing rights and privileges, the inability of the federal government to clearly define property rights to rangeland resources has arguably contributed to the rangeland health issues on federal lands. Economists such as Gary Libecap have argued that insecure tenure encourages overstocking and discourages investments in rangeland improvements (Libecap, 1981: 2). Libecap identifies “fundamental flaws” in the current institutional arrangements that rely on bureaucratically assigned grazing rights (1981: 100). Since bureaucrats do not hold property rights to the rangeland resources, they do not bear the costs or receive the benefits of their management policies. As a result, Libecap argues that grazing rights are inherently tenuous because agencies continually reallocate rangeland resources and adjust grazing privileges to meet changing political conditions. Moreover, without the right to acquire grazing permits for conservation uses, environmental groups are forced to rely on these changing and uncertain political processes rather than individual market transactions.

Even today, despite federal policies intended to protect and preserve rangeland conditions, rangeland health suffers. In 1994, the BLM reported that rangeland ecosystems are still “not functioning properly in many areas of the West. Riparian areas are widely depleted and some upland areas produce far below their potential. Soils are becoming less fertile” (BLM, 1994). In particular, the agency concluded, riparian areas “have continued to decline and are considered to be in their worst condition in history.” Even today, according to the BLM, nearly a quarter of BLM grazing allotments are not meeting or making significant progress toward meeting the agency’s own standards for land health (BLM, 2012). A recent assessment of BLM grazing practices by Public Employees for Environmental Responsibility (PEER), a watchdog group, found that 29 percent of the agency’s allotted lands (16 percent of allotments) have failed to meet the BLM’s standards for rangeland health due to livestock impacts (Wiles, 2014).

### **Barriers to trade**

The lack of well-defined and transferable federal grazing rights presents serious obstacles to resolving rangeland disputes in a cooperative and mutually beneficial manner. These obstacles have important effects on the decisions to raid or trade among groups seeking to influence federal rangeland policy. As a practical matter, conservation groups have been prohibited from acquiring grazing permits to use for conservation purposes, effectively taking the trading option out of the equation.

A detailed understanding of the history of US federal rangelands helps identify several specific obstacles to trading within the federal grazing system.

First, the use-it-or-lose-it provision requires ranchers to graze livestock on their permitted allotments or risk losing their grazing privileges (Nelson, 1997). If permittees abandon grazing activities on a significant portion of an allotment, the BLM would have an obligation to transfer the permit to another rancher willing to use the allotment for grazing purposes. While under some conditions grazing allotments can be “rested” for short periods, permittees cannot end grazing altogether on permitted allotments. This clearly creates obstacles for environmental groups attempting to acquire grazing permits for non-grazing purposes.

Second, the base property requirements under the Taylor Grazing Act create similar barriers to trade. That is, groups seeking to acquire grazing rights must purchase or already own qualifying private base properties to which grazing privileges can be assigned (Nelson, 1997: 674–75). Moreover, unlike the grazing system on state trust lands in the United States, grazing rights are not determined by competitive bidding (Fretwell, 2015). This requirement raises the cost of trading grazing rights and restricts who can hold federal grazing permits.

Third, federal grazing permits have generally been restricted to those operating in the livestock business. In 1995, new BLM regulations sought to eliminate this requirement. The regulations, however, were challenged in court by the livestock industry. The US Supreme Court upheld the BLM regulations in *Public Lands Council v. Babbitt* (2000), but the use-it-or-lose-it requirement effectively limits grazing permits to livestock owners (Epperson, 2001). Therefore, while the exact requirements may have been lifted, the federal grazing system still imposes barriers to holding permits for non-grazing purposes.

These obstacles tip the scales towards raiding rather than trading as a means of influencing outcomes on the federal rangeland. This is unfortunate because, as several prominent environmental leaders have acknowledged, trading may represent the most practical and effective conservation strategy to ensure environmental protections on the federal rangeland. Andy Kerr, for example, has stated that purchasing grazing rights would be an “easier” and “more just” approach to environmental protection than traditional command-and-control strategies (quoted in Nelson, 1997: 651). Kerr has called for the federal government to buy-out western ranchers’ grazing permits and retire them. Ranchers should be compensated for the loss of their permits, rather than simply raiding them, according to Kerr, who calls the plan “a solution to an environmental problem that requires less government regulation and lets the free market work” (quoted in Nelson, 1997: 654).

Kerr helped organize a campaign to promote buyouts as a practical solution to the legal and political battles over grazing (Reese, 2005). Federal rangelands often have low economic value for grazing purposes, so many



environmental groups likely have sufficient resources to buy out ranchers' permits. But even if environmentalists did not purchase grazing rights, some believe there is a strong case for the federal government to buy out ranchers. Because the costs of administering the US federal grazing system are so high, and the revenues derived from those lands so low, the federal government consistently loses money managing federal lands for grazing purposes (Fretwell and Regan, 2015). Thus, some have argued that it would pay to abolish the existing grazing program and buy out all grazing rights.

To that end, Kerr helped launch the National Public Lands Grazing Campaign which promoted a Voluntary Grazing Permit Buyout Act, calling for the federal government to compensate public lands ranchers who agreed to relinquish their grazing permits for \$175 per AUM (Layzer, 2006: 182). Under this proposal, a rancher with a permit to graze 500 cattle for five months would receive \$437,500. The permits would then be retired by the federal government and managed for environmental purposes. Although the campaign has yet to succeed, it illustrates a genuine interest in resolving grazing disputes through trading, and a general dissatisfaction with the traditional regulatory approach to protecting federal rangelands.

### **Case studies**

Despite the obstacles to trade, there have been several innovative efforts to trade as an alternative to raiding to resolve disputes over the federal rangeland. In some cases, environmental groups have successfully paid ranchers to relinquish their grazing permits to protect wildlife habitat. Others have purchased base properties and acquired the federal grazing permits attached to them, spending their own money raised from private member donations. Environmentalists have bargained with ranchers to retire federal grazing permits, compensated ranchers for losses due to wildlife, and negotiated contracts that allow wildlife to access private land during certain times of the year (Regan, 2014).

Deals like these are the exception rather than the norm, but they represent a fundamentally different choice in the raid or trade calculus. They involve groups that acknowledge prior use rights and seek gains from trade. Understanding how and when these trades occur is an important first step to finding ways to lower the costs of negotiation far enough to encourage more trading, and less raiding, on federal rangelands. The brief case studies that follow explore several of these examples in greater detail. They provide lessons learned for resolving range conflicts, illuminate obstacles to encourage more widespread trades, and suggest several opportunities for reform.

### **Grand Canyon Trust**

The Grand Canyon Trust, a conservation group, has negotiated grazing buyouts with ranchers in Utah since 1996. Between 1999 and 2001, the group spent \$1.5 million to purchase base properties with about 350,000 acres worth of

grazing permits in and near the Grand Staircase-Escalante National Monument (Baird, 2006). The group considered the properties and their associated federal grazing allotment as ecologically sensitive and important areas worthy of protection from the impacts of grazing, and sought to purchase the base properties as an effective conservation strategy.

The Trust's efforts were complicated due to the use-it-or-lose-it requirements on federal grazing lands. The grazing permit that came along with the properties required the group to graze cattle on the allotment or lose the permits. The value of the grazing permits was capitalized into the value of the base property when it was sold to the group and represented a significant financial investment on the part of the Trust. 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. 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 decided to purchase the minimum number of cattle to graze on the allotment in order to retain control of the grazing permits (Baird, 2006).

This case study illustrates an important lesson for promoting trading on federal rangelands: Even if grazing rights are well defined and respected, they must also be transferable to groups such as the Grand Canyon Trust. Current grazing rules, however, generally 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.<sup>8</sup> Such requirements clearly raise the costs of trading for groups that want to use rangelands for purposes other than grazing.

### **Cows, not condos**

The use-it-or-lose-it requirement may be less of an obstacle for environmental groups that view livestock grazing as consistent with their conservation objectives. These groups can acquire base properties and use the associated grazing permits for livestock grazing under their own care and management, while ensuring adequate environmental protection of the federal rangeland.

For some conservation groups, cattle grazing may be seen as a lesser of two evils—with the greater threat coming from commercial and residential development. In some cases, this has led to cooperative arrangements between environmental groups and livestock owners (Sagoff, 2004: 186). Groups such as The Nature Conservancy (TNC) have acquired base properties along with

---

8. There are instances in which the agencies recognize alternative “base property” to satisfy this rule. For example, an apartment complex in a metropolitan area may be secured as a base property because it generates the funds necessary to feed and house livestock when not on public lands, even though the livestock will never inhabit the base property.

the associated grazing permits in an effort to outbid developers on the western landscape. Groups such as TNC would rather see the land used for cattle grazing than for large-scale commercial or residential development, and may even view livestock grazing as compatible with responsible range stewardship.

In 1996, TNC acquired the Dugout Ranch in Utah, just beyond the border of Canyonlands National Park, and announced that it would continue to use the ranch as a livestock operation. TNC would ensure that livestock grazing was done in a manner that was consistent with the group's conservation objectives to promote biodiversity and preserve the scenery and other environmental assets on the associated federal rangeland. The group acknowledged that the purchase was designed in part to prevent the land from being acquired by developers.

The group's Utah state director said the effort was meant to move "beyond the rangeland conflict and into collaborative efforts with livestock operators" (quoted in Nelson, 1997: 658). Moreover, "cows are better than condos. Increasingly in the West, this is the only choice we face." Thus, in the case of The Nature Conservancy's specific objectives—to prevent commercial and residential development and maintain certain environmental assets on the grazing allotments—cooperative buyout solutions were possible within the existing structure of the federal rangeland system.

### American Prairie Reserve

Other conservation groups have been able to work within existing federal grazing policies to accomplish their conservation objectives through trading instead of raiding. 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. 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 (Puckett, 2015b). In contrast to other US environmental groups, APR seeks to accomplish its mission through market forces by purchasing private lands and grazing rights from ranchers, rather than through litigation or political processes. In other words, they are trading rather than raiding.

APR acquires private base properties and restores the land back to the prairie landscape that once prevailed across much of the West. Once the group 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. Today, APR owns or leases more than 300,000 acres in the region and maintains a herd of more than 600 genetically pure bison.

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 of the BLM's livestock classifications. Bison, it turns out, are considered a class of livestock under existing BLM rules. 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 (Puckett, 2015a). 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 also requests to change the allotment grazing season to year-round grazing. In many cases, APR is also permitted to remove interior fencing to manage their private lands along with the public lands as one common pasture.

The example of the American Prairie Reserve, while thus far successful, reveals a fundamental obstacle to adopting similar conservation approaches elsewhere. The use-it-or-lose-it requirement on federal grazing lands 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 sought to create a landscape-scale conservation project to protect desert tortoises. Not content to use lawsuits or political means to achieve their goals, the group would purchase private ranches and leverage the associated public grazing rights to protect tortoise 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 view trading as a practical and attractive alternative to raiding through political or legal means to influence federal rangeland management, but the ability of other groups to utilize similar trading mechanisms in other contexts is limited or nonexistent.

### Gila and Yellowstone buyouts

Despite these obstacles, voluntary grazing permit buyouts have occurred on a limited basis across the western United States. Conservation groups such as the Conservation Fund, Grand Canyon Trust, Rocky Mountain Bighorn Sheep Association, the National Wildlife Federation, and the Oregon Natural Desert Association have purchased—that is, traded for—grazing permits from ranchers and sought to retire them (Reese, 2005). Such efforts are costly and tenuous. They are able to occur only on a case-by-case basis and at high transaction costs. Yet buyouts are increasingly seen as a practical way to achieve conservation outcomes on federal rangelands.

Once a group buys a rancher's grazing permit, they often request that the federal land agency retire it. This requires that the BLM or Forest Service agree to formally change the area's management plan to cancel grazing on the allotment. Even if conservation groups can convince the federal land agencies to retire permits they have acquired, the retirements are not guaranteed, nor are they permanent. The area management plans come up for revision every 10 or 15 years, in which case the agencies could re-open the allotments for grazing. Only Congress can permanently retire a grazing permit (Reese, 2005).

Wild Earth Guardians, a nonprofit environmental organization, is pursuing the voluntary buyout strategy to protect grazing allotments in the Gila National Forest in New Mexico. According to Bryan Bird, one of the group's directors, the strategy represents "a free-market approach" to the longstanding confrontation between environmental groups and ranchers. "We're trying to provide a viable opportunity for grazing permittees to voluntarily sell their permit," says Bird (Dunlap, 2014). The group views the buyout approach as a practical means of resolving land-use conflicts, particularly with the reintroduction of Mexican gray wolves in the region in 1998. The wolves, a protected species, often kill livestock and create acrimony between ranchers and conservationists (Reese, 2014).

The Wild Earth Guardian's buyout program works as follows: The group negotiates a private agreement with a rancher to acquire their grazing permit. Wild Earth Guardians then approaches the Forest Service to request retirement of the grazing allotment. The Forest Service evaluates the proposal and decides what to do with the grazing permit. Wild Earth Guardians does not own the grazing permit.

This is a tenuous process. The Forest Service has traditionally been reluctant to retire allotments. Wild Earth 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. In at least one case, however, Forest Service officials with the Gila National Forest have been willing to approve temporary grazing retirements of grazing permits purchased by Wild Earth Guardians (Reese, 2014). So far, the group has reached only one buyout deal with a rancher in the region, but it has reportedly received interest from several other ranchers (Dunlap, 2014).

Elsewhere in the United States, environmental groups have pursued similar buyout strategies to resolve livestock-wildlife conflicts. Since 2002, 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. The group does so by negotiating voluntary buyouts with ranchers and relying on federal land agencies to retire the allotments. Rick Jarrett, a Montana rancher, 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—both federally protected species. “I was looking for solutions, not playing politics,” Mr. Jarrett said after reaching a deal to sell his permit to the National Wildlife Federation. “I guess that’s why it worked so well” (Carey, 2011). The Forest Service, in this case, agreed to retire the grazing permit to alleviate the wildlife conflicts on the allotment.

### Concerns among ranchers

Trading solutions such as the ones described above, however, are not without their critics. Legal disputes from livestock associations have challenged the ability of environmental groups to acquire base properties without the intent to graze. Several of the cases described above are controversial among local ranchers and ranching communities concerned with the decline of traditional rural life. Moreover, ranchers often view the emergence of environmental values on the federal rangeland as a threat—even when its goals are accomplished through trading instead of raiding.

In the mid-1990s, the BLM attempted to establish “conservation permits” that would allow grazing permits to be used for non-grazing conservation purposes for up to 10 years. However, the proposal was met with considerable opposition from ranchers and was ultimately ruled against by the courts (Baldwin, 2003).<sup>9</sup> Even efforts by groups such as the American Prairie Reserve, which seek to purchase private ranches at market value, are often controversial among local residents who are skeptical of the conservation group’s agenda and wary of efforts to remove cattle from the landscape.

Part of the opposition to these trading solutions comes from the effect of simultaneous “raiding” strategies pursued by many other environmental groups to influence federal rangeland management. While organizations such as American Prairie Reserve and Grand Canyon Trust may pursue honest bargains, ranchers are often simultaneously threatened by legal and political actions aimed at reducing their ability to access federal rangelands. Trading solutions such as the ones described above often occur under the backdrop of a broader federal environmental regulatory landscape that is often threatening

---

9. In *Public Lands Council v. Babbitt* (2000), the US Supreme Court upheld an appeals court decision ruling that the Taylor Grazing Act requires grazing permit holders to run cattle on the land.

to ranchers. Endangered species policies, for instance, may undermine their ability to protect their livestock from harm. Federal land policies may gradually reduce their grazing privileges to protect environmental resources. These forces contribute to the common perception among ranchers that they are being regulated off their land and that their livelihoods are at risk.

Thus, some ranchers believe that grazing buyouts and other “trading” approaches are merely a final blow to ranchers whose livelihoods have already been squeezed by regulations that are, in effect, kicking them off the federal rangeland. Regulations force ranchers into becoming willing sellers by devaluing their ranching operations to the point where there is no feasible alternative other than to sell. The value of ranchers’ base properties are significantly affected by such regulatory approaches, thus making buyouts more feasible for conservation groups to eventually purchase once ranching operations become unprofitable. Federal designations such as national monuments have made it more difficult for ranchers to operate in many regions, and increasing recreational demands for federal grazing allotments have posed additional challenges for grazing permittees (Reese, 2005).

As these concerns suggest, raiding still prevails over trading on the western rangeland. However, the case studies cited above suggest that the trading approach is a viable—and often preferred—strategy to address rangeland conflicts. Several groups, such as the American Prairie Reserve, view trading as a superior approach to accomplishing their preferred environmental outcomes. Moreover, these examples help identify several grazing policy reforms that, if addressed by policymakers, could encourage less raiding and more trading in the federal grazing system.

## Conclusion

At least in theory, ranchers could stand to benefit from allowing trades with environmental groups to occur. A study of federal grazing permits by economists Myles Watts and Lorraine Egan in 1998 found that as the value of the federal rangeland has increased along with new and evolving demands for environmental uses, grazing permit values have declined (Watts and Egan, 1998). This result, however, is seemingly backwards. Increased rangeland value should cause grazing permit values to increase, yet that is not the result observed in the West today.<sup>10</sup>

“If the rights to grazing permits were secure and transferable,” Watts and Egan explain, “then grazing permits values would not decrease in value as non-commercial uses become more desired” (Watts and Egan, 1998: 171). In fact, the opposite would happen. Permits would become more valuable as competing groups bargained for gains from trade. However, since grazing rights cannot

---

10. For a more complete discussion of grazing permit value and the academic research in this area, see Rimbey, Torell, and Tanaka (2007).

be traded in market institutions based on property rights, they are liable to be raided through political institutions, casting uncertainty on their value today.

In order for trading to prevail over raiding on the US federal rangeland and elsewhere, groups must be prevented from simply raiding to achieve what they want at minimal cost. That is, the relative cost of trading needs to decrease and the relative cost of raiding increase to encourage more trading and less raiding. In today's federal grazing system, environmental litigators benefit from the raiding approach. In many cases, the US federal government encourages litigation through the Equal Access to Justice Act, which often pays the legal fees of environmental groups in successful suits brought against the federal government.<sup>11</sup> Any attempt to promote trading must also reduce the regulatory power for environmental groups to regulate, litigate, or otherwise raid.

At the same time, more policy reforms are needed to lower the transaction costs among competing groups for federal rangeland resources. Reforms are needed to accommodate a host of different values, including non-grazing environmental values, and permits should be recognized as secure and transferable property rights. Moreover, grazing permits should be allowed to migrate to their highest-valued use, whether that is cattle grazing or tortoise habitat. This suggests that US federal rangeland policy should be reformed to eliminate the base property requirements, the use-it-or-lose-it requirement, and the requirement that grazing permit holders must be in the business of grazing livestock.

It is clear that today's federal grazing institutions promote far too much raiding and not enough trading. As the Bundy standoff demonstrated, conflicts over land use have the potential to erupt into full-scale range wars. The raid-or-trade model provides a clear lesson for policymakers in the United States and elsewhere: If property rights are well-defined, enforced, and transferable, then disputes among competing users are more likely to get resolved peacefully, cooperatively, and in a mutually beneficial manner. Finding ways to strengthen property rights, even in the context of existing federal rangeland policy, would go a long way towards encouraging more trading and less raiding on public rangelands.

## References

Anderson, Terry L., and Fred S. McChesney (1994). Raid or Trade? An Economic Model of Indian-White Relations. *Journal of Law and Economics* 37, 1: 39–74.

Baird, Joe (2006, January 31). Activists Win Fight on Rights to Grazing. *Salt Lake Tribune*.

---

11. 28 U. S. C. §2412(d)(1)(A).



Baldwin, Pamela (2003, November 20). *Federal Grazing Regulations: Public Lands Council v. Babbitt*. CRS Report for Congress. RS20453.

Brooke, James (1998, September 20). In New Wild West, It's Cowboys vs. Radical Environmentalists. *New York Times*.

Carey, John (2011, January 19). Reducing Conflict on Public Lands. *National Wildlife*. <<http://www.nwf.org/news-and-magazines/national-wildlife/animals/archives/2011/reducing-conflict-on-public-lands.aspx>>

Dunlap, Susan (2014, August 8). Wild Earth Guardians Buying Grazing Permits From Ranchers in the Gila National Forest. *Silver City Sun-News*. <[http://www.scsun-news.com/silver\\_city-news/ci\\_26288990](http://www.scsun-news.com/silver_city-news/ci_26288990)>

Epperson, Mark (2001). Public Lands Council v. Babbitt: Another Nail in the Coffin for Ranchers' Claims to Semi-Ownership of Federal Lands? *Public Land & Resources Law Review* 22: 147–60.

Falen, Frank J., and Karen Budd-Falen (1993–94). The Right to Graze Livestock on the Federal Lands: The Historical Development of Western Grazing Rights. *Idaho Law Review* 30: 505–24.

Fitzsimmons, Allan (2012). *Reforming Federal Land Management: Cutting the Gordian Knot*. Rowman & Littlefield Publishers.

Foreman, Dave (1995, Fall). *Around the Campfire*. Wild Earth.

Fretwell, Holly (2015). *Trust in Reform: Trust Alternatives for Allocating Resources on the Range*. Fraser Institute.

Fretwell, Holly, and Shawn Regan (2015). *Divided Lands: State vs. Federal Management in the West*. PERC Public Lands Report.

Gardner, B. Delworth (1963). A Proposal to Reduce Misallocation of Livestock Grazing Permits. *Journal of Farm Economics* 45, 109: 115–17.

Glaser, Christine, Chuck Romaniello, and Karyn Moskowitz (2015). *Costs and Consequences: The Real Price of Livestock Grazing on America's Public Lands*. Center for Biological Diversity. <[http://www.biologicaldiversity.org/programs/public\\_land/grazing/pdfs/CostsAndConsequences\\_01-2015.pdf](http://www.biologicaldiversity.org/programs/public_land/grazing/pdfs/CostsAndConsequences_01-2015.pdf)>

Gorte, Ross W., Carol Hardy Vincent, Laura A. Hanson, and Marc R. Rosenblum (2012, February 8). *Federal Land Ownership: Overview and Data*. Congressional Research Service. R42346.

Layzer, Judith A. (2006). *The Environmental Case: Translating Values into Policy*. CQ Press. Second edition.

Libecap, Gary D. (1981). *Locking Up the Range: Federal Land Controls and Grazing*. Pacific Institute for Public Policy Research.

Nelson, Robert H. (1997). How to Reform Grazing Policy: Creating Forage Rights on Federal Rangelands. *Fordham Environmental Law Journal* VIII: 645–90.

Puckett, Karl (2015a, March 26). BLM Seeks Input on Change to Bison Grazing at Allotment. *Great Falls Tribune*.

<<http://www.greatfallstribune.com/story/news/local/2015/03/26/blm-seeks-input-change-bison-grazing-allotment/70516068/>>

Puckett, Karl (2015b, June 18). Prairie Reserve Still Attracting Fans, Foes. *Great Falls Tribune*. <<http://www.greatfallstribune.com/longform/news/local/2015/06/18/prairie-reserve-still-attracting-fans-foes/28944461/>>

Reese, April (2005, April 4). The Big Buyout. *High Country News*. <<https://www.hcn.org/issues/295/15398>>

Reese, April (2014, February 24). Can a Grazing Buyout Program Ease Life for Wolves and Ranchers? *High Country News*. <<https://www.hcn.org/issues/46.3/can-a-grazing-buyout-program-ease-life-for-wolves-and-ranchers>>

Regan, Shawn (2014, April 23). A Peaceable Solution to the Range War over Grazing Rights. *Wall Street Journal*.

Rimbey, Neil R., L. Allen Torell, and John A. Tanaka (2007). Why Grazing Permits Have Economic Value. *Journal of Agricultural and Resource Economics* 32, 1: 20–40.

Sagoff, Mark (2004). *Price, Principle, and the Environment*. Cambridge University Press.

Scarborough, Brandon (2010). *Environmental Water Markets: Restoring Streams Through Trade*. PERC Policy Series No. 46.

Siegler, Kirk (2014, June 17). *Tensions Still High in 'Nevada Land' Over Cattle Dispute*. NPR. <<http://www.npr.org/2014/06/17/321705941/tensions-still-high-in-nevada-land-over-cattle-dispute>>

Turner, Christi (2014, April 11). *Rancher vs BLM: A 20-year Standoff Ends With Tense Roundup*. *High Country News*. <<https://www.hcn.org/blogs/goat/in-nevada-delicate-20-year-standoff-with-blm-ends-in-a-tense-roundup>>

US Bureau of Land Management [BLM] (1994). *Rangeland Reform '94: Final Environmental Impact Statement*. Government of the United States.

US Bureau of Land Management [BLM] (2011). *The Taylor Grazing Act*. Government of the United States. <[http://www.blm.gov/wy/st/en/field\\_offices/Casper/range/taylor.1.html](http://www.blm.gov/wy/st/en/field_offices/Casper/range/taylor.1.html)>

US Bureau of Land Management [BLM] (2012). *Rangeland Inventory, Monitoring, and Evaluation Report. Fiscal Year 2012*. Government of the United States.

US Bureau of Land Management [BLM] (2014). *Environmental Assessment: Gold Butte, Mormon Mesa, and Bunkerville Flats Temporary Land Closure, Placement of Temporary Corrals, and Impoundment of Trespass Cattle*. Government of the United States. <[http://www.blm.gov/pgdata/etc/medialib/blm/nv/field\\_offices/las\\_vegas\\_field\\_office/cattle\\_trespass.Par.49759.File.dat/Gold%20Butte%20Cattle%20Trespass%20EA%20DOI-BLM-NVS010-2014-0020-EA%20\(2\).pdf](http://www.blm.gov/pgdata/etc/medialib/blm/nv/field_offices/las_vegas_field_office/cattle_trespass.Par.49759.File.dat/Gold%20Butte%20Cattle%20Trespass%20EA%20DOI-BLM-NVS010-2014-0020-EA%20(2).pdf)>

US Bureau of Land Management [BLM] (2015). *Fact Sheet on the BLM's Management of Livestock Grazing*. Government of the United States. <<http://www.blm.gov/wo/st/en/prog/grazing.html>>

US Department of Agriculture (1936). *The Western Range*. 74th Congress. Senate Document No. 199. Government of the United States.

US Department of Agriculture (2015). *Grazing Statistical Summary FY2014. Forest Service Range Management*. Government of the United States. <<http://www.fs.fed.us/rangelands/ftp/docs/GrazingStatisticalSummaryFY2014.pdf>>

US Department of the Interior (1994). *Final Decision Order to Remove and Demand for Payment Bunkerville Allotment*. Government of the United States. <[https://www.hcn.org/articles/1994.2.17\\_FinalDecisionOrdertoRemoveandDemandforPaymentBunkervilleAllotment.pdf](https://www.hcn.org/articles/1994.2.17_FinalDecisionOrdertoRemoveandDemandforPaymentBunkervilleAllotment.pdf)>

Vincent, Carol Hardy (2012, June 19). *Grazing Fees: Overview and Issues*. Congressional Research Service. RS21232.

Watts, Myles, and Lorraine Egan (1998). Some Costs of Incomplete Property Rights with Regard to Federal Grazing Permits. *Land Economics* 74, 2: 171–85.

Wiles, Tay (2014, November 12). A New Map Shows Rangeland Health West-wide. *High Country News*. <<https://www.hcn.org/articles/BLM-rangeland-health-grazing-cattle-environment>>

TRUST IN REFORM:

# Trust Alternatives for Range Resource Allocation

~ Holly Frewell

## 4. Trust in Reform: Trust Alternatives for Range Resource Allocation

Holly Fretwell

There are multiple organizational forms that shape range management. While private ownership encourages cooperative trades to allocate resource use, public rights may restrict such transfer. The different land ownership tenures and different agency structures produce different economic and ecological outcomes. In the United States, state trust land agencies were created to perpetually maximize revenues for trust beneficiaries. The perpetual nature of the trust is meant to provide a continuous flow of revenues, which encourages stewardship for future productivity. While resource use that is allocated through market competition moves resources to high-valued use, this is not the allocation method practiced on most state trust rangelands. Though state trust grazing restrictions are more flexible than those of their federal counterparts, lease terms constrain transfer and may discourage investment in stewardship and future productivity. Through a comparison of state, private, and federal lands in the US, this essay helps explain why trust land agencies are not more market-oriented stewards of the land and resources. Understanding the complexities of the various rules for public land agencies provides ideas for reforming public grazing policy.

### **The consequences of different management arrangements**

In the late 1970s, Gregg Simonds was hired as ranch manager to turn around the private Deseret Ranch in Utah. At the time the ranch's riparian and range lands were in poor condition and the ranch was losing money. Simonds transformed the ranch from a money loser to a money maker. He did so by changing the way livestock grazed the land, moving them according to landscape and climatic variations. Under time-controlled cell management—also called holistic grazing—livestock are densely grouped to graze a small parcel for a short period. Simonds paid close attention to the correlation between grazing and forage growth, he tracked production changes, and he measured the financials

of each of the ranch's enterprises, including cattle, haying, sheep, and wildlife. According to Simonds, the land and its productive ability are the foundation for all ranching enterprises.

The Deseret Ranch is adjacent to the 3 Creeks grazing allotments that consist of US Forest Service (USFS), Bureau of Land Management (BLM), and state trust lands. Measurements from the adjacent landscapes show the private rangeland has half as much bare land, earns four times more per acre, sustains twice as much livestock, can be grazed twice as long, and has two times the number of sage grouse per acre of habitat, a species at current risk of collapse.

The lessee of the 3 Creeks allotments understands the divergence in forage quality between where his cattle graze and the Deseret. He too would like to generate greater revenues, produce better forage, and enhance wildlife habitat. He has requested to do time controlled grazing comparable to what is done on the Deseret. To do so requires changing the lease terms on the federal and state grazing allotments. While the state trust agency<sup>1</sup> is ready to make the lease adjustments, the bulk of the allotment is federal and federal lease terms are difficult to change. Federal grazing leases are relatively consistent across the western states. They have a ten-year lease period that stipulates the maximum number of livestock that can graze at specified times. The federal agency personnel have proposed the requested lease change and have been working through the necessary federal channels to allow flexible timing for livestock grazing on the allotments since the fall of 2011.

Changing the federal lease arrangements requires environmental analysis under the National Environmental Policy Act (NEPA).<sup>2</sup> Environmental analysis is costly and time consuming. A big part of the hold up, according to Troy Forrest, grazing manager with the state agency, is the continual turnover of federal agency staff.<sup>3</sup> During the four-year process, they have worked with three different BLM district managers and four acting district rangers at the USFS. Each staffing turnover requires additional time to demonstrate again the benefits and potential environmental impacts of the proposed policy change.

### **The importance of incentives and the flexibility to manage**

The management differences between the public allotments and the Deseret Ranch result from the incentives, the feedback mechanisms, and the manager's ability to respond to dynamic nature. While the management on the Deseret is not typical of all private range, it demonstrates the possible outcomes given proper knowledge and incentives. The story of the Deseret should capture every range manager's attention, yet it garners the attention of few.

---

1. Utah's School and Institutional Trust Lands Administration.

2. 42 U.S.C. §§4321-4370h.

3. Personal communication with Troy Forrest, May 18, 2015.

Across most of the public range in the western United States, outcomes are comparable to the 3 Creeks allotments. They are a direct result of the incentives provided to the managers. The federal lands are stuck in a holding pattern fraught by multiple laws that make change costly. They have little flexibility to respond to changing conditions and demands on the resources. Alternatively, management of the state trust lands provides more flexibility. The underlying goal of the trust agencies is to maximize revenues for the trust beneficiaries, encouraging managers to respond to market signals. Yet state personnel are caught in a quagmire between traditional grazing uses of the range, competing resource demands, and agency protocols. It is generally expected that private rangelands, given secure property rights, full flexibility, and profit motive, would more often look like the Deseret. Though comparable ecological differences by tenure are scant, the evidence does not present a clear differentiation by ownership type. Private land managers that rely on federal grazing leases have reduced management flexibility to move cattle between private and public parcels. Furthermore, returns on investment to enhance range stewardship are not well understood.

This essay examines the incentives and outcomes from state land trust management and compares its efficacy to private and federally managed multiple use lands in the United States. The varying management arrangements and associated outcomes provide insight for designing better policies to enhance range management for livestock and conservation purposes.

The first section of the paper will provide a brief overview of the federal and state agency structures that manage the US public range. The model of trust management as applied to state trust lands will then be presented and compared to the management structure of US federal multiple use land agencies. Theory predicts that the different goals will provide different outcomes both financially and environmentally. While the financial outcomes diverge, trust use of market competition is not as great as predicted. In addition, the ecological differences between ownership types are not as stark as expected. The middle sections of the essay explain the state trust outcomes through example, highlighting the causes of divergence from expectation. Comparing the results on the public range to those on the adjacent Deseret Ranch demonstrates the value of feedback mechanisms, which are built into tracking profit and land productivity. While state trust agencies do pay attention to profit and long-term productivity, it is far more difficult to interpret ecological feedback mechanisms. The paper's final section will summarize the lessons learned from grazing policy on the various state trust lands and will present ideas for reforming public grazing policy.



## US public rangelands

Rangeland and federal ownership are expansive across the western United States. The federal government owns about half of the contiguous western United States and the states own an additional six percent. Over half of the public lands are managed for multiple uses by the Bureau of Land Management (BLM) and the US Forest Service (USFS). These federal lands make up a large part of the western range. Though state agencies own considerably less acreage (table 1), livestock grazing makes up about 80 percent of the states’ surface land use (Souder and Fairfax, 1996: 101; GAO, 2005: 93).

The goal of the multiple use federal lands is to “sustain the health, diversity, and productivity” of the lands (USFS, 2015; BLM, 2015b). Yet the financial returns on resource use from the federal estate are dismal and the stewardship record is not much better. In comparison, state trust lands do a far better job earning a positive financial return with a reasonable stewardship record.

Revenues from both the federal and state agencies are earned from grazing leases, timber harvest, recreation fees, and royalties from mining, oil, and gas. Some state agencies also sell land or develop it for commercial use. Though they manage for similar activities, the contrasting missions bring about very different results.

A recent report by Fretwell and Regan shows the fiscal divergence. The federal multiple use lands in the United States lose nearly \$2 billion dollars annually. That turns out to be an average loss of \$0.27 for every dollar spent to manage the BLM and USFS lands. In comparison, the average revenue generated by the state trust lands in Arizona, Idaho, Montana, and New Mexico was \$14.51 for every dollar spent (Fretwell and Regan, 2015: 9).<sup>4</sup>

**Table 1: US land ownership, 2012**

	Acreage	% of nation	% of public lands	% of 11 western states
<i>All owners</i>	2,271,343,360			
Federal government	628,801,636	27.7	76.1	50.1
BLM	247,859,076	10.9	30.0	23.6
USFS	192,880,840	8.5	23.3	20.8
States	197,524,100	8.7	23.9	6.1
State Trust Lands	40,396,924	1.8	4.8	5.2
Total public	826,325,736	36.4		56.1

Sources: Gorte et al., 2012; NWI (no date.); statetrustlands.org.

4. All data in the report are annual averages adjusted to 2013 US dollars.

The financial differences are no surprise. The state trust management mandate is to maximize long-term revenues. In contrast, the allocation of federal resource use is specifically not to be determined by the highest market value. According to the Multiple Use and Sustained Yield Act of 1960, consideration should be “given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.”<sup>5</sup>

Resource allocation decisions on federal lands are typically made in the political arena with a goal to engage the public in decisions and to provide public benefits. Public opposition to agency actions often moves decisions into the courts making judicial outcomes an influential factor. Public benefits include commodity uses, such as timber and grazing, but also conservation, including the provision of ecosystem services, habitat protection, and forest management to increase fire resiliency. In fact, over 40 percent of USFS expenditures are for wildfire management. State trust land resource use is more focused on commercial outputs that generate revenue. The allocation of state trust resources relies more on market price with consideration of local resource conditions. Regardless, both the federal and state agencies must respond to legislative intent, judicial outcomes, and public input.

### Lands in trust

The state trust lands were granted to each western state upon joining the union. Land was granted to help finance public institutions, hence the goal to maximize revenues. Each western state was granted from one to four sections of each township creating a dispersed checkerboard pattern of state land ownership.<sup>6</sup> States could choose additional acreage to substitute for sections that had already been deeded to others.

The purpose of the trust lands is to generate revenues for the trust beneficiaries.<sup>7</sup> The state land trust agency is the trustee that is responsible for ensuring the rules of the trust are met.

State public schools are the primary beneficiaries, but others include state hospitals, universities, and other state institutions. The beneficiaries, who are also the overseers of the trust, include those interested in the public institutions, such as teachers, administrators and students, and state residents. In most cases, the beneficiaries have legal standing to enforce the trust mission.<sup>8</sup>

---

5. MUSYA § 4(a), 16 U.S.C. § 531

6. A township is a six by six miles square. Each township is made up of 36 one by one mile sections, each containing 640 acres.

7. In *Lassen v. Arizona*, 385 U.S. 466-470 (1967), the court recognized the requirement for the state trust lands to be managed to generate full market value from the resources.

8. Some state trusts are considered charitable trusts while others are private trusts, which impacts who has standing depending upon the type of suit filed.

The legal standing provides oversight to ensure agency actions are aligned with the perpetual revenue mandate. As public lands, the state trust lands are often misunderstood and expected to provide general public benefits over maximizing return for the beneficiaries. The trust agreements, however, are clear and have been reaffirmed and clarified by court decisions over time.<sup>9</sup>

The state trust goal to generate revenues is both clear and easily measured. The goal of US federal land managers is not. The federal multiple use lands are legislated to protect the lands and best meet the needs of the people. Measuring land health is tedious because it depends on the desired health outcomes. Meeting the needs of citizens is even more opaque as desires are as disparate as the lands and resources themselves. Federal land legislation does not provide a clear method for managers to prioritize the allocation of competing resource uses. Alternatively, the revenue maximization goal for state managers does provide measurable outcomes for achievement and accountability. The great deviation in financial outcomes then, between the state and federal agencies, is as expected. While the state trust lands generate net revenues and steward the lands at least as well, the federal lands lose billions annually.

### Economic return to the range

Different land use outcomes are driven by different incentives as defined by the laws and cultural norms. According to the BLM, revenues from federal grazing leases are not intended to cover costs but instead are to ensure “long-term health and productivity” that creates “multiple environmental benefits.” Measuring general environmental benefits is tedious and subjective, as discussed in a following section. In contrast, the states are required to generate revenues for each management activity, and they do.

Between 2009 and 2013, the USFS lost an average \$0.90 for every dollar spent on grazing management and the BLM lost \$0.86 for every dollar spent. In the four-state study by Fretwell and Regan (2015), the average annual revenue generated from grazing in Arizona, Idaho, Montana, and New Mexico was \$4.89 per dollar spent.<sup>10</sup> The results are not surprising.

Federal grazing fees are consistent throughout the entire West and have been less than \$2 per animal unit month (AUM) since 1982.<sup>11</sup> In most cases, state grazing fees are considerably higher than the federal fee, but because few grazing leases receive competitive bids, most lessees pay the state-determined

9. The Arizona-New Mexico enabling Act, 36 Stat. 557 (1910), is the strictest in the trust states and has been upheld through judicial determination across the state trust agencies.

10. The State trust land average from the Fretwell and Regan study includes Arizona, Idaho, Montana, and New Mexico. All figures are adjusted to 2013 dollars. The expense data for Montana and Arizona includes agriculture as well as grazing.

11. Grazing fees are typically set per AUM, which is the equivalent of one cow and calf, one horse, or five sheep or goats for one month. It is the amount of forage a 1000 pound animal consumes in 30 days, or about 800 pounds of dry forage per month. The federal grazing fee is determined by a formula with a base value of \$1.23 per AUM and a minimum of \$1.35 with a 25 percent cap on increases.

flat rate (table 2).<sup>12</sup> The average per-AUM fee set by each state trust is nearly five times the federal rate but about half of the private grazing lease rate on non-irrigated land (USDA-NASS). The private market rate is dependent upon forage quality and productivity, water source availability, fencing, and other improvements on the range (IDL, 2015: 27). The values of federal, state, and private grazing are not equal. Lease rates can vary significantly depending upon who pays for improvements and other management costs. Studies indicate that between 30 and 40 percent of the private lease rates account for lessor-provided services (Resource Dimensions, 2012: 70).<sup>13</sup>

**Table 2: Grazing fees in ten western states**

State	Leased grazing acres	Fee methodology	2012 state trust rate	2011 private rate*
Arizona	8,300,000	1996 base fee adjusted annually by difference in two 5 year averages of state beef cattle price index.	\$2.30	\$9.00
California	13,000	Average annual rate based on assessment.	N/A	\$15.00
Colorado	2,400,000	Private lease rate discounted to 72% to consider lessee investment.	\$10.00**	\$15.30
Idaho	1,700,000	Formula using a base and livestock market factors.	\$5.25	\$14.06
Montana	4,070,000	Adjusted weighted average of MT price per pound beef cattle.	\$8.13	\$18.81
New Mexico	9,700,000	Formula using a base value considering the carrying capacity, acres and economic variable index.	N/A	\$13.00
Oregon	630,000	Formula considering state share of livestock production.	\$6.78	\$14.35
Utah	3,200,000	Formula adjusting the private grazing fee rate.	\$7.17	\$12.80
		Tiered for scattered parcels.	\$4.12	
Washington	803,800	Permits: Formula considering livestock market factors.	\$6.57	\$11.63
		Lease: 5 year rolling average of private fees adjusted for operating costs.	\$9.24	
Wyoming	3,464,406	5 year average of private lease rates multiplied by parity ratio for beef cattle, reduced by 20%.	\$4.64	\$17.06

Notes: \*The private rates are the average non-irrigated land grazing fees by the state. The actual private lease rates vary greatly. \*\* State average.

Sources: IDL, 2015; USDA-NASS (no date).

<sup>12</sup> Utah and Washington use a two-tiered rate structure.

<sup>13</sup> Based on studies in New Mexico and Idaho.

The states also tend to have better cost efficiencies than the federal land management agencies. The USFS and BLM spend an average \$9 per AUM provided on the federal lands, while Montana spends less than \$2 and Idaho less than \$5 per AUM (Fretwell and Regan, 2015: 18).<sup>14</sup> Here too, the incentives drive the outcome. The federal agencies are appropriated budgets by Congress with no revenue requirement. The states have a strict bottom line to generate revenues greater than costs.<sup>15</sup>

### **Resolving competing demands: conflict or cooperation?**

Historically, grazing was considered the highest, perhaps the only, valued use of much of the western range (IDL, 2015: 32). Today, there are multiple competing demands for resource use. The markets for oil, gas, minerals, and alternative energy development are promising. The demand for conservation, ecosystem services, and outdoor recreation continues to expand. Yet the incorporation of alternative resource use on historic grazing lands is slow.

While the number of AUMs authorized on the federal range has declined, the process for allocation has changed little (BLM, 2015a). Most federal permits remain tied to adjacent private land and there is little room for negotiation among competing resource uses.

Alternatively, the trust mandate implies market allocation of resources where price signals the highest valued use and greatest financial return. Some state trust agencies are taking advantage of the changing resource values using the market to meet their revenue-maximizing goal, but that is not the norm on state rangelands. Several legal cases demonstrate that the courts are supportive of market allocation through competitive bids, but there remain multiple barriers to entry.

### **Competitive lease bids**

In the 1990s, several conservation groups outbid existing lessees for grazing rights with the intention of restoring the landscape and managing for conservation purposes. The state trust mandate to generate revenues should encourage the shift to higher valued resource uses. Other considerations, however, confuse the issue. The following cases help demonstrate the hurdles that have impeded the market process for trust land management.

The Idaho Watersheds Project (now the Western Watersheds Project) was the first environmental group to successfully bid on and win a grazing lease on state trust lands. The group, headed by Jon Marvel, applied to compete for a grazing lease in 1994. Marvel bid a \$30 lump-sum bonus payment to win

---

14. Neither Arizona nor New Mexico report AUMs. All figures are 2009–2013 averages adjusted to 2013 dollars.

15. It is also true that trust lands surrounded by a single private owner or federal lands have low management costs because the bulk of the administrative expenditures are paid by the surrounding land manager, as discussed below.

the lease. The existing leaseholder refused to compete and instead appealed. The appealing rancher eventually regained the lease rights when the state land board overturned the auction citing eligibility requirements (Fairfax and Issod, 2003: 363). Livestock grazing was required for a rangeland lease.

This dominant use requirement parallels federal rules and reduces the ability of the trust to maximize revenues. That is exactly what the courts found five years later. In the meantime, the Idaho legislature passed what became known as the “anti-Marvel” bill to discourage non-grazing competition.<sup>16</sup> The bill reinforced the practice of favoring the livestock industry over others for trust rangeland leases (Fairfax and Issod, 2003: 365). Rather than aligning trust management with the market that was signaling higher valued uses, the bill made Marvel, and others interested in non-livestock land use, ineligible to bid on trust land grazing leases.

Continual bids and denials led to a court suit and an eventual judicial decision. The anti-Marvel bill was found unconstitutional by the Idaho Supreme Court because it prohibited potential bidders that could enhance the trust revenues (Fairfax and Issod, 2003: 367). The outcome opened grazing leases to competing uses. Marvel’s group, now the Western Watersheds Project, won their first lease in January 2000, and now holds more than 4,000 acres of state trust land leases that are being managed for wildlife habitat and conservation.

Similar fights have been fought by the Forest Guardians (now WildEarth Guardians) in Arizona and New Mexico. After being denied the right to bid on a grazing lease in 1997 for non-grazing use, the group appealed and pursued a court battle that they eventually won in 2003. The Forest Guardians’ bid was nearly double the amount of the prior lessee’s bid. The Forest Guardians’ lease marked the first time an Arizona rancher was outbid by a group planning to remove the cattle and restore the land.<sup>17</sup>

The legal outcomes have reinforced the trust requirement to maximize revenues from multiple resource uses and to consider both the economic and natural outcomes. The courts have determined that the state land trustees must consider the return to the beneficiaries over others.<sup>18</sup> The outcomes of these cases have helped clarify that the trust must receive at least fair market value and accept the highest bid that will provide long-term benefits. The land agencies do, however, retain the right to balance the high bid and beneficiary interest.<sup>19</sup>

---

16. IDAHO CODE § 58-310B(2)(a).

17. *Forest Guardians v. Wells*, 34 P.3d 364 (2001): The Arizona Supreme Court held that the state must consider all bids on state trust land leases even if the applicants have no intention of using the land in accordance with the its identified use.

18. *Forest Guardians*, 34 P.3d 371-72 (Ariz. 2001). See also the *Havasü Heights Ranch & Dev. Corp. v. Desert Valley Wood Prod., Inc.*, 807 P.2d 1119 (Ariz. 1990) case, which determined the state has discretion when considering best use and can accept a lower bid given that it is in the best interest of public benefits.

19. *WildEarth Guardians v. Baier/Knight*.

In 2013, the WildEarth Guardians lost a case competing for an allocation in Arizona even though they bid substantially more than the competitor. The Guardians submitted an application to compete for the lease in 2006. The Knight family had held the lease in question for 28 years. The State Land Board evaluated the competing lease proposals and the land in question, and awarded a lease renewal to the Knight family, stating that the evidence demonstrated they had “superior equities.” Though the enabling act of Arizona requires the lease or sale of trust lands to be awarded to the “highest and best bidder at a public auction,” the land department has the opportunity to weigh in on what is best for the land and the trust beneficiaries. In this case the department determined the original lessee, with a strong record of stewardship, had better ability to monitor and protect the long-term value of the land. The lease continued at the state-set minimum rate.

The potential agency costs of monitoring a new lessee for different outcomes are not insignificant. When cattle are removed from the land, active management is still required to maintain infrastructure and weed control. There can also be long-term effects on the ranch community from removing vital parcels from grazing. Removing a parcel that provides water, for example, can hamper the viability of the whole ranch. There is legitimate concern about stewardship of the parcel itself and also the surrounding landscape, public or private.

State grazing leases are largely uncontested. Competing bids for range use on Idaho’s trust lands have made up less than five percent of all lease renewals in the last five years, though they are becoming more prevalent (IDL, 2015: 11).<sup>20</sup> Competing bids that do occur are still typically between ranchers. Only a few conservation groups have played a hand. Competing bids in Idaho may be more contentious because the highest bidder wins the lease right, while other states provide preferential lease rights giving the current lessee the right to match the high bid and retain the lease (IDL, 2015). Allowing the competitive bidding process and enforcing payment for the high bid moves the lease rate toward the market value and forces lessees to realize the value of alternative uses.

### **Barriers to competition**

The bottom line is that multiple barriers prevent market competition for state trust resource use. The WildEarth Guardians and Western Watershed Project helped open the door for competing uses and they continue to bid on leases they believe critical for restoration. Few other groups have followed suit. According to John Horning of WildEarth Guardians, the cost to compete is cheap. Grazing lease costs typically range between \$0.05 and \$10 per acre per year, which is a small price to pay to gain management access.<sup>21</sup> Contesting a

---

<sup>20</sup> Personal communication with Diane French, Idaho Department of Lands Program Manager, April 20, 2015.

<sup>21</sup> Personal communication with John Horning, WildEarth Guardians Executive Director, April 20, 2015.

bid, however, especially for non-grazing purposes, is still rare. This is surprising given the rising values for range resources, but can be explained through an evaluation of potential barriers that include the trust lease terms, the political economy, and the nature of non-market values.

Many states require special lease options for non-grazing use. Lease reclassification can increase the costs for both the lessee and the agency. Furthermore, when leases change hands there is a cost to the agency to ensure the new lessee has the ability to pay and a proven capacity to manage the landscape. Livestock managers that have held leases for decades have demonstrated their ability to do both, keeping costs low for trust land managers. It is costly to regularly monitor the widely dispersed parcels. Most state land agencies have few employees that they can send into the field to monitor the dispersed parcels. This creates a natural agency bias to renew with proven lessees as exemplified by the Knight case.

Trust lease rules and their clarity vary by state. Informal rules leave room for increased political pressure and allow agency personnel to give advantage to one party over another. The current political outlook on state trust lands favors the rancher. Personal communication with various state agency personnel reiterated that there remains a strong culture to “keep grazing as grazing.” The anti-Marvel law that focused on the benefit of the livestock producers over the trust beneficiaries was a demonstration of this.<sup>22</sup> As shown by the cases fought by WildEarth Guardians and Western Watershed Project, the courts generally rule out such discrimination on state trust lands, but in some states the administrative procedures continue to draw out disputes that end up in the courts.

Balancing long-term stewardship and revenue maximization can be tricky. Long lease terms and lease security provide longevity for ranch management and encourage investment in stewardship and productivity. At the same time, long lease terms reduce market transferability and potential for increased lease payments. State trust grazing leases are typically set for 10 or 20 years and are rarely terminated early, preventing competition for the term of the lease. Most states have sublet rights enabling the lessee to move the resource to a higher valued user without losing future lease options, but these are typically restricted to livestock grazing. So while longer lease terms may enhance future productivity and stewardship through increased investment, they also reduce competition.

The most unyielding matter that restricts competition and reduces flexibility on state rangelands is the scattered parcel surrounded by federal land. These leases are managed in accordance with the federal lease guidelines and there is little lease competition. The 3 Creeks allotment demonstrates the troubling nature. The restrictive federal lease guidelines prevent the private rancher from altering management to enhance stewardship. The state earns the set grazing fee but has low administrative costs that are supported mostly by the federal agency.

---

22. See Fairfax and Issod (2003) for thorough analysis of the administrative, legislative, and judicial barriers.



Similarly, many state parcels are surrounded by a large private ranch. In such cases, the lease is generally managed in alignment with the overall ranch plan. There is no competition for these leases because they are inaccessible to all but the private landowner. The state has flexibility in this situation to work with the lessee to alter lease terms.

Land improvements can also raise the cost of entry. The lessee often pays for land improvements or shares the cost with the managing agency. Some states require the lessee to remove the improvements when their lease expires, potentially increasing the cost of investment. Other states require the new entrant to compensate the former lessee for the improvements. This raises the cost for new lessees and requires them to purchase improvements for which they may have no use.

If the costs to compete are low, a lack of interest in the market may be an indication that resources are already being put to their highest valued use. Alternatively, because there is not a strong market for conservation and ecosystem service provision, competitive bids for these interests may be understated. This is likely exacerbated by the all-or-nothing nature of current leases. This is being addressed, at least in part, by the structure of some conservation leases.

## Conservation leases

Transforming grazing leases to incorporate alternative use has proven costly and tedious, but states are realizing the increasing demand for conservation and ecosystem services. Most states now provide for non-traditional lease uses in some capacity. Some of these have come from competing bids, others through negotiation among various agencies. Colorado took a unique approach brought on by citizen initiative.

### Colorado initiative

In 1996, the citizens of Colorado passed an initiative requiring trust lands to be managed for their long-term preservation considering the economic and natural outcomes.<sup>23</sup> The amendment created the Stewardship Trust, wherein the agency classifies up to 300,000 acres of its 2.8 million acres of surface state trust land to be managed under a resource specific stewardship plan. The lands in the Stewardship Trust are nominated for inclusion and they must be managed to enhance and protect rare plants and plant communities, wildlife habitat, beauty, open space, or areas of cultural significance. In addition to its protection, the lands are still required to generate revenues.

A stewardship plan considering best management practices per the specified criteria is created for Stewardship Trust lands. The plan need not limit alternate uses. About 95 percent of the lands in the Stewardship Trust are also leased for grazing, timber harvest, or oil and gas development. The Stewardship

---

23. Colorado Amendment 16, now section 10, Article IX, of the Colorado Constitution.

Trust lands generate revenues comparable to the other trust lands. The lands in the Stewardship Trust are monitored every three years and can be swapped for different trust acres.<sup>24</sup>

In addition to the Stewardship Trust, the Colorado Division of Parks and Wildlife leases over 500,000 acres of the state trust lands for recreation access. These are called “stacked” leases because the recreational access lease is stacked with other traditional leases, such as grazing. Hunting is the most popular recreation activity on the lands, but they also provide for wildlife viewing and hiking. The average recreation lease fee is \$2.60 per acre. There are a dozen or so additional private hunting parcels leased across the state for exclusive hunting use.

To further enhance the revenue potential on the state trust lands, the Colorado State Land Board is testing management for ecosystem services. One 16-acre lease protecting prairie dog habitat is bringing annual revenues of \$2,200 to the trust. Other conservation leases include several held by The Nature Conservancy (TNC), which is managing the land and subletting to ranchers for holistic grazing management. Intensively managing cattle on the land with careful consideration of timing regarding plant growth and climate can enhance overall forage productivity and wildlife habitat.

Colorado’s initiative moved the agency from the traditional approach of rangeland grazing to providing for alternative resource uses. While the state still has traditional grazing leases, the agency has been able to meet its revenue and stewardship mandate using market forces for some leases by realizing the increasing demands for alternative resource uses and conservation. The incentives of Colorado trust land managers are aligned to meet both financial and conservation outcomes.

The Colorado initiative forced the state trust land department to reevaluate how it managed the lands. Other states have begun to recognize alternative use values and are similarly providing methods to increase conservation outcomes. Many state agencies now have a conservation or non-use lease classification, though they make up a small portion of trust lands. As demonstrated by Colorado’s stacked leases, conservation and commodity use need not be mutually exclusive.

### **A move toward alternative resource use**

State trusts are not typical conservation agencies, but they can lease rights for conservation uses to other agencies and private interests. In addition to the obvious few that have carried the dispute to the courts, a number of other conservation entities have acquired trust leases.

Today, state fish, wildlife, and park agencies hold multiple state trust leases to protect wildlife habitat and enhance public access. These leases may be

---

<sup>24</sup>. Personal communication with Mindy Gottsegen, Colorado State Land Board, April 14, 2015.

a portion of a larger lease that has been allocated through negotiations with lessees and the sister agencies. Less than one percent of Idaho's trust lands are leased for conservation, but about half of those are managed by Idaho Department of Fish and Game as sportsman access sites, to protect threatened and endangered species or to enhance wildlife habitat. Federal agencies are also beginning to consider options on state lands. The National Park Service, for example, manages and pays for a 23,000 acre lease that expands the boundaries of the Petrified Forest National Park in Arizona. Similarly, in Montana, grazing leases are bought up by federal and other state agencies to enhance habitat and hunting access.

The open door to acquire rights for conservation values on trust lands has been realized by at least a few private interests. The lease acquisitions by WildEarth Guardians and the Western Watersheds project have already been noted. On one lease, the WildEarth Guardians has invested in restoring a stretch of the Babocamari River that flows through the Sonoran Desert in southern Arizona. The Western Watersheds project also continues to steward multiple trust leases for watershed restoration and critical habitat protection. Neither of these groups allow livestock on the land they lease.

The Nature Conservancy (TNC) also manages multiple leases across the western states and protects the areas they deem critical. They typically sublet areas that can benefit from grazing and realize the financial return enabling them to protect more lands elsewhere. The Nature Conservancy recognizes a mutually beneficial relationship. TNC leases demonstrate the benefits that can be realized by the lessee and other interested parties when transferability is allowed.

The desire for increased conservation is clear but it does not always present itself in the market. Few people outside the agencies understand the trust mandate and instead see trust lands as public, hence areas that should be open for public benefit and access. That perspective misrepresents the purpose of the state trust and increases the political pressure to provide public conservation over revenues for beneficiaries. Some states embrace the opportunity to provide for conservation under the trust mandate and are able to generate revenues doing so. They typically charge higher fees for conservation leases or receive an AUM rate that is greater than the flat state rate due to competitive bidding.

To meet the revenue mandate and avoid increased contention, some trust agencies are looking to get out of the conservation business. Revenues from Idaho conservation leases, for example, are small, particularly when compared to commercial development. To meet their revenue maximization goal, the Idaho Department of Lands would like to exchange out of sensitive lands into lands with greater development and revenue potential.<sup>25</sup> Similarly, in 1996 Arizona enacted the Arizona Preserve Initiative (API) providing a method for

---

25. Personal communication with Diane French, April 20, 2015.

trust managers to reclassify urban land suitable for conservation. The reclassification allowed the state to sell the land to the city of Scottsdale to be added to the Scottsdale McDowell Sonoran Preserve (Myers and Heitel, 2014). It may be in the trust beneficiaries' interest to sell ecologically valued lands or exchange them for those that have more development potential.

It is precisely because the state land trustees have an obligation to maximize revenues that trust resources are expected to be traded in the open market. Opening the permit process brings competition, helps decision makers understand the alternative resource values, and has the potential to increase agency revenues. Revenue generation provides feedback that demonstrates the efficacy of trust management.

Markets provide solutions to the conflicting demands for resource use because they allow the interested parties to negotiate over use, which demonstrates the different values. Imagine a fully transferable grazing lease. A rancher, as lessee, would have the right to sublet a portion of the land for alternate uses or to sell the lease to another party for livestock grazing or other purposes. The rancher recognizes the value of the forage to the ranching operation. Alternative interests in the land and resources can bid for use, demonstrating their use value. Only if a greater payment is offered will the rancher transfer the use rights. It is in the best interest of the owner to increase value. Enhanced stewardship fosters forage growth and productivity in addition to providing for other ecosystem services.

Such leasing arrangements have been proposed before. B. Delworth Gardner explored the superior efficiencies of creating secure rights for public land grazing in the 1960s (Gardner, 1962, 1963). Gardner and others agree that the key is for grazing rights to be transferable and to have unrestricted eligibility.<sup>26</sup>

In the case of grazing allotments, this might consist of permanent rights issued to current permittees who could then sell them without restriction to the highest bidder (Gardner, 1963). It is probable that environmental and recreation groups would be interested in only a fraction of these rangeland rights (Nelson, 1995). It is also conceivable that an environmental or recreational group might purchase these forage rights and then sublease them to a livestock operator willing to abide by certain conditions. (Gardner, 1997)

Given secure rights there is self-interested motivation to be a good steward and enhance productivity. Though deeded ownership is the strongest driver to motivate the efficient outcome, even secure rights in leases with transferability would enhance economic outcomes (Gardner, 1997).

---

26. See also Hess and Holechek (1995), Nelson (2011), and O'Toole (1995), among others.

Note that Gardner and others are suggesting secure tenure with transferable leases that change hands from the existing lessee to a new lessee. If the rancher, as lessee, can transfer the lease rights and receive the additional lease payment, motivation for negotiation increases. Furthermore, the more secure the right and return on investment, the more likely the lessee will be to invest in stewardship and future productivity. Trust revenues would, however, suffer under this lease structure. On state trust lands, transferability is presently between lessee, such as the rancher, and lessor, the agency. While the agency wins through higher lease return and efficiency is enhanced by moving the resources to a higher valued use, the original lessee loses the lease right without remuneration. The income distribution is different between the two scenarios, which also changes the incentives.

It was clear to Gardner over 50 years ago that the allocation of public rangeland use was inefficient and precluded alternative resource uses. Half a century later, the method to allocate grazing leases in the American West has changed little. The lessons state trust lands provide for moving beyond traditional grazing uses and realizing the contemporary land use values are important, but the agencies lack the flexibility and incentives that secure tenure provides. Policy reform options that better secure rights and allow open transfer can at the very least enhance economic outcomes and move resources toward higher valued uses. If metrics for good stewardship are apparent, tradability will also enhance environmental quality, which is necessary to maximize long-term profit on the range.

### **Ecological return to the range**

Unfortunately, good ecological stewardship is difficult to define and measure. There is little analysis comparing rangeland ownership and range health. BLM analysis indicates that at least 21 percent of their grazing allotments are not making progress toward meeting their own land health standards (BLM, 2012). The standard operating procedure on federal rangelands in response to environmental discrepancies is to decrease livestock numbers or rest the range (Godfrey, 2003). Resting the range or excluding livestock may increase biodiversity on an overgrazed range, but eliminating the grazing disturbance, which is vital for much plant growth, may instead threaten biodiversity and range health (see Davies et al., 2014; Brown and McDonald, 1995: 1645). As demonstrated on the Deseret Ranch, timing of livestock grazing in relation to forage growth can produce good environmental and economic outcomes. The problem on the federal range, and even on many state trust parcels, is the lack of flexibility to respond to changing climatic and cultural conditions.

On the Deseret Ranch, Gregg Simonds helped create planning and assessment tools to measure landscape functionality. Decreasing bare ground was the fundamental metric. Reduced bare ground increases the rate of infiltration of precipitation. As the plant productivity and diversity increases, so does

animal productivity and diversity, which also decreases the costs to feed cows. Increased productivity means more and taller grasses year round. Forage that remains above the snowline allows cattle to graze during the winter versus being fed costly hay. Increasing production and diversity with less need for equipment, fossil fuels, and manpower increased profits on the ranch. It also increased the watershed's ability to capture and retain moisture. Simonds concludes: "The enhanced metrics enabled increased profitability and provided practical and viable landscape knowledge. The combination of germane metrics, flexibility and a profit motive drove the results. They are what separate our results from almost all other landscapes."<sup>27</sup>

The rising demand for conservation and ecosystem services on the range is motivating new methods to measure outcomes. New GIS remote sensing technology using satellite imagery measures bare ground and how well the land is taking in water. Water absorption is a key for forage productivity. Increased plant production provides good ground cover that allows better stream flow and recharge of aquifers. The new metrics can help demonstrate the return on investment to ranchers and create markets for ecosystem services in addition to the desired range outcomes. While most range scientists would agree there is unmeasured value in ecosystem services, not all agree that we are close to being able to measure that value (Torell et al., 2014: 9).

Where information is clear and the incentives are aligned to make a profit and protect the landscape, good conservation will take place. To motivate private investment in stewardship requires some amount of certainty of return. Investment in private assets is realized by increased value to the owner. Public land leases, however, can be dissolved with little or no return to the lessee, reducing the willingness to invest. Unfortunately, the terms and conditions of most public leases have an uncertain future and are incompatible with managing in accordance to dynamic nature. The flexibility to respond to changing desires and changing conditions is largely missing from the public range. Where federal agencies are often caught with no ability to respond, state agencies have some leeway. What remain missing, however, across all ownerships, are good ecological metrics that demonstrate the varying productivity from alternate forms of range management.

### **Missing feedback = missing action**

Both federal and state managers seek to achieve long-term range health and productivity. Political decision making reliant on public input makes federal land management vulnerable to influence by individuals interested in the management outcomes but with little comprehension about managing the range. State trust lands, though allowing greater management flexibility, have done little better. Measurements of productive outputs that result from management

---

27. Written communication from Gregg Simonds, April 27, 2015. On file with author.

changes and how they impact rangeland function are not common knowledge in the public or private sector.

The bottom line is that feedback mechanisms are necessary to drive efficient resource use. Feedback comes in the way of increased profits and increased productivity.<sup>28</sup> Neither of those are important metrics under federal management. There are no profit or loss signals for federal land managers. Nor do they have the metrics to know land and watershed functionality. Furthermore, public lease allotments have fixed terms and conditions preventing most ranch managers from adapting to the continually changing conditions on the range. This is demonstrated by the 3 Creeks allotment. Though earnings do get the attention of the rancher, he or she has little ability to influence change on the public range.

It is the private land manager that has incentives aligned for enhancing value through increased productivity and land and water functionality. Nonetheless, the willingness to invest is driven by an expected return that is hard to predict on the range. The many variables that impact range profits, such as continually fluctuating cattle prices, input prices, and climate conditions make investment outcomes less obvious. The metrics of increased output value must be clear enough to motivate investment in environmental quality. Given better metrics and flexibility, public and private managers can do better on the range and a market for ecosystem services can develop.

### **Lessons from the trusts**

In the 1990s, when a few conservation groups began pushing on state trust protocol to allow for alternative range use, the future of new and competitive lease arrangements looked bright. The expected result from the rising conservation demand and competitive bid process for leases was a move toward incorporating additional rangeland uses and increased resource value. It was predicted that more conservation-minded groups would bid on resource use rights to protect habitat, enhance riparian areas, and increase recreation access, limiting livestock where alternative uses were more highly valued. Some of that has occurred on some trust lands but the progression is slow. Changing the terms of lease agreements is costly and there are barriers to entry that have reduced competition. Nonetheless, there are some exceptions and noteworthy lessons to consider.

The 1996 Colorado initiative could have reduced the trust's legitimacy by requiring conservation over the revenue maximization mandate. Instead, the state has used the requirement to demonstrate the ability to manage for both revenue and long-term conservation, meeting the conservation demands of the citizens and the beneficiaries. Rather than a legal battle between the

---

<sup>28</sup> Several studies demonstrate that profit is not the overriding goal for all western ranchers. See Torell et al. (2014: 6).

state agency and environmental groups, the state has provided its assets on the market and worked with other agencies and private parties to negotiate win-win outcomes that enhance land stewardship and revenues for the public schools. Colorado has demonstrated the mutual benefits of alternative uses on trust lands.

Most states have begun to explore different avenues to provide for conservation on trust lands. While some of that conservation comes from groups that bid for use rights, such as the Nature Conservancy, Western Watershed Project, and WildEarth Guardians, much of it is a transfer of use to other public agencies with a more conservation oriented mandate. Many trust agencies are also looking to sell lands that are likely to provide conservation amenities and replace them with lands that have greater development and revenue potential.

The costs to incorporate non-grazing uses of state trust rangeland remain high for three primary reasons. First, a significant portion of the western range is tied to federal allotments that restrict management flexibility. The 3 Creeks allotment is a case in point. Second, the costs to compete for use can be high and are typically all-or-nothing outcomes. As a result, few lease transfers take place. Third, the costs to dispel ecological myths and replace them with better ecological information are high. It is a common but often flawed understanding that less livestock means better environmental quality. Managing the range for long-term productivity requires specific knowledge and adaptation.

Enhancing rangeland stewardship and increasing the provision of ecosystem services requires feedback from both profit and productivity. Management of the private range typically has a profit motive, but without the ecological metrics the incentives may not be well aligned to invest in increased productivity of forage and other ecosystem services. When considering the public range, the profit motive is complicated by the rules of state trust agencies and is non-existent for federal managers.

## Conclusion

The state trust lands in the western United States provide an ongoing experiment in rangeland management. Different from their federal brethren, the agencies are required to maximize the financial return while conserving the future productivity of the land and resources. Theoretical analysis of the trust mission leads to expectations of resources moving to their highest valued uses in a competitive market. Where use rights are secure and transferable without restricted eligibility requirements, the state is fairly effective. This setting is still rare.

The reality is that legal limitations, politics, and cultural norms reduce cooperative outcomes on state lands. Few present day leases have openly competitive markets that determine use rights. Though the courts have affirmed the requirement to earn at least a fair market value and to maximize the revenue returned, few grazing leases do that. Restricted terms of use and barriers for



competition reduce alternative use bids. The grazing rates set by each state trust agency do not recognize alternative use values or resource quality differences.

On a more positive note, where lessees are making use of sublet options to recognize alternative land uses, mutually beneficial outcomes are being realized. The Nature Conservancy leases that protect critical habitat and sublet for grazing demonstrate the potential win-win outcomes resulting from transferable use rights. The ability to transfer use rights will be key for efficient allocation as the demand and marketability of ecosystem services and other alternative range resource interests increase. The rising demand for ecosystem services and conservation, together with better metrics, can provide vital information to help move these amenity values into the marketplace. But managers of the public range must have the flexibility to take advantage of it.

If putting resources to their highest valued use is the goal, secure rights to the assets, or at least to rights of use, are necessary. The rights must be tradable among interested parties to realize the alternative resource use values. In addition, to motivate long term stewardship at the landscape level, measurements that clearly connect the investment in stewardship with increased output value are needed. None of the US public land agencies provide a perfect model for reform, but they do provide comparative lessons to help get the incentives right.

## References

- Brown, James H., and William McDonald (1995). Livestock Grazing and Conservation on Southwestern Rangelands. *Conservation Biology* (December): 1644–47. <<http://biology.unm.edu/jhbrown/Documents/Publications/Brown&McDonald1995CB.pdf>>
- Davies, K. W., M. Vavra, B. Schultz, and N. Rimbey (2014). Implications of Longer Term Rest from Grazing in the Sagebrush Steppe. *Journal of Rangeland Applications* 1: 14–34). <<http://oregonstate.edu/dept/eoarc/sites/default/files/publication/798.pdf>>
- Fairfax, Sally K., and Andrea Issod (2003). Trust Principles as a Tool for Grazing Reform: Learning from Four State Cases. *Environmental Law* 33: 341. <[http://www.nationalaglawcenter.org/wp-content/uploads/assets/bibarticles/fairfaxissod\\_trust.pdf](http://www.nationalaglawcenter.org/wp-content/uploads/assets/bibarticles/fairfaxissod_trust.pdf)>
- Fretwell, Holly, and Shawn Regan (2015). *Divided Lands: State vs. Federal Management in the West*. PERC Public Lands Report. PERC.

All websites retrievable as of July 18, 2015.

Gardner, B. Delworth (1962). Transfer Restrictions and Misallocations in Grazing Public Range. *Journal of Farm Economics* 44, 1.

Gardner, B. Delworth (1963). A Proposal to Reduce Misallocation of Livestock Grazing Permits. *Journal of Farm Economics* 45, 1: 109–120.

Gardner, B. Delworth (1997). The Political Economy of Public Land Use. *Journal of Agriculture and Resource Economics* 22, 1: 12–29.

Godfrey, E. Bruce (2003). Livestock Grazing on Federal Rangelands—Going, Going, Gone. *Rangelands* 25, 3: 10–12.

Gorte, R., C. H. Vincent, L. A. Hanson, and M. R. Rosenblum (2012). *Federal Land Ownership: Overview and Data*. Congressional Research Service. <<http://fas.org/sgp/crs/misc/R42346.pdf>>

Government Accountability Office [GAO] (2005). *Livestock Grazing: Federal Expenditures and Receipts Vary, Depending on the Agency and the Purpose of the Fee Charged*. GAO-05-869. Government of the United States.

Hess, Karl Jr., and Jerry L. Holechek (1995). *Beyond the Grazing Fee: An Agenda for Rangeland Reform*. CATO Policy Analysis No. 234. <<http://www.cato.org/pubs/pas/pa-234.html>>

Idaho Department of Lands [IDL] (2015). *Grazing Program Business Plan Draft Review*. Government of Idaho. <<http://www.idl.idaho.gov/leasing/grazing/rate/2015-0102-draft-grazing-program-business-plan.pdf>>

Myers, Howard, and Jim Heitel (2014, date). State Land Rezoning. *Sonoran News.com*. <<http://www.sonorannews.com/archives/2014/141217/news-rezoning.html>>

Nelson, R. H. (1995). *Public Lands and Private Rights*. Rowman & Littlefield Publishers, Inc.

Nelson, R. H. (2011). How to Reform Grazing Policy: Creating Forage Rights on Federal Rangelands. *Fordham Environmental Law Review* 8, 3: Article 3. <<http://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=1450&context=elr>>

National Wilderness Institute [NWI] (no date). *Public Land Ownership by State*. <<http://www.nrcm.org/documents/publiclandownership.pdf>>

O'Toole, Randal (1995). *Reforming Public Land Management with New Incentives. Challenging Federal Ownership and Management*. Public Lands and Public Benefits Workshop Proceedings, October 11–13. <<http://scholar.law.colorado.edu/challenging-federal-ownership-management/13>>

Resource Dimensions (2012). *Idaho Department of Lands Grazing Market Rental Study*. Prepared for the Idaho Department of Lands. <<http://www.idl.idaho.gov/leasing/grazing/rate/idl-grazing-mkt-rent-study-reduced.pdf>>

Souder, Jon A., and Sally Fairfax (1996). *State Trust Lands: History, Management, and Sustainable Use*. University Press of Kansas.

Torell, L. Allen, Neil R. Rimbey, John A. Tanaka, David T. Taylor, and J. D. Wulforth (2014). Ranch Level Economic Impact Analysis for Public Lands: A Guide to Methods, Issues, and Applications. *Journal of Range Applications*.

US Department of Agriculture, Forest Service [USFS] (2015). *About the Agency*. Government of the United States. <<http://www.fs.fed.us/about-agency>>

US Department of Agriculture, Natural Resources Conservation Service [USDA NRCS] (2010). *Grazing Lands Conservation Initiative. Sustainable Grazing Lands Providing a Healthy Environment*. Government of the United States. <[http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1068390.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1068390.pdf)>

US Department of Agriculture, National Agricultural Statistics Services [USDA-NASS] (no date). *Quick Stats*. Government of the United States. <<http://quickstats.nass.usda.gov/>>

US Department of the Interior, Bureau of Land Management [BLM] (2012). *Rangeland Inventory, Monitoring, and Evaluation Report*. Government of the United States. <[http://www.blm.gov/style/medialib/blm/wo/Planning\\_and\\_Renewable\\_Resources/rangeland.Par.30896.File.dat/Rangeland2012.pdf](http://www.blm.gov/style/medialib/blm/wo/Planning_and_Renewable_Resources/rangeland.Par.30896.File.dat/Rangeland2012.pdf)>

US Department of the Interior, Bureau of Land Management [BLM] (2014). *Public Land Statistics*. Government of the United States. <[http://www.blm.gov/public\\_land\\_statistics/pls13/pls2013.pdf](http://www.blm.gov/public_land_statistics/pls13/pls2013.pdf)>

US Department of the Interior, Bureau of Land Management [BLM] (2015a). *The Bureau of Land Management: Fact Sheet on the BLM's Management of Livestock Grazing on Public Lands*. Government of the United States. <<http://www.blm.gov/wo/st/en/prog/grazing.html>>

US Department of the Interior, Bureau of Land Management [BLM]  
(2015b). *The Bureau of Land Management: Who We Are, What We Do*.  
Government of the United States.

<[http://www.blm.gov/wo/st/en/info/About\\_BLM.html](http://www.blm.gov/wo/st/en/info/About_BLM.html)>

# Managing Australia's Rangelands

~ Jeff Bennett

# 5. Managing Australia's Rangelands

**Jeff Bennett**

Australia's rangelands, often referred to as the "outback," are iconic. Australians, now largely coastal, big-city residents, still relate to the "red centre." Internationally, the Australian outback is evocative of wide-open spaces, unusual flora and fauna, and independent, resilient, and friendly inhabitants. Yet the outback faces numerous challenges: land degradation, species extinction, depopulation, and dysfunctional indigenous communities.

The significance of the outback's assets and the extent of the threats they face motivate this paper. Its goal is to establish a better understanding of the driving forces that have given rise to the observed challenges. The focus is on the institutions (the rules of conduct) that underpin resource use choices. The further goal is to establish potential alternative institutional structures and to identify a research agenda to allow an enhanced assessment of these alternatives.

This paper addresses these goals in the following way. Section 1 outlines some broad ecological and socio-economic characteristics of the outback. A range of values are generated from the region's resources, sourced from often-competing activities. Section 2 outlines the institutional structure in place to facilitate choices between competing resource uses. Sections 3 and 4 consider the shift in relative values toward environmental protection of the rangelands that has occurred in the past three decades, and the impacts this has had on patterns of land use and institutions. Section 5 details a related change in resource use: the rise in ecotourism. Section 6 takes up the overarching issue of the rights held by indigenous communities and their impacts on resource use choices. Section 7 examines the competition facing almost all rangelands resource users that is presented by feral plants and animals.

The conclusion to be drawn from these considerations is that the current institutional settings in the outback are delivering resource use outcomes that are compromised. A range of potential institutional reforms is presented in section 8.

## 1. Characteristics of the outback

The Australian rangelands are both extensive and diverse. They cover around 75 percent of the continent—around 6.75 million square kilometres—and are located in the inland areas of the states of New South Wales, Queensland, the Northern Territory, Western Australia, and South Australia. The nine bioregions that comprise the rangelands are generally characterised by highly variable climatic conditions, but with predominantly low average annual rainfalls. Some of the rangelands experience an average annual rainfall of around 125mm. Ironically, when rains do fall, they are often the cause of flooding. Because of the predominantly dry conditions and the generally poor quality soils, the vegetation found in the rangelands varies between grasslands and stunted woodlands.<sup>1</sup>

In the main, the outback is sparsely settled, with the most widespread economic activity focused predominantly on large scale grazing enterprises. The average size of pastoral properties is on the order of 500,000 hectares in the northern areas, 200,000 hectares in the west, and 22,000 hectares in the east. Beef cattle, sheep for wool, and goats are the predominant commercial animals reared in the rangelands. Livestock are managed through investments in fences and watering points. Periodic mustering of stock has traditionally involved stockmen on horseback, but more recently motorbikes and helicopters have become more prevalent as a means of saving labour costs. In general, the labour input is minimal and production is predominantly for export (Young et al., 1984). In some areas of the rangelands, opportunistic dryland cropping, mostly of wheat, has been developed; where irrigation water has become available, crops such as cotton have become established.

Apart from their value as a source of meat, fibre, and some grains, the rangelands are of interest to a wide spectrum of the Australian populace. First, there is considerable mining activity carried out in the rangelands. Three of Australia's most important mineral provinces are found in pastoral areas: the iron mines of the Pilbara in northwest Western Australia are in the hummock grasslands bioregion; the coal mines of Central Queensland are in the Mitchell grasslands bioregion; and the gold and nickel mines of southern Western Australia are in the arid mulga woodlands bioregion. Growth in the minerals sector of the Australian economy has produced an increasingly significant footprint on the rangelands. This is particularly the case with iron ore and coal mining, both of which involve large scale open-cut operations. Mining operations have also increased accessibility to the outback through the construction of improved transportation infrastructure.

Beyond values enjoyed from resource extraction, the rangelands are of “important ecological significance with many of the ecosystems providing habitat

---

1. See chapters 13 to 21 in Harrington, Wilson, and Young (1984) for a complete description of the biophysical and socio-economic features of the nine bioregions that make up the Australian rangelands.

for rare and endangered native wildlife” (Productivity Commission, 2002: 3). As such, the condition and management of the rangelands are of interest to those who value environmental protection. They may be people who visit the pastoral zone for recreation or tourism. Visitation to the rangelands has increased over time, especially with greater penetration of four-wheel-drive vehicle ownership across the population and the “grey gypsy” phenomenon, whereby growing numbers of retirees take to the road to explore the outback. Those who value the protection of the outback environment also include people who achieve enjoyment from simply knowing that the rare and endangered species continue to survive. Growing levels of wealth as well as education (particularly regarding the environment) have stimulated both of these “use” and “non-use” values for the outback environment.

However, while interest in the environment has grown, the condition of the outback environment has, in general, declined over the last century. The vegetation regimes have been altered by over-grazing, and fire and erosion has reduced the already shallow soil depth. Numerous species of animals and birds have been forced to extinction (Australia, 2004), particularly with the introduction of feral species such as the fox, cat, camel, and rabbit.

In addition, the rangelands have meaning for many Australians in terms of their cultural significance. For the Aboriginal communities that have lived or currently live there, the pastoral regions are their “country” and hold specific significance in terms of spirituality. For those Australians who are more recent arrivals to the continent, the rangelands hold particular value in terms of their contribution to the pioneering past, through the exploits both of early explorers and of those who followed to set up the pastoral industry. The iconic notions of the Australian outback and its red centre are fundamentally linked to the rangelands.

## 2. Institutions

The institutions that underpin the management and use of the rangelands have evolved over time. In the nineteenth century, land acquisition was initially based on a first come, first served basis, and the term “squatter” was coined to describe pastoralists who had taken up a holding of land simply by establishing occupancy. To deal with the informality of this process, and to control activities being carried out by the squatters, the state governments established leasehold title over much of the rangelands.<sup>2</sup> With leases allocated over the pastoral lands, ownership remained with the Crown. To this day, pastoral leases remain the

---

2. In 1901, the Commonwealth of Australia was established as a federation of the states that initially formed the colonial governments of the continent. The constitution of the Commonwealth gives power to the federal government primarily over matters that involve international relations. Provision of services such as education and health remain the responsibility of the constituent state governments. So too does responsibility for land and other natural resource management. Hence, the oversight of leasehold land is a state matter.



dominant tenure in the rangelands, covering 44 percent (338 million hectares) of the total land area of mainland Australia (Productivity Commission, 2002).

Over time, there have been numerous changes in the nature of the leases, and lease conditions vary across the five states that encompass the rangelands. Initially, the length of leases was relatively short—for example at no more than 14 years in New South Wales under the 1846 Sale of Wasteland Act. Lease length has increased over time (for instance, to 70 years in Western Australia but to only 25 years in the Northern Territory) and, predominantly, existing leaseholders are given first right of refusal upon the expiry of their lease. In some jurisdictions, such as New South Wales, perpetual leases have been introduced. In Queensland, lease holders are given the opportunity to convert some leases to freehold title through the payment of instalments over time. Differences in lease length across jurisdictions do not appear to follow any systematic pattern related to bio-physical or socio-economic conditions (table 1). Their origin is likely to be found in the different political processes and lobby group power distributions in place across the states.

Notwithstanding this, the general direction of the evolution of leases has been consistent with changes in the objectives of the leasing arrangements. The original, colonial emphasis on controlling settlement morphed into using leases to increase the density of settlement and encourage economic development. To this effect, leases were subdivided and reallocated. The related realizations that the productivity of the pastoral lands was so low that closer settlement was not feasible and that there were significant economies of scale in rangeland grazing operations (Young et al., 1984: 84) meant a move toward allowing consolidation of leases. Most recently, the focus of the leasehold system has been on achieving “ecologically sustainable” land management (Holmes and Knight, 1994).

Leases are defined in terms of time but also by permitted/required land use. The early emphasis on achieving economic development through the leasehold system remains in most jurisdictions today through the inclusion of lease conditions that require grazing to take place. In all jurisdictions, leases must be used for pastoral purposes, usually the grazing of sheep or cattle. An exception is in Queensland, where leases may be used for both agricultural and grazing purposes. Rather than specifying the condition of the land resource to be achieved by the lessee, a lease will specify the extent and type of grazing activities permitted. For instance, in Western Australia, stocking levels are prescribed by the Pastoral Lands Board with the aim of ensuring commercially sustainable pastoral enterprises given economic and ecological constraints (Productivity Commission, 2002: 37). In New South Wales, the Western Lands Commissioner has the power to impose notices on lessees to destock areas, refrain from certain activities, or rehabilitate damaged or degraded areas (New South Wales, no date). Other lease conditions relate to the maintenance of infrastructure such as fences and watering points, and more

**Table 1: Pastoral lease conditions**

State	Initial term	Term of renewal	Average rental, 2000-01 (AU\$/ha)	Average rental per lease, 2000-01 (AU\$)	Total lease rental, 2000-01 (million AU\$)
New South Wales	Up to 40 years	Up to 40 years	0.03	204	0.87
Queensland: Pastoral holding term lease	Up to 50 years	Up to 50 years	0.03	1974	2.95
Queensland: Grazing homestead lease	Perpetual	Not applicable	0.14	1038	2.92
South Australia	42 years	14 years	0.02	2102	0.7
Western Australia	Up to 50 years	Up to 50 years	0.01	1402	0.76
Northern Territory	Up to 25 years	Up to 25 years	0.02	5708	1.25

Source: Productivity Commission, 2002.

recently to the specification of a duty of care to prevent resource degradation. Responsibility for any additional infrastructure sought by the lessee lies with the lessee. Lessees who wish to undertake activities other than grazing (for instance, nature conservation) need to apply for discretionary permission or a formal permit (depending on jurisdiction).

Rental rates for pastoral leases vary considerably across regions and jurisdictions, seemingly without any underpinning logic (Productivity Commission, 2002: xiii). States are independent in their administration of rangelands assets. Hence, even though a single bioregion may extend across state boundaries, different rental rates and lease conditions will apply on each side of the border. For example, rental rates range from 0.8 percent on the unimproved value of the land in Queensland through to 2.7 percent in South Australia. Some of the lease conditions across the states with rangelands assets are set out in table 1. One notable point regarding the extent of financial flows is that, in most jurisdictions, the rental income generated by pastoral leases was less than the costs to government of administering the lease schemes.

Leases can be revoked by government for the purposes of infrastructure development or the declaration of a National Park. Furthermore, leases do not guarantee exclusive possession. In essence, a pastoral lease allows the lessee access to the forage and water available on the land for grazing purposes. Access to other resources such as timber and surface and sub-surface minerals

remains the property of the Crown and is potentially accessible to others through different leasehold arrangements. In addition, access rights remain with the general public.

Of particular note in this regard is the issue of “native title,” or the rights of indigenous people to use the resources of the land held under a lease. Upon European colonisation, Australia was declared *terra nullius*, the notion being that Australia did not belong to anyone, thus ignoring the incumbent Aboriginal population (New South Wales, 2013). However, in 1992, the High Court of Australia upheld a claim made by an indigenous community elder, Eddie Mabo, that Murray Islanders held native title to land in the Torres Strait. Known as the Mabo case, this decision established that Australian law recognises the ongoing existence of the customs and traditions through which indigenous communities have a connection to their land. In the subsequent (1996) Wik case, the High Court held that while freehold title extinguishes native title to land, leasehold title does not. The implication of the Wik case is that holders of leasehold title cannot prevent indigenous communities with a native title claim to the leased land (known as “traditional owners”) from using the land, so long as those uses are not in conflict with the pastoral use. In other words, the native title rights to access leasehold land and conduct traditional activities are subordinate to the grazing rights of the pastoral leaseholder. Despite this, any proposed change to the conditions of a lease must take into account the impacts of change on native title (Western Australia, 2011) and guaranteed exclusive possession is not available to pastoral lease holders. Specifically, where a lease involves land that has native title, any change in land use sought by a lessee must involve the negotiation of an Indigenous Land Use Agreement (ILUA) with the traditional owners. It is important to note that native title is a collective right, not an individual right. This can be a complicating factor in ILUA agreements, given disputes amongst the traditional owners.

### 3. Environmental management in the rangelands

A major shift in relative values associated with Australian rangelands has occurred over the past thirty years. While the profitability of sheep and cattle grazing has been largely in decline, interest in the environmental aspects of the rangelands, primarily amongst urban dwellers, has increased. In response to this change in relative values, a number of reforms in rangeland management have occurred. The end result has been a greater proportion of the rangelands being devoted to environmental protection goals at the expense of traditional grazing activities. The reforms that have occurred have been both internal and external to the pastoral industry.

The first important internal reforms have been the lengthening of the time frame of pastoral leases, allowing the consolidation of leases, provision of greater certainty regarding the renewal of leases, and a greater emphasis on lease conditions regarding the goal of sustainable use. All of these measures have

effectively increased the security of tenure enjoyed by lease holders. This has provided greater incentives for lessees to consider the long term profitability of their operations. Given that profitability is closely linked to the condition of the resource, the implicit incentive is for lessees to monitor more closely the impact of their operations on the condition of the resource and to manage accordingly. While freehold title provides the greatest incentive for land owners to manage their land for the long term, perpetual leases or long leases with an automatic rollover clause provide very similar incentives.

This is in marked contrast to the incentives faced by lessees holding 14 year leases with little if any security regarding the renewal of the lease. The consequences for resource condition were profound, with overstocking of leasehold lands leading to the collapse of many vegetation communities, leading in turn to high rates of soil erosion. This set of factors, combined with periodic explosions in rabbit numbers, caused severe land degradation in the early twentieth century (Johns et al., 1984).

With greater security of tenure, lessees have invested in the human capital required to better manage the land, water, and vegetation resources at their disposal. Knowledge regarding the specifics of stocking rates in different areas, the use of fire as a management tool, and the timing of destocking and restocking decisions as they relate to rainfall conditions has improved with subsequent improvements in management for environmental sustainability. The government agencies responsible for administering leasehold lands, and associated research institutes such as the Commonwealth Scientific and Industrial Research Organisation (CSIRO), have contributed to this growth in knowledge. More comprehensive monitoring of the environmental condition of leasehold lands by these government agencies has also occurred. For instance, in New South Wales in 2011, a new project called the Western Division Range Condition Assessment Program was implemented. It involves the annual inspection of 140 leasehold properties to assess land condition, establish photo points, and undertake a compliance check of lease conditions (New South Wales, no date).

#### **4. Protected area reserves**

The primary external reforms have come in the emergence of alternative sources of demand for uses of leasehold lands that go beyond the pastoral, specifically, for environmental protection purposes. Two particular sources of demand are worth noting. The first is government, through the declaration of national parks in rangelands areas. It was noted above that pastoral leases can be revoked by the Crown for the purposes of declaring national parks. Hence, the creation of new national parks in the rangelands has a relatively low initial marginal cost for government, and that action can be politically advantageous in satisfying urban electorates' demands for greater environmental protection in the rangelands. The threat of extinction being faced by many of the small

mammals, reptiles, and birds of the outback has been a strong driver for setting aside former pastoral leases as national parks, in the belief that pastoral activities have created habitat changes that put pressure on both plant and animal species.

Because of their remoteness, national parks in the rangelands areas do not experience heavy recreational usage. Hence the state government agencies that are responsible for the parks—while called “national” parks, it is the state governments that manage them through their individual National Parks and Wildlife Services—allocate very limited resources to their upkeep, with a focus on habitat and endangered species protection. Ironically, the limited budgets available for maintenance of these parks have meant that populations of feral animals (see section 7) have not been well controlled, and this has meant greater pressures on remaining populations of endangered species.

Exceptions to the pattern of low visitor numbers at outback national parks do of course occur, most notably the iconic sites of Kakadu National Park and Uluru (or Ayres Rock) National Park, where tourist numbers are relatively high.

The second emergent source of demand for pastoral leases for environmental protection comes from the private sector (Bennett, 2015). For some Australians, the extent, composition, and/or management of the national park estate supplied by government has been inadequate. These people have sought to develop an additional dimension to the supply of protected natural areas through the private purchase of land title, including leasehold lands in the pastoral zone.

The most prominent two private sector purchases of protected natural areas in Australia are Bush Heritage Australia (BHA) and the Australian Wildlife Conservancy (AWC). Both organizations rely on philanthropy to fund the purchase of properties suitable for their portfolios. At their inception (concurrently in 1991), the philanthropy was provided by individuals—Western Australian businessman Martin Copley in the case of AWC and former Australian senator and environmental activist Bob Brown for BHA. Subsequently, both organisations have sought public and corporate donations to expand their asset bases and to manage their estates, with the advantage of donations being deemed tax deductible.

At the end of 2013, the AWC estate amounted to 23 properties covering almost three million hectares with an asset base (in historic cost accounting terms) of around AU\$70 million. Annual receipts from donations and grants in 2013 amounted to AU\$13.7 million, with 85 percent coming from donations and the remainder from government grants. At the same time, the BHA estate comprised 35 reserves and almost one million hectares, with an asset base of AU\$41.4 million. Revenues in 2013 amounted to \$13.5 million, derived primarily from 15,000 donors.

The AWC and BHA estates include properties located in the rangelands and are thus held under leasehold titles. The BHA estate includes:

1. Carnarvon Station, 59,000 hectares in the brigalow belt of central Queensland (BHA, no date a);
2. Naree Station, 14,400 hectares of mulga land in northwest New South Wales (BHA, no date b).

The AWC estate contains:

1. Faure Island, a 4,561-hectare island off the central coast of Western Australia (AWC, no date a);
2. Mt Gibson, 132,500 hectares of mulga/eucalypt country in central west Western Australia (AWC, no date b);
3. Mornington Station, 563,136 hectares of subtropical woodlands in northern Western Australia (AWC, no date c);
4. Scotia, 64,659 hectares of mallee woodlands in south eastern South Australia (AWC, no date d);
5. Newhaven Station, 261,610 hectares of mulga/spinifex country in Central Australia (AWC, no date e).

Altogether, these properties constitute a large (over a million hectares) and diverse representation of the rangeland's ecological communities. They have secured the future of the numerous rare and endangered species found only in the Australian rangelands.

However, their management presents some challenges resulting from the specifics of their leasehold titles. Because some leases require grazing to be carried out, some of these private protected area reserves are forced to carry at least some sheep or cattle to fulfil their lease commitments. The alternative is for the lessee to apply for either a discretionary exemption from the lease requirement to graze, or a specific permit not to graze. Such applications are costly to make and time consuming in their preparation. An example where an exemption from the grazing requirement has been allowed is Gluepot Station (Birdlife Australia, no date). This is a 50,000 hectare lease in the South Australian mallee country, held by Birdlife Australia with the primary goal of protecting the six nationally endangered bird species found there. In other properties, the harvesting of feral goats—a management action required to achieve conservation goals—is regarded by the relevant state government authority to be a grazing activity and so allows the lease conditions to be fulfilled. Nonetheless, these restrictions to management present inflexibilities and hence additional costs that AWC and BHA do not experience in other reserves that they manage under freehold title.

## 5. Ecotourism

The same dilemma regarding the requirement to graze pastoral leases faces lessees seeking to conduct ecotourism businesses on the properties. While some tourism ventures in the rangelands are based on the outback experience, including being involved with livestock, others are based on appreciation of the natural environment. The former are clearly consistent with lease conditions that require grazing but the latter are not. The case of Wooleen Station, a pastoral lease of over 200,000 hectares in the mulga shrub land of Western Australia, is instructive (Pollock and Jones, no date; Australian Broadcasting Corporation, 2014).

The lessees of Wooleen Station decided to destock their property in order to restore the ecological condition of the land after many years of grazing pressure. To generate an income during the period in which there would be no revenue available from cattle grazing, the lessees initiated a tourism venture. This involved opening the homestead to visitors and conducting tours of the property. The strategy proved successful. Guest numbers have been sufficient to provide an acceptable alternative income even though summer visitors are rare given the extreme temperatures experienced. Furthermore, the country restoration has progressed satisfactorily despite recurrent drought conditions. Progress in implementing the strategy has, however, been interrupted at least partially because the conditions of the lease require grazing to be continued. This has meant that complete destocking cannot be an option for Wooleen, despite applications being made to the state government for an exemption from the grazing condition.

In effect, the holders of pastoral leases do not have the flexibility to provide the ecotourism opportunities that they believe the market wants because of the inflexibility of the lease conditions. The implication is that pastoral leases are preventing the introduction of tourism enterprises that would provide for environmental improvements.

This inflexibility extends to prevent the development of other non-grazing ventures that would be compatible with environmental protection goals and outcomes. The opportunity for entrepreneurial flair to develop win-win outcomes (in terms of developmental and environmental outcomes) is effectively squashed.

## 6. Indigenous input

Another challenge facing private sector reserve operators relates to the issue of native title. Because a pastoral lease does not extinguish native title, both AWC and BHA are required to give access to their reserves to the local Aboriginal people. However, both organisations have gone beyond their legal obligation and actively engage with the local Aboriginal people in the management of the reserves. This includes consultation regarding long-term strategic planning as well as day-to-day operations. In many cases, local Aboriginal people are

employed as part of the on-site workforce involved in environmental management activities. In addition, BHA has engaged with indigenous communities seeking to manage their lands for environmental protection goals. An example of this approach to securing increased environmental protection in the rangelands is the Cape York Caring for Country Strategy implemented by BHA. It involves BHA providing assistance to the traditional owners of lands across Cape York in far north Queensland in the development of projects that combine environmental protection with cultural heritage maintenance, employment, and commercial enterprise goals (BHA, no date c).

An important precursor to indigenous communities being able to manage their lands in the rangelands is the suitability of the institutions that guide resource management. In the case of the Cape York region, greater management flexibility was provided to the traditional owners of the land through the repeal of the Wild Rivers Act 2005 (Qld) in 2014. The Act had effectively restricted the activities of the traditional owners of lands across the Cape as a means of protecting a number of rivers that have to date been unaffected by development. The restrictions however prevented the traditional owners from establishing livelihoods that were consistent with environmental protection goals, such as ecotourism ventures and mining. Without other avenues for generating income, the traditional owners were destined to remain dependent on social security, with consequential negative impacts on individual and community well-being.

Indigenous communities also work collaboratively with state governments in the management of their country as National Parks. For example, the KULLA Indigenous Management Agreement (Indigenous Studies Programme, 2011) was agreed between a number of local traditional owners in the Cape York region and the Queensland Minister for Natural Resources and Water Minister in 2008. The agreement allowed for the dedication and joint management of the KULLA (McIlwraith Range) National Park by the KULLA Land Trust, representing the traditional owners, and the Queensland Government. Some of Australia's best known National Parks—such as at Uluru (Ayers Rock) and Kakadu in the Northern Territory—involve agreements between the country's indigenous owners and the relevant state/territory government.

## 7. Feral pest control

One of the initiatives introduced by the private sector conservation reserve owners is the construction of elaborate fences around strategic wildlife habitat and the exclusion of feral animal pests from the fenced areas. This strategy has been developed in recognition of the significant role of pest animals in threatening the continued survival of endangered species of birds, reptiles, and small marsupials. Some feral pests in the rangelands, such as rabbits, goats, and camels, are threatening because of habitat destruction. Others such as cats and foxes are direct predators. The significance of the problem is illustrated



by AWC research that has found that feral cats kill 75 million native animals every night (AWC, no date f).

An example of the exclusion strategy in action is to be found at Mt. Gibson, one of the AWC properties. There, a 43 kilometre long fence is being constructed to establish a 7,800 hectare area of fox- and cat-free habitat. The goal is to reintroduce nine of Australia's most endangered mammal species—the Bilby, Numbat, Woylie, Western Barred Bandicoot, Shark Bay Mouse, Red-tailed Phascogale, Greater Stick-nest Rat, and Chuditch—into the area (AWC, no date g).

The initiatives taken by the private sector conservation organisations to control or exclude feral pests have been so successful that the public sector has now begun to adopt their strategies. For example, the NSW government has announced a project that will involve the fencing of 10,000 hectares within existing National Parks to allow the reintroduction of endangered species including the Numbat, Bilby, and Brush-tailed Bettong (Government of New South Wales, 2014). Interestingly, the government is seeking to contract the private sector to supply the fencing and exclusion services.

That is not to say that the public sector has not achieved any feral pest control objectives. The best known of the government funded projects aimed at reducing feral animal numbers is the introduction of myxomatosis in 1950 to address the explosion of rabbit numbers following their introduction to Australia for hunting in 1859. The mixoma virus, originally from South America, killed over 99 per cent of infected rabbits when it was initially introduced (CSIRO, 2011). However, over time, resistant strains of rabbits have survived and reproduced, so that today rabbits still present a threat both to commercially grazed livestock and native plants and animals. In a further effort to control rabbit numbers, the rabbit calicivirus was introduced into Australia in 1995.<sup>3</sup> It has been particularly successful in reducing rabbit populations in the rangelands, although it is likely that resistant animals will survive to reproduce, allowing numbers to rebuild again (CSIRO, no date).

Campaigns to reduce camel numbers have also been funded by government. Between 2009 and 2013, 160,000 camels were culled from 18 key biodiversity sites in Central Australia at a cost of AU\$19 million (Australian Broadcasting Corporation, 2013). Large scale bating of foxes is also conducted by government to reduce the predation pressure on endangered species, as well as to assist the wool industry which suffers from loss of lambs due to fox kills.

Despite these initiatives, feral animals—and the invasion of weeds such as buffelgrass, which was ironically introduced by the government funded CSIRO as a pasture grass—remains an ongoing and serious threat to the environments of the rangelands. The success achieved by private sector initiatives over the last ten years indicates the efficiency achieved through private

---

3. The formal release process was usurped when the virus escaped a testing facility.

funding. However, the public good characteristics that pervade the outcomes of research and development into strategies such as developing selective poisons, viruses, and sterilization mean that there is likely to be an ongoing role for government-funded activity in this space, so long as proposed state investments can satisfy a positive net present value test.

## 8. Potential reforms

Significant advances have been achieved in the management of Australia's rangelands since the initial period of European settlement, when short lease periods and inadequately sized lease areas led to overgrazing and consequential resource degradation. Increased lease length and property size have provided lease holders the opportunity and a greater incentive to manage their lands for long term productivity and hence environmental sustainability. The advent of private sector initiatives to purchase and protect pastoral leases as environmental reserves, together with the public sector provision of national parks, have meant that significant areas of the rangelands have been set aside as habitat for the unique but often rare and endangered species found there. The engagement of Aboriginal traditional owners—the holders of “native title” to the land—in the management of the rangelands has been ensured because of the Wik decision in the High Court that found pastoral leases did not extinguish the rights of the local Aboriginal people to access their lands.

However, there is little doubt that there are still significant issues relating to the management of Australia's rangelands that require resolution. This is demonstrated by the procession over time of enquiries and reports that have been instituted by the various state government agencies responsible for lease administration, as well as by federal government agencies.<sup>4</sup>

### 8.1 Freeholding

Security and exclusivity of tenure remain problematic for leaseholders. Without both, the incentives for lessees to invest in the current management of resources for potential future returns remains diluted. A grazier who is concerned that her lease will be resumed by the government as part of a new national park is unlikely to graze as conservatively as if she was confident of being able either to have continued access to the land or to be able to sell it unencumbered. Similarly, a private sector conservation organisation may be less inclined to invest in a leased area if there is the prospect of the government allowing timber extraction. The most straightforward reform that would achieve this security of tenure would be for other jurisdictions to follow the Queensland example of allowing leaseholders to freehold their titles.

Objections to freeholding come from many angles. Environmentalists object to freeholding because it removes the ability of government to direct the

---

4. For example, Productivity Commission (2002), CSIRO et al. (2013), and Western Australia (2011).

management of pastoral lands. It is argued that the economic drivers of rangeland management are short-term, whereas the ecological parameters of the country are long-term. Put simply, the concern is that graziers will overexploit the resource and cause irreversible environmental degradation. The corollary is that the bureaucrats in the government agencies administering the leases are better informed and better motivated to achieve sustainable resource management than the lessees. Both of these propositions can be readily challenged. With day-to-day, first-hand experience of the land and its management, graziers have knowledge levels that eclipse far-distant bureaucrats. Furthermore, and particularly with secure tenure, graziers' dependence on the condition of the land to sustain their livelihoods into the long term ensures that they have stronger incentives to get it right than income-protected public servants. Arguments that individual graziers don't have access to the information necessary to make good decisions regarding management strategies are also poorly founded. First, research programmes into rangelands ecology and management that have been publicly funded over the last century have delivered the requisite knowledge. Second, this knowledge is widely and freely available. Third, graziers have an incentive to develop human capital from this information, their own experience, and the shared experience of their neighbours. Such is the extent of many pastoral properties that management requires fine tuning across the varying conditions experienced on a single property. Lease conditions pertaining to a whole lease are not able to prescribe management actions at that fine scale.

Other objections to freeholding come from the mining industry. The concern expressed is that access to minerals—both in the exploration and extraction phase—would be restricted should pastoral leases be converted to freehold. In this regard, it is important to note that subsurface mineral resources in Australia are the property of the Crown irrespective of the title to the surface land. Furthermore, where land is freehold, prospectors and subsequent extractors of minerals are assured access to the minerals when the relevant fees are paid to the Crown. Put simple, freehold title has not jeopardized the mineral industry from progressing in areas of Australia (such as the Hunter Valley coal fields of NSW) where freehold title to the surface lands prevails.

The question of native title is not so readily resolved. Freeholding land title extinguishes native title. That would mean a loss of rights to indigenous people who have a long and closely held association with country and, politically, such a change would be unacceptable. The implication is that the specific nature of freehold title to lands that were previously leasehold would need to be developed so that native title continued. To a degree, this hurdle to reform is handled by the requirement that before any change in land title that would impact on native title can be approved, an Indigenous Land Use Agreement must be negotiated. This involves the proponent of tenure change developing a proposal that is received favourably by the existing holders of native title. However, the negotiation itself presents a barrier to change as the process may be costly and protracted.

A streamlined process to develop freehold title that integrates native title claims would reduce that barrier.<sup>5</sup>

The access to current leases that is afforded the travelling public would also need to be addressed under a freehold title regime. For instance, public access “reserves” may be defined within 20 meters of designated roads. However, specific points of interest to tourists such as riverside camping areas and historic places could be included in the freehold title to enable the landowners to generate revenue from tourists. This would provide an incentive for landowners to maintain the sites and provide facilities (to the advantage of visitors) while earning an income that would be largely independent of the cyclical nature of grazing. Alternatively, sites of special interest may be excised from current titles and placed in separate titles so that they can be sold by current owners to parties who specialise in managing tourism ventures. The extent of tourist traffic and the relative costs of service provision at each site would then determine the most efficient ownership and management regime.

## 8.2 Drought policy

One of the key policy variables that has influenced the management of the Australian pastoral zone has been the response of government to the hardships created by drought. Australia’s climate, and particularly that of the pastoral zone, is prone to periodic droughts. In particular, the 1990s and 2000s saw a prolonged period of dry conditions across much of southern Australia, capped off by two separate El Niño events in 2002–03 and 2006–07 (Nicholson et al., 2011). During this period, governments’ responses to drought were structured around the National Drought Policy (NDP). The stated goals of the NDP were to encourage farmer self-reliance, maintain the agricultural resource base and ensure early recovery. However, the reality of the policy was the provision of relief to farm households and related business that were suffering drought-induced hardships.

Relief was triggered by the declaration of a region as experiencing “exceptional circumstances” (EC) as a result of dry weather. Local communities in drought-affected regions initiated applications to the federal government for declarations and were assisted in doing so by state governments. While the NDP’s key criterion for EC declaration is that a region is experiencing a one in 20-to-25 year drought, the extent of declarations made indicates that a more generous interpretation has been applied. For instance, in June 2008, half of the whole nation was drought declared, and for the 17 years between 1992 and 2009 some areas were under EC for 14 years (Productivity Commission, 2009). Given that local communities are direct beneficiaries of drought relief and that state governments bear only a small fraction of relief costs, it is not surprising that applications are readily submitted. Furthermore, the political popularity

---

5. Reducing tenure complexity was a key recommendation of CSIRO et al. (2013).

of helping out farmers in need encourages the federal government to be more accepting of applications.

There are numerous forms of relief available once EC have been declared. Of particular note are the subsidies paid on interest rates and the costs of transporting fodder, water, and livestock. Both of these types of subsidies have perverse impacts on resource management. In the case of interest rate subsidies, pastoralists have an incentive to overcommit with debt-funded spending in favourable times, knowing that the onset of a drought will not cause problems for repayments. This works against conservative management of farm resources. The impacts of transportation subsidies are even more damaging to the farm resource base. Graziers are encouraged to hold back from destocking in the event of a drought in the knowledge that once EC have been declared, the costs of moving the stock will be reduced. Destocking is further delayed by the prospect of cheaper fodder and water. Together, these incentives mean that the pastoral zone (along with other agricultural areas in Australia) is subject to natural resource degradation pressures. The vegetation on which stock depend is heavily overgrazed. The soils are denuded and made vulnerable to wind and (eventually) water erosion. Water sources are damaged by stock searching for what remains.

Where these perverse incentives resulting from drought relief are combined with the incentives arising from insecure tenure, the impacts are multiplied. On freehold land, farmers considering drought relief will temper their incentive to overstock with the knowledge that any resultant long term damage to their resource base will impact both future profitability and the future land sale price. However, where the land is held under a lease that is nearing its term and there is some uncertainty as to its renewal, then there is little to moderate the incentives for lessees to make the most of the short term opportunities afforded by the drought relief.

## Conclusions

The outback or rangelands of Australia form an integral part of the nation's psyche. That includes both indigenous and non-indigenous Australians. The rangelands make contributions through the economic wealth they generate but also in terms of their environment, both for people enjoying seeing it first-hand and for those who value the survival of the rare and endangered species that live there. Despite this iconic standing, management of the pastoral zone since European settlement has been far from ideal. Early institutional settings provided incentives for overgrazing of the country, with consequentially accelerated erosion rates and habitat disturbance. The introduction of pressures on resources resulting from feral pests, both plant and animal, have contributed significantly to this history of degradation. Feral cats and foxes are highly efficient predators of native marsupials. Rabbits, camels, and goats thrive in the arid and semi-arid conditions, competing for available forage with cattle and sheep and causing major disturbance to the habitats of native species.

Even populations of kangaroos have ballooned with the introduction of stock watering points, so that their numbers exceed the carrying capacity of the land. Plants like the prickly acacia (*Vachellia nilotica*), initially introduced from India into the Mitchell grasslands of central Queensland as a shade tree, are now noxious weeds, threatening the viability of the grazing industry in the region as well as the habitats of native flora and fauna.

However, lessons have been learnt and policy reforms instituted to deal with the issues arising. Most notably, the lengths of pastoral leases have been increased and greater flexibility afforded in the amalgamation of holdings to achieve the economies of scale necessary to achieve financial viability. Greater emphasis is now placed on achieving environmental sustainability in the management of leases by government agencies. Competition between grazing and conservation has seen the advent of private sector conservation organizations taking the initiative to purchase pastoral leases and convert them to environmental protection “reserves.” The goal has been to secure the future of numerous rare and endangered species that are endemic to the rangelands. Private and public investments in feral plant and animal control have had some success in taking pressure off resource availability. Decisions in the High Court of Australia have also stimulated the active engagement of traditional owners in the management of the rangelands through the definition of native title.

That is not to conclude that the institutional reform process is complete. Much is yet to be done. The process of securing tenure over the pastoral zone is far from complete, and inadequacies in that regard are key drivers to continued unsustainable land use practices. The inflexibility of current leases provides a disincentive to innovative, non-grazing, enterprises and environmentally positive enterprises.

Insecure tenure coupled with a drought relief programme that encourages overstocking in the good times and retards destocking in the bad times means that the rangelands still face resource degradation pressure.

There are major challenges to achieving further reforms. The politics of leasehold versus freehold are complex and vexatious. So too are the politics surrounding native title. Clarification of the major cause-effect relationships existing between alternative institutional structures and their financial, environmental, and social outcomes for the rangelands would be valuable in advancing reform. This presents an important frontier for research. Without reform, the sustainability of the iconic Australian outback remains in question.

## References

Australian Broadcasting Corporation (2013). *Report Released as Feral Camel Cull Ends*. Australian Broadcasting Corporation.

<<http://www.abc.net.au/news/2013-11-21/feral-camel-culling-report/5105884>>

Australian Broadcasting Corporation (2014). *Letter From Wooleen*. Australian Broadcasting Corporation.

<<http://www.abc.net.au/austory/content/2014/s4135084.htm>>

Australia, Department of the Environment (2004). *Threatened Species and Ecological Communities in Australia*. Government of Australia.

<<http://www.environment.gov.au/biodiversity/threatened/publications/threatened-species-and-ecological-communities-australia>>

Australian Wildlife Conservancy (no date a). *Faure Island*.

<<http://www.australianwildlife.org/sanctuaries/faure-island-sanctuary.aspx>>

Australian Wildlife Conservancy (no date b). *Mt Gibson Sanctuary*.

<<http://www.australianwildlife.org/sanctuaries/mt-gibson-sanctuary.aspx>>

Australian Wildlife Conservancy (no date c). *Mornington-Marion Downs Sanctuary*. <<http://www.australianwildlife.org/sanctuaries/mornington-marion-downs-sanctuary.aspx>>

Australian Wildlife Conservancy (no date d). *Scotia Sanctuary*.

<<http://www.australianwildlife.org/sanctuaries/scotia-sanctuary.aspx>>

Australian Wildlife Conservancy (no date e). *Newhaven Sanctuary*.

<<http://www.australianwildlife.org/sanctuaries/newhaven-sanctuary.aspx>>

Australian Wildlife Conservancy (no date f). *Feral Cat Research*.

<<http://www.australianwildlife.org/field-programs/feral-cat-research.aspx>>

Australian Wildlife Conservancy (no date g). *43km Feral-Proof Fence at Mt Gibson Near Completion*.

<<http://www.australianwildlife.org/field-updates/2014/43km-feral-proof-fence-at-mt-gibson-near-completion.aspx>>

Bennett, J. (2015). Protected Areas: Public, Private or Partnerships. In J. Bennett (ed.), *Protecting the Environment, Privately* (World Scientific Press), Chapter 3.

*All websites retrievable as of July 18, 2015.*

Birdlife Australia (no date). *Gluepot Reserve*. <<http://www.gluepot.org/>>

Bush Heritage Australia (no date a). *Carnarvon Station Reserve*. <[http://www.bushheritage.org.au/places-we-protect/state\\_queensland/reserves\\_carnarvon](http://www.bushheritage.org.au/places-we-protect/state_queensland/reserves_carnarvon)>

Bush Heritage Australia (no date b). *Naree Station*. <[http://www.bushheritage.org.au/places-we-protect/state\\_new\\_south\\_wales/naree-station](http://www.bushheritage.org.au/places-we-protect/state_new_south_wales/naree-station)>

Bush Heritage Australian (no date c). *Warddeken Caring for Country Partnership*. <<http://www.bushheritage.org.au/about/aboriginal-partnerships/cape-york-partnership>>

CSIRO (2011). *Myxomatosis to Control Rabbits*. <<http://www.csiropedia.csiro.au/display/CSIROPedia/Myxomatosis+to+control+rabbits>>

CSIRO (no date). *Controlling Those Pesky Rabbits*. <<http://www.csiro.au/en/Research/BF/Areas/Managing-the-impacts-of-invasive-species/Biological-control/Controlling-those-pesky-rabbits>>

CSIRO, James Cook University, and the Cairns Institute (2013). *Land Tenure in Northern Australia: Opportunities and Challenges for Investment*. <<http://www.regional.gov.au/regional/ona/land-tenure/pdfs/land-tenure-20130717.pdf>>

Western Australia, Department of Regional Development and Lands (2011). *Rangelands and Tenure Options*. Government of Western Australia. <[http://www.lands.wa.gov.au/Publications/Documents/Rangelands\\_Tenure\\_Options\\_Discussion\\_Paper.pdf](http://www.lands.wa.gov.au/Publications/Documents/Rangelands_Tenure_Options_Discussion_Paper.pdf)>

Harrington, G., A. Wilson, and M. Young (1984). *Management of Australia's Rangelands*. CSIRO.

Holmes, J., and L. Knight (1994). Pastoral Lease Tenure in Australia: Historical Relic or useful Contemporary Tool. *Rangelands Journal* 16, 1: 106–21.

Indigenous Studies Programme (2011). *KULLA Indigenous Management Agreement*. <<http://www.atns.net.au/agreement.asp?EntityID=4706>>

Johns, G., D. Tongway, and G Pickup (1984). Land and Water Processes. In G. Harrington, A. Wilson and M. Young (eds.), *Management of Australia's Rangelands* (CSIRO), 25–40.



New South Wales, Department of Education and Communities (2013). *Fact Sheet: Mabo and Wik*. Government of New South Wales.  
<<http://www.racismnoway.com.au/teaching-resources/factsheets/19.html>>

New South Wales, Department of the Environment (2014). *Saving our Species*. Government of New South Wales.  
<<http://www.environment.nsw.gov.au/savingourspecies/mammalprojfaqs.htm>>

New South Wales, Department of Trade and Investment (no date). *Western Lands Leases*. Government of New South Wales. <[http://www.lpma.nsw.gov.au/crown\\_land/western\\_region/western\\_land\\_leases](http://www.lpma.nsw.gov.au/crown_land/western_region/western_land_leases)>

New South Wales, Department of Trade and Investment (no date). *Working with Communities*. Government of New South Wales. <[http://www.lpma.nsw.gov.au/crown\\_land/western\\_region/working\\_with\\_the\\_community](http://www.lpma.nsw.gov.au/crown_land/western_region/working_with_the_community)>

Nicholson, M., S. Bruce, J. Walcott, and J. Gray (2011). *Elements of a National Drought Policy: The Australian Context*. Australian Bureau of Agricultural and Resource Economics and Sciences.

Pollock, D., and F. Jones (no date). *Wooleen Station*. <<http://wooleen.com.au/>>

Productivity Commission (2002). *Pastoral Leases and Non-Pastoral Land Use*. Productivity Commission Research Paper.

Productivity Commission (2009). *Government Drought Support*. Productivity Commission Inquiry Report No. 46.

Young, M., M. Gibbs, W. Holmes, and D. Mills (1984). Socio-economic Influences on Pastoral Management. In G. Harrington, A. Wilson, and M. Young (eds.), *Management of Australia's Rangelands* (CSIRO): 79–93.

## About the Authors

**Mark Milke**, an independent analyst, is a long-time contributor to the Fraser Institute.

**Holly Fretwell** is a Research Fellow with the Property and Environment Research Center (PERC) and adjunct faculty at Montana State University, Bozeman, Montana.

**Shawn Regan** is the Director of Publications and a Research Fellow with the Property and Environment Research Center (PERC), Bozeman, Montana.

**Jeff Bennett** is a Professor with the Crawford School of Public Policy at Australian National University.

## Acknowledgments

The authors would like to thank the anonymous reviewers for comments on earlier drafts of this paper, though they take full responsibility for any remaining errors or omissions. The views expressed in this study do not necessarily reflect the views of the supporters, directors, or staff of the Fraser Institute.

## Publishing Information

### Distribution

These publications are available from <<http://www.fraserinstitute.org>> in Portable Document Format (PDF) and can be read with Adobe Acrobat® 7 or Adobe Reader®, versions 7 or later. Adobe Reader® XI, the most recent version, is available free of charge from Adobe Systems Inc. at <<http://get.adobe.com/reader/>>. Readers who have trouble viewing or printing our PDF files using applications from other manufacturers (e.g., Apple's Preview) should use Reader® or Acrobat®.

### Ordering Publications

For information about ordering the printed publications of the Fraser Institute, please contact the publications coordinator:

- e-mail: [sales@fraserinstitute.org](mailto:sales@fraserinstitute.org)
- telephone: 604.688.0221 ext. 580 or, toll free, 1.800.665.3558 ext. 580
- fax: 604.688.8539.

### Media

For media enquiries, please contact our Communications Department:

- telephone: 604.714.4582
- e-mail: [communications@fraserinstitute.org](mailto:communications@fraserinstitute.org).

### Copyright

Copyright © 2015 by the Fraser Institute. All rights reserved. No part of this publication may be reproduced in any manner whatsoever without written permission except in the case of brief passages quoted in critical articles and reviews.

**Date of Issue** September 2015

**ISBN** 978-0-88975-366-2

### Citation

Fretwell, Holly, & Mark Milke (eds.) (2015). *Ranching Realities in the 21<sup>st</sup> Century*. Fraser Institute. <<http://www.fraserinstitute.org>>

## Supporting the Fraser Institute

To learn how to support the Fraser Institute, please contact

- Development Department, Fraser Institute  
Fourth Floor, 1770 Burrard Street  
Vancouver, British Columbia, V6J 3G7 Canada
- telephone, toll-free: 1.800.665.3558 ext. 586
- e-mail: [development@fraserinstitute.org](mailto:development@fraserinstitute.org)

## Purpose, Funding, and Independence

The Fraser Institute provides a useful public service. We report objective information about the economic and social effects of current public policies, and we offer evidence-based research and education about policy options that can improve the quality of life.

The Institute is a non-profit organization. Our activities are funded by charitable donations, unrestricted grants, ticket sales, and sponsorships from events, the licensing of products for public distribution, and the sale of publications.

All research is subject to rigorous review by external experts, and is conducted and published separately from the Institute's Board of Directors and its donors.

The opinions expressed by the authors are those of the individuals themselves, and do not necessarily reflect those of the Institute, its Board of Directors, its donors and supporters, or its staff. This publication in no way implies that the Fraser Institute, its trustees, or staff are in favour of, or oppose the passage of, any bill; or that they support or oppose any particular political party or candidate.

As a healthy part of public discussion among fellow citizens who desire to improve the lives of people through better public policy, the Institute welcomes evidence-focused scrutiny of the research we publish, including verification of data sources, replication of analytical methods, and intelligent debate about the practical effects of policy recommendations.

## About the Fraser Institute

Our mission is to improve the quality of life for Canadians, their families, and future generations by studying, measuring, and broadly communicating the effects of government policies, entrepreneurship, and choice on their well-being.

Notre mission consiste à améliorer la qualité de vie des Canadiens et des générations à venir en étudiant, en mesurant et en diffusant les effets des politiques gouvernementales, de l'entrepreneuriat et des choix sur leur bien-être.

### **Peer review—validating the accuracy of our research**

The Fraser Institute maintains a rigorous peer review process for its research. New research, major research projects, and substantively modified research conducted by the Fraser Institute are reviewed by experts with a recognized expertise in the topic area being addressed. Whenever possible, external review is a blind process. Updates to previously reviewed research or new editions of previously reviewed research are not reviewed unless the update includes substantive or material changes in the methodology.

The review process is overseen by the directors of the Institute's research departments who are responsible for ensuring all research published by the Institute passes through the appropriate peer review. If a dispute about the recommendations of the reviewers should arise during the Institute's peer review process, the Institute has an Editorial Advisory Board, a panel of scholars from Canada, the United States, and Europe to whom it can turn for help in resolving the dispute.

## Editorial Advisory Board

### Members

Prof. Terry L. Anderson	Prof. Herbert G. Grubel
Prof. Robert Barro	Prof. James Gwartney
Prof. Michael Bliss	Prof. Ronald W. Jones
Prof. Jean-Pierre Centi	Dr. Jerry Jordan
Prof. John Chant	Prof. Ross McKittrick
Prof. Bev Dahlby	Prof. Michael Parkin
Prof. Erwin Diewert	Prof. Friedrich Schneider
Prof. Stephen Easton	Prof. Lawrence B. Smith
Prof. J.C. Herbert Emery	Dr. Vito Tanzi
Prof. Jack L. Granatstein	

### Past members

Prof. Armen Alchian*	Prof. F.G. Pennance*
Prof. James M. Buchanan* <sup>†</sup>	Prof. George Stigler* <sup>†</sup>
Prof. Friedrich A. Hayek* <sup>†</sup>	Sir Alan Walters*
Prof. H.G. Johnson*	Prof. Edwin G. West*

\* deceased; <sup>†</sup> Nobel Laureate