Political Rights and Policy Wrongs: The Ecology of Conflict on America's Western Public Lands

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Western public lands have two defming national features. First, they are the breeding ground of a century-and-a-half of social and political strife. As their range of uses and public meanings have evolved in step with changes in American values, a parade of interest groups have waxed and waned in the never-ending battle for the lands' resources. Wise-users now contend with environmentalists over what **uses** and which **users** will gain ascendancy over federal soil. Second, western public lands are the testing ground for a century of scientism, centralization, and prescriptive management. To this day, the policy-paradigm governing use of westem natural resources holds (1) that science can, and should, reveal the public interest; (2) that federal institutions are the proper means to secure that interest; and (3) that prescriptive management is the best way to maintain it.

Ideally, good ecological policy should serve the public interest. It should minimize the zero-sum, political conflict over public resource use—the breed of rapacious conflict forged in the heat of special interests vying for political exclusivity—and maximize, as feasible, the range of public values gained from that **use.** It should provide opportunity to **all** citizens to claim and secure rights to those parts of the public domain that are open to **use,** and it should do ***so*** within the domain's ecological carrying capacity. It should ensure a just and equitable distribution of both the ecological costs and the ecological benefits that citizens generate in the exercise of their rights. Indeed, with rights defined, secured and broadly accessible, and costs and benefits properly assigned, ecological policy should attain its primary goal: the protection of the public resource base and its sustainable yield of economic, social, aesthetic, and ecological products and services.

However, ecological policy on western public lands—stretching back in time before such policy was deliberate—does not pass the "goodness" test. Conflict over arid land resources are escalating, not diminishing, despite scientific advances. Rights' claims to federal grass, timber, minerals, water, and wildlife are politically-honed artifacts that defy equity, reason, and ecological common sense. How, and to whom, costs and benefits are distributed, run counter to the logic and demand of social accountability and responsibility And in the midst of chronic policy failure, controversy mounts over the ecological state of the western range.

The failure of public policy on federal lands is not a novel claim. What is novel are the **reasons** for its collapse—reasons that are most evident in the evolution of public-land grazing policy since 1862. Below, that policy is dissected into three broad ***ecological*** epochs, each of which represents the prevailing mindset of the time and the ecological consequences that emerge from it. Those epochs contrast with Clawson and **Held's** (1957) popular administrative divisions of disposal, custodial management, and intensive management. His categories suggest both discontinuity and evolution in policy. My contention is that western public land policy has been neither discontinuous nor evolutionary. It has remained static in its ***ecological*** effects for almost 150 years. Following review of the three ecological epochs, I turn to a range of policy reform options for the twenty-fmt century federal West.

The Open Range (1862-1934)

Ecological policy in the period of 1862-1934 formalized the open range and subjected western public lands to a half century of the quintessential tragedy of the commons. Founded on the agrarian idealism of Thomas Jefferson, and its legal embodiment in the Homestead Act of 1862, public policy aimed to recreate on the arid lands of the western range a yeoman Arcadia—a world of small cultivators where families built homes and carved from the land a modest but self-sufficient existence. As such, public policy neither sought nor accommodated the rise of a land-extensive pastoralism. Walter Prescott Webb wrote that agrarian opinion of the time considered the livestock grower "a trespasser on the public domain." Congressman Tom Patterson of Colorado worried that the western plains "would be filled with baronial estates." The ***Laramie Sentinel*** prophesied peace on the range only when Cain, "the tiller of the soil," dealt the fatal blow to **Abel,** "the stock grower." And the Secretary of the Interior proclaimed, in 1902, no greater foe to the public weal "than the class that seeks to occupy the public lands for grazing purposes" (Hess 1992).

Translated into action, agrarian policy meant keeping the western range open to all comers. This posed a problem. Cattlemen, who had arrived on the western scene well in advance of homesteaders, had a lock on much of the arid-land West by the early 1880s. Their pastoral livelihood demanded units of land hundreds and often thousands of times larger than the 160-acre homesteads parceled **out** by the General Land Office. Unable to acquire by legal means the massive amounts of land they needed to sustain their livestock, cattlemen resorted to extra-legal devices and activities to keep homesteaders off their customary ranges.

They monopolized life-giving watering points by making both lawful and fraudulent homestead claims. Control of water gave them control of the land. They cornered the market on useable rangeland by erecting barbed-wire fences to restrict access to the open range. And when fences were not possible, they diwied up the open range by agreement with their neighbors, policing the informal divisions hy themselves. By whatever means they could, cattlemen sought to stake their claim to lands that were, by virtue of aridity and isolation, far more suited to the growing of animals than to the cultivation of wheat and corn.

Protective actions by cattlemen elicited strong responses from federal policy makers. In 1885, Congress passed the Unlawful Enclosures Act to stop cattlemen from fencing-off the open range. President Cleveland backed up the Act by sending federal troops to enforce it and to make sure that other devices and activities, such as unlawful control of waters and illegal policing of rangelands by cattlemen associations, no longer frustrated the intent of western settlement.

Overgrazing became endemic. As one official of the Colorado Stock Growers' Association testified in 1884, overgrazing had been a problem "ever since Mr. Jefferson began to attract immigration to this country by proclaiming to the world its great store of free land" (Hess 1992). Now, overgrazing was an even greater problem as homesteaders turned in desperation and failure from farming to cattle and as sheepherders moved freely across an unbounded western range. Unable to protect their rangelands from overuse by others, cattlemen, farmers, and sheepmen razed the grasslands of the West.

Homesteading policy on the western range led to an ecological outcome of catastrophic proportions. It set the stage for unavoidable conflict between the renegade claims of stockmen and the politically endorsed claims of small agriculturalists. It provided a rights' regime ill-suited to an arid land and ill-adapted to the most environmentally suited economic activity for the time: livestock production. It squandered the ecological potential of the western range in a frenzy of officially condoned exploitation and distributed the costs of resource exhaustion to the nation as a whole. Most of all, it set the framework for making the tragedy of the western commons the centerpiece of future ecological policy. It ensured that conflict would continue unabated into the late twentieth Century. And it failed, by all measures of the public interest, to serve either the people or the environment of the soon-to-be public-land West.

The Regulated Range (1897-1945)

The open range was closed on national forest lands in 1897 by the Forest Reserve Act and on public domain lands in 1934 by the Taylor Grazing Act. Its closing ended the most grievous features of the tragedy of the western commons and accounted for most of the improvement in land conditions that has occurred since then (Hess 1992). Most of all, its closing launched the epoch of the regulated range—the rise of scientific and prescriptive land management, and the emergence of centralized institutions at the federal level to oversee and direct the public lands in the public's name.

Interestingly, the transition from the open to the closed range did not fundamentally alter the underlying agrarian and extractive biases of ecological policy. In the words of Gifford Pinchot (1967), father of the U.S. Forest Service and fervid champion of scientific, prescriptive, and federally-centralized resource management, "the single object of the public land system...is the making and maintenance of prosperous homes." He envisioned the Forest Service and kindred federal agencies (one of which would eventually be the Bureau of Land Management) to be the citadels of science and the repository of the nation's weal, the precise institutions needed to bring rational management to the nation's resources and economic order to the homes and families reliant upon those resources. They were the guardians of the public interest, the centers of decision on who and what would constitute the users and parameters of use on the western range. They were, in his mind, the spawning ground of a new breed of selfless men and women dedicated to public service, trained to the rigorous standards of science, and capable of identifying the resource needs of the land and people of the West. They would, he predicted (1967), constitute an elite corps of public servants, "the one great antidote for the ills of the Nation" that would bring forth "the Kingdom of God on Earth."

Pinchot's ideas were not new. Preparing the way for "the Kingdom of God on Earth" was John Wesley Powell. A staunch critic of early public land policies, he advocated an expanded and more communally based homesteading process. But his vision for the West remained, nonetheless, fundamentally Jeffersonian:

> the whole region will be covered with a mosaic of ponds fringed with a rich vegetation; and crystal waters, and green fields, and blooming gardens will be dotted over all the burning naked lands, and sand dunes, alkali stretches, and naked hills will be decked with beautiful tracts of verdure...(Powell 1890).

Powell had little faith in the individual settler to realize his Arcadian policy. Instead, be turned to science and government to engineer ordered democracy on the western range. He (1890) envisioned a partnership "between the general Government, the State Governments, and the local governments" to establish a framework that ''would allow the people to regulate their own affairs in their own way." Guided by expert science—the variety provided by Powell's U.S. Geological Survey—and overseen by the architects of the public interest (most notably himself), the people and land of the West would attain their national promise (Hess 1996a).

In essence, Powell was the first to formulate the enduring concept of wise use—the germ of thought that would lead Pinchot and later generations to believe that science could reach, by means of centralized institutions and command directives, judicious decisions on whose claims to westem public lands should be ascendant, on what uses were most appropriate

to public lands, and how to balance ecological costs and benefits to preserve the western range as a cornucopia of goods and services. These concepts of wise use led Powell to ignite a raging, 1,000-square mile fire in Colorado to rid the state of water-robbing forests. They compelled him to brag to delegates at Montana's 1889 constitutional convention that damming the rivers of Montana "means no drop of water falling within the area of the state shall flow beyond the boundaries of the state. It means that all the waters falling within the state will be utilized upon its lands for agriculture." And it was wise use concerns that drove Powell to advocate the overgrazing of Sierra-Nevada ranges to suppress seedlings and to consume grass that would only deprive downstream cultivators of precious water (Hess 1996a).

Modern rangeland policy emerged from the seeds of wise use—from the presumption that science could control and administratively channel people and resources on the western range for the optimal public benefit. Those beliefs infused Secretary Bruce Babbitt's plans "to save the West" with a Powellesque National Biological Survey and they now bolster his covenant "to protect the whole of creation" between the flood and the rainbow (Hess 1996a). They are the road map to "the Kingdom of God on Earth," heir to the Arcadian ideals of the 1862 Homestead Act and the progressive ideals of Pinchot's elite corps of public servants. Yet, like the legacy of the open range before them, wise use assumptions and the regulated range have failed to meet the litmus test of good ecological policy.

Certainly, the regulated range tempered the passions of conflict that had divided stockmen, sheepmeo, and farmers—though the price of peace would eventually prove to he the catalyst of future division and strife. To tame the excesses of the public commons, policy-makers crafted the grazing permit system, the institutional mechanism by which use rights on federal rangelands would be allocated, and allocated only for a single use. Permits did grant security of tenure to ranchers and the authority to land-managing agencies to direct land use. Nonetheless, they also set the preconditions for sustaining—albeit at a much lower level—land degradation. They entangled western public lands in a web of politically created yet politically exclusive rights (possessable only by bona fide livestock producers) that have proven socially divisive and ecologically damaging. And they nurtured the educational and extension service and support institutions that would, in the later twentieth century, isolate ranchers from the ecological costs of grazing and the ecological benefits sought by an increasingly recreation-minded public (Hess 1995).

First, the grazing permit system renewed the tragedy of the commons hy formalizing overstocking—by allotting more grazing privileges than the range could sustain (Hess 1995). Despite significant reductions in livestock numbers on federal lands in recent years, this problem persists. Second, the system created an ecologically dysfunctional yet informal regime of property rights on federal lands by dint of its dependency on private base property, its linkage not to land but to a set number of authorized livestock, its de facto long-term tenure, and its capitalization of below-market grazing fees into its market value (Hess 1995). As a result, the natural incentive of public land ranchers is to protect their perceived property interest—to steward and conserve the one thing they own, not the land, but the grazing preference attached to their permit. ***Political*** carrying capacity—the capacity defined by the success or failure of ranching interests to influence federal land agencies—invariably eclipses ***biological*** carrying capacity in this incentive environment.

Third, and most critically, the grazing permit system erected walls of wise use around the singular use of livestock production. This meant that the commitment of ecological policy in the future, irrespective of later multiple-use considerations, would remain tethered to the still prevailing presumption that "maintaining the economic viability of the western livestock industry is in the best interest of the United States" (U.S. Congress 1996). It also meant that in subsequent years as public interest in federal lands broadened beyond livestock, citizen participation in public lands would be constrained to the land-planning process. Most Americans would be simply disenfranchised from partaking in the same rights claimed and exercised by ranchers. Adding to this democratic anomaly would be the erection of an institutional support system made up of land grant universities and government extension agencies and dedicated to perpetuating public-land ranching as defined by the grazing permit system (Hess 1995). All of this would, in time, exacerbate emerging claims to the wise use West and pit a new class of Americans against the politically entrenched interests of livestock producers.

The Multiple Use Range (1945-Present)

The multiple use range is, in its ecological outcomes, little more than a continuation of the regulated range. Its policies uphold those established early in the century, adding only the legal caveat that public lands have—or at least should have—public uses beyond the narrow spectrum of red meat production. As a practical matter, public lands do support a broad array of uses and activities beyond pastoral agriculture. Still, the social and ecological expectations for a "multiple use range" are not fully realized; the edifice of institutions and policies that gird public land grazing have neutralized many of the public benefits that might otherwise attend a robust regime of multiple use.

In effect, the rule of political wise use—the presumption that government, guided by *the politically* correct and ascendant special interest, should define appropriate uses—still governs ecological policy on public lands. Private rights in public resources remain anchored to the culture of consumption. Citizens who wish to claim federal grass must harvest it with cattle; they cannot, under federal law, grow it for wildlife, protect it for watershed, or save it for aesthetic reasons (Hess 1995). The same holds for other public resources. Whether hy federal or state fiat, citizens can possess trees only if they cut them, acquire an estate-interest in public lands only if they

gouge holes in them, secure rights in the waters of wild streams (at least in western states without in-stream flow rights) only if they divert them to "beneficial" uses, and claim possession in wildlife only if they kill them. It is testimony to the hegemony and durability of ecological policy on the western range.

Indeed, the ecological incentives on public lands have not changed for a century. The grazing permit system still limits the choices available to ranchers (not to mention citizens in general). Riparian areas might have marketable value as habitat for recreation and fisheries; upland plant associations might have marketable value as habitat for big game. Yet, grazing permits constrain the market potential of both communities to water and forage for domestic livestock. Ranchers cannot dedicate those resources to competing money-making activities such as recreation, hunting, and fishing. What they can do, and what the grazing permit system limits them to do, is to allocate riparian and upland resources to the exclusive use of cattle and sheep. Irrespective of multiple use laws, ecological policy *compels* stockman to see and treat recreation, hunting, and fishing as competing—not *complementary—activities* to their livestock operations, heightening conflict between users and among uses to the detriment of all.

Ecosystem management is offered as a way out from the wise-use conundrum in which current public policy finds itself. Proponents describe it as a shift in management paradigm from anthropocentric to biocentric standards. Certainly, the ecosystem model represents a valuable tool for understanding nature and for harvesting nature's bounty in a way that could yield more environmentally sound—and socially acceptable—outcomes.

Yet, there is no reason to believe that scientism in the guise of ecological wisdom will be any more successful in arbitrating resource conflicts and protecting public resources than scieotism in the guise of wise use. Part of the problem is that neither ecosystem management nor wise use (and its multiple use cousin) are well-defmed. This makes most claims to their relative success or failure readily contestable and, for the most part, impossible to scientifically establish. Moreover, both concepts are *political* creatures, subject to the ecological pitfalls of policy hegemony and vulnerable to the intrusions and predations of the political process. Moreover, the Achilles heel of ecosystem management is precisely that of wise use. In a highly pluralistic and tolerant nation such as the United States, the political process is no more capable of revealing a universally acceptable standard of wise use than it is in reaching consensus on what is biocentrically correct or what constitutes the proper bounds of ecosystem management. To think otherwise is only to revive the discredited assumptions of scientism (Nelson 1995).

Multiple use, however tinged with ecological sensitivity, does not attack the underlying flaws of historic ecological policy. Rights' claims to permissible uses in the western commons remain clouded, uncertain, and contradictory, fueling what has become a costly contest for political ascendency on the federal range. Estimates of the true federal cost of the Bureau of Land Management grazing program, for example, put the figure at over $200 million per year (Nelson 1982; 1995). When this amount is combined with other related private sector costs—such as public participation in land-use planning and litigation by environmental groups—the money spent every three to four years overseeing and contesting public land grazing likely equals or surpasses the market value of all public land grazing permits.

Moreover, a complex of federal grazing subsidies starting in the 1950s and continuing, with some attenuation, to this day have distorted the distribution of ecological costs and benefits on the western range (Hess 1995a; 1995b). Ranchers practicing land-destructive grazing are awarded with various cost-subsidies, ranging from site improvements such as fences, reseeding, brush removal, and water development to direct assistance in the form of emergency feed and land-grant university and extension service aid. In turn, the general public must absorb the ecological and economic costs of reclamation and, at the same time, passively witness the diminution of desired ecological benefits. Bad policy breeds bad policy, conflict feeds conflict, and zero-sum politics—where win-win solutions succumb to the muscle of special interests—trump ecology and the public interest in an unending circle of the tragedy of the western commons.

The Range of Possibilities: Toward Market-Based Reform

Garrett Hardin (1968) proposed two ways to tame the social and ecological excesses of the commons. One way was simply to end the commons by establishing a regime of private property rights. In effect, this was the strategy of the epoch of the open range. Yet, it failed because policy barriers first slowed and then stopped the privatization of the American West. Today, privatization is unlikely; it is precluded because of cultural biases and because of the existing complexity and multiplicity of conflicting and intermingled claims to public lands by ranchers, farmers, miners, loggers, hunters, water districts, recreationists, various shades of environmentalists, and rural and urban communities.

Hardin's second way to tame the commons was to impose public regulation over the private use of common resources. This, of course, was the strategy of the regulated range, and it remains the strategy of the multiple use range. It failed for a number of critical reasons.

First, regulatory policy imposed administrative hegemony over public lands, first in the form of agrarianism and later in the forms of political wise and multiple uses. That hegemony bas proven antithetical to American pluralism and to the divergent landscapes of the western range. The result has been social conflict and land degradation. Second, regulatory policy imposed a static regime of management over otherwise dynamic and evolving public lands and public values. The result has been social discord and inequitable distribution of ecological costs and benefits in the face of unequal, dysfunctional and disputed rights' claims. Third, regulatory policy

sustained an institutional and incentive framework-from the permit system to cost-subsidies to tradition-bound educational and extension services—that has perpetuated many of the ecological outcomes of the open range. Adding to this legacy are the diseconomies of small grazing allotments that foster overgrazing and the behavioral anomalies of communal grazing allotments that mimic—because members lack the authority to police themselves—the environmental pitfalls of open range conditions (Hess 1995a). Together, these elements of ecological policy have steered the public lands ever toward the tragedy of the commons.

A long history of ecological policy on public lands argues persuasively that Hardin's model of the tragedy of commons—and its solution—is fatally flawed. Neither central regulation nor privatization are sufficient or acceptable responses to the unique historical conditions and needs of America's federal rangelands. A new policy strategy for the western range is needed, one that eschews Hardin's "either-or" prescription, but which addresses the social and ecological conflicts endemic to common resources. Four closely-allied elements of market-based rangeland reform (O'Toole and Hess 1994; Hess 1996b) hold promise for just such a strategy: (1) fully marketable forage use leases on public grazing lands, (2) outcome-based management in lieu of traditional prescriptive management, (3) democratically elected and self-governing resource councils, and (4) locally administered Biodiversity Trust Funds.

Fully Marketable Forage Use Leases

Marketable forage use leases are the first building block of market-based rangeland reform and the first step in overhauling the social inequities and ecological shortcomings of past public rangeland policy. Their creation entails formalizing pre-existing, permit-based forage use claims in public lands and makmg those claims fully transferable to all public land users and for all uses consistent with the purposes of public lands. Specific actions that must be taken to this end include:

- ***Transform grazing permits into secure, long-term (30 years or more) public land leases, grandfathering-in current permit holders.*** Long-term leases make sense in an outcome-based management regime (discussed below) where well-defined and fully enforced standards substitute for the prescriptive management terms once attached to short-term permits. Grandfathering-in current permit holders is both politically prudent and ethically appropriate given the investment made by public land ranchers in their grazing permits.
- ***Remove statutory and regulatory proscriptions that constrain public land lessees and their allotments to domestic livestock production.*** Within the forage-use side boards set by environmental standards (discussed below) and other federal laws that preclude certain activities on public lands, there are no compelling economic, ecological, or social reasons to limit the holding and exercise of public land leases to ranchers and ranching.
- ***Remand decisions on the degree of proper forage use—or nonuse—to lessees.*** In an outcome-based management regime (again, discussed below), the principal management concern is not how a lessee uses authorized forage, but the ecological results of that use.
- ***Eliminate barriers—such as base property requirements and subleasing prohibitiota—to the trading of leases between willing buyers and sellers.*** This is a vital and necessary precondition for marketing forage use claims.
- ***Terminate all public land subsidies and entitlements to lease holders.*** Subsidies and entitlements distort and disable market processes.
- ***Shift costs of management and monitoring to public land lessees.*** For markets to work effectively, costs as well as benefits must accrue to those who generate them.
- ***Assess a universal public land lease fee indexed to the national rate of inflation that can operate the public land lease program without subsidization.*** Given the cost savings of outcome-based management (discussed below) and the cost-shifting to lessees, a base universal lease fee roughly equivalent to $2/animal unit month (AUM) (but indexed to inflation) should be sufficient to cover program expenses.
- ***Broaden the range of allowed economic uses on public rangelands so as to foster and encourage diverse and sustainable land practices*** Logically, public land lessees who are already empowered to use public grass to profit from livestock should also be able to use the same grass to profit from growing more wildlife, improving fisheries, and enhancing recreation, and to do so within the constraints set by environmental standards (below).
- ***Remove all barriers to lease holders for noneconomic uses of public lands.*** Effective market reform must include the right of lease holders, subject to environmental standards, to do nothing with their leased forage.

The social outcome of this first phase of market reform would be profound. Previously disenfranchised citizens would enjoy equal standing with ranchers in the acquisition and exercise of public land leases. They would be free to change land use in nontraditional directions, such as management of endangered species, riparian restoration, or enhancement of wilderness values. At the same time, stockmen would be free to explore economic options to using federal grass exclusively for livestock production.

Voluntary market exchange would provide creative and positive vents for the anger and frustration that has fueled western conflict and made politics the final arbiter. It would shift land-use decision-making from central agencies to individuals and groups, making wise use and multiple use the outcome of volitional, positive-sum negotiations, not the calculated zero-sum consequences of competing ideologies and the political jockeying of special interests for resource exclusion and political supremacy. It would help ensure that ecological

costs more closely track the individuals and parties responsible for environmental damage. It would also provide the general public with new and more certain avenues to enjoy and capture existing and emergent ecological benefits.

Marketization would benefit the environment, too. A more equitable and rational rigbts regime—based on secure and transferable forage use claims—would foster accountability and responsibility. At the same time, a market in public land leases would encourage a proliferation in alternative land uses, facilitating a more rapid transition from environmentally harmful to benign activities. And by severing, from the public land lease system, the substantial body of disincentives that encumber present land policy, marketization would quell the lingering tempest of the open range. It would make rights' claimants directly responsible for land uses. It would fracture the hegemony of past land management, making future management more receptive to information, more adaptive to circumstances, more diverse in outcomes, and more responsive to change and error. These are the features that make the market process profoundly ecological—ecological for its spontaneous ordering of relations among people and between people and their environments—and that could make ecological policy more sensible and much more sound.

Marketable public land leases would effectively level the public land playing field for everyone and provide the incentive environment to encourage and reward good land management and to dissuade and penalize bad land practices. Once implemented, such leases would offer a more democratic, more responsive, and less costly mechanism for attaining publicly-desired landscapes in a just, equitable fashion. They would, in effect, yield land-use outcomes that are culturally richer and ecologically more diverse than those forged in the past from politicized multiple-use mandates and centralized land planning.

Outcome-based Management

For market-based reform to be effective and workable, prescriptive management must he phased out and outcome-based management phased in. To do this, two policy conditions are prerequisite: (1) lessees should have broad flexibility in the disposition and use of their public land leases and (2) the forage use side hoards and the ecological constraints—the locally appropriate standard—within which private land use on federal lands takes place must be clearly defined and consistently and vigorously enforced.

The first policy condition—deep deregulation—is the logical response to compelling historical data: prescriptive management on public lands has not worked. It has not prevented poor land practices or significantly fostered better resource stewardship. It has not achieved equal opportunity for all to the access and use of federal lands. It bas not yielded an equitable distribution of rangeland costs and benefits. And it has not quelled the din of public land conflict. It has, instead, proven costly, adding tens of millions to agency deficits through expensive yet marginally effective land use planning and micromanagement of grazing allotments. It has formalized and enforced management that is perceived by many citizens to he inequitable and more detrimental than beneficial to the nation's public rangelands. It has, by virtue of its historic inflexibility, mounted barriers to change and innovation in rangeland uses and frustrated the evolving natural resource demands of a dynamic and diverse populace.

Outcome-based management is—and would be—strikingly different. For ranchers, it would mean deep deregulation of the day-by-day activities of livestock production by removing all federal targets for livestock numbers, approved grazing systems, and times and seasons of livestock use. For other lessees, including ranchers who choose to experiment with nonlivestock forage activities, it would be equally deregulatory. It would expand management latitude by facilitating new land practices and by freeing lessees from the regulatory burdens of the past. And for ranchers and nonranchers alike, it would diminish and decentralize the burdensome public land planning process, saving taxpayers tens of millions along the way.

The second policy condition—locally-appropriate standard—is the logical response to the ever-present reality of the tragedy of the commons, to the hard fact that deregulation is simply insufficient in an outcome-based management regime to protect the bulk of public resources that remain beyond the pale of public land leases. Clearly, markets and incentives can effectively steward and optimize the specific resources and uses that come with the holding of a public land lease. They cannot, however, always conserve the nonleased amenities retained by the public—the intangibles of ecosystem process and the structural elements of biological diversity. For this reason, locally appropriate standards are needed to supplement deep deregulation.

Such standards, when site-specific and vigorously enforced, would help safeguard nonleased, public amenities from the fate of the commons' tragedy. In a market-based setting, the attention of federal agencies would shift from makimg land-use policies and mandating acceptable land practices to monitoring the ecological effects of multiple land activities and enforcing compliance with locally appropriate yet democratically set standards. Such standards would establish the bounds within which private lease-holders could exercise their forage use rights without diminishing the controlling rights retained by the public or impairing the ecological processes integral to habitat potential and associated rangeland life.

Locally appropriate standards would be the means to separate private lease claims to federal rangelands from general public claims to access to and enjoyment of those lands. In essence, standards would be the mechanism to separate private and public realms. They would give lease holders and the public predictability in the allocation of ecological costs and benefits (by identifying the rights and obligations of each), offer to both the consistency and predictability of enforcement, and provide effective judicial redress for mitigation of either private damage to public resources or public infrimgement of private leasehold privileges.

Democratically Elected, Self-governing Resource Councils

Market and outcome-based rangeland policy reform is predicated on establishing governing policies and standards that reflect local conditions, that respond to the values and resource demands of both resident and nonresident rangeland users, that protect the underlying public interest, and that provide a framework for the exercise of forage use rights. Under such a reform paradigm, ultimate responsibility for establishing management policy and setting appropriate standards would be transferred, to the extent possible, to self-governing and popularly elected resource councils.

Resource councils would be set up on a watershed basis or rely on traditional administrative boundaries, such as Bureau of Land Management districts and resource areas or Forest Service districts and national forests. Voting membership in each resource council (as distinguished from universal rangeland access enjoyed by all citizens) would be allocated to (1) resident lease holders and (2) other users, irrespective of residence, who select a specific council area to exercise their participatory rights and who meet minimal membership qualifications. Such qualifications could range from none (open voting membership) to an annual membership fee and/or a voluntary contribution of time to local resource management.

Regardless of how the resource councils are internally structured, their roles would be substantial and clearly delineated. Federal agencies would continue to monitor the state of the land and to enforce locally set standards and applicable federal laws (to the extent such federal prescriptions remained in effect in the new outcome-based management regime). They would, however, devolve policy-making duties and responsibility for formulating standards to individual resource councils (or, as situations might dictate, to federations of councils within common ecological landscape units, such as watersheds). Resource councils would enjoy a degree of independence and discretion comparable to that exercised by public land lease holders, but they would wield it over a wider array of public resources and across a more expansive public landscape.

Locally Administered Biodiversity Trust Funds

Markets are potentially powerful conservation tools. They offer people incentives to steward and protect range resources having economic value—such as grass for cattle, elk for paid hunting, trout for fee-fishing, birds and other wildlife for tourist viewing and photography, and immaculate riparian areas for quality recreation. They also create opportunities for people to combine and pursue common goals that are not just economic. Land conservation by private organizations like The Nature Conservancy exemplifies this creative use of markets.

It is also true that markets have conservation limits. Many public land amenities stubbornly elude market solutions because they lack economic value (like endangered species), because they have a value that cannot be fully captured in the market place (like open vistas and watershed health), or because the funds needed to acquire and protect them exceed private means. In addition, there are political and cultural constraints to the expansion of private rights claims to public resources which could, if affected, resolve many market failings.

As a complement to markets, locally controlled Biodiversity Trust Funds should be established within each council jurisdiction (or among alliances of adjacent councils) and be financed from a percentage of local, across-the-board public land fees (including fees charged for general recreation). These trust dollars, which in aggregate could exceed $1 billion annually, a sum many times greater than what is now available to the federal agencies, would be administered by resource councils within their respective jurisdictions. They would be awarded by the councils in variably sized grants, on a merit basis, to lessees, other citizens, citizen groups, or state and federal agencies submitting the best proposals for restoration and protection of nonmarket public resources and amenities.

Conclusion

Support for market-based, public rangeland reform is on the ascendancy in the United States. Environmentalists voiced strong support for market approaches in lieu of the rangeland legislation proposed by the Senate and the House during the 104th Congress. Currently, leaders from the major environmental and ranching organizations in the United States are meeting to discuss elements of market-based reform of public rangeland policy.

It is unlikely that any single feature of market-based reform will correct the many deficiencies that riddle contemporary ecological policy on public lands. However, when considered as an integrated package, market-based reform offers multiple solutions to chronic conflict, rights disputes, and inequities in the distribution of ecological costs and benefits. Its risk, which must be considered, lies in the multiplicity of solutions it will create over time, the large probability of localized mistakes, and the foibles of local politics.

Simply put, land-use outcomes in a market setting will not be perfect. Politics will remain a factor of public land management and lessees and local resource councils will continue to err ecologically. There is, however, a qualitative difference between the national politics of special interests seeking public land supremacy and the politics—*and markets*—of resource councils where democracy is participatory and where participation in public lands is multichanneled. Lessees and local resource councils will commit land-use mistakes. Yet their mistakes, constrained in time and space by the dispersing effect of markets and deregulation, will most certainly be preferable to the infrequent yet expensive and predictable failures of all-encompassing ecological policies. That should be the lesson of western public lands and a century-and-a-half of persistent and sweeping management hegemony.

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