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The Political Economy of Public Land Use

B. Delworth Gardner

Federal ownership and management of the public lands have created a rent-seeking frenzy, inflated rhetoric, wasted resources, and squandered investment opportunities. The primary commodity user groups, grazers and timber harvesters, have declined in importance whereas conservationists and recreationists have gained. Still, historical use preferences and continued rent seeking have produced use entitlements that seem impervious to changing costs and demands and thus result in large wealth losses to consumers and taxpayers. Privatization of the public lands is probably politically infeasible, but simulated market processes can be used to replace political allocations and improve efficiency.

Key words: economic efficiency, political economy, public lands, rent seeking

Introduction

Any economist, or anyone for that matter, who believes that economic efficiency is important to human welfare must view government ownership and management of public lands in the West with dismay: a continuing saga of rent-seeking frenzy, inflated and often malicious rhetoric, wasted resources, and squandered opportunities.

Probably no one intended that it be this way. The Progressive vision of expert scientific management in vogue in the first quarter of this century embraced the notion that the federal lands would be highly productive in producing social welfare if grasping special interests could be curbed by public servants trained in science. The overall goal of management was utilitarian: producing wood, water, and forage for "the greatest good of the greatest number in the long run" (U.S. Congress, p. 1).

But now, in 1997, there is broad disillusionment with centralized control of the economy. This is demonstrated by serious consideration of privatization and devolution of many functions of government. Yet, privatization of the public lands, and even decentralization of public-land management, have not been seriously considered (Gardner 1983).

The principal thesis of this article is that the present situation is untenable. The regulatory controls and allocation procedures associated with federal ownership and management are very costly since they are completely dissociated from economic efficiency criteria and rely instead on the exercise of political power.

The Progressives worried that federal administration of the traditional uses of the public lands could lead eventually to legal rights. This concern is reflected in the language of enacted statutes. For example, the authorized use of federal forage by stockmen on the national forests was not to be regarded as a "right," but as a "preference" or a

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“privilege.” Therefore, the government issued revocable “permits” to prevent the grazers from believing that they had property rights which could be protected by law. In addition, if these privileges bestowed by munificent government were not used, they could be withdrawn. Thus, the “use it or lose it” doctrine was born, encouraging inefficient land use and premature development.

But these attempts to prevent the establishment of “rights” did not really work. What the government chose to call authorized uses have, in actuality, evolved into de facto private entitlements now grounded in long historic experience that the government is either unwilling or unable to change much. Since the government managers have neither incentives nor price and cost information to simulate efficient market allocations, they have instead rationed resources by inefficient political criteria (Gardner 1962). Political allocations do not shift use efficiently in response to changing demand and costs. As Nelson (1995, p. 198) has pointed out, “To move or sell these de facto rights to the highest bidder is like trying to sell someone else’s property.” But a lack of exchangeable de jure rights precludes efficient economic markets from developing. The public lands are thus used as a political football to be kicked around at the discretion of politicians and bureaucrats who respond to the rent seeking of special interests.

The emergence of the environmental movement as a powerful new force in public land management is an important factor in disturbing the political equilibrium that may have existed at midcentury. The environmentalists brought a “new moral vision and a crusading spirit” (Nelson 1995, p. *xviii*) that are reminiscent of the Progressive fervor so evident many decades earlier. In sharp contrast to the progrowth ideology of the 50s and 60s, environmentalists have become the primary force to express doubts about the social gains derived from economic growth and technical advance.

An early statutory manifestation of this new vision was the 1964 Wilderness Act. Timber harvesting, mechanized recreation, and mining were banned from designated wilderness areas, and no new livestock grazing or major range improvements were to be allowed (Nelson 1995, p. 72). Then, in rapid succession, came the National Environmental Policy Act of 1969 (NEPA), the Forest and Rangeland Renewable Resources Planning Act of 1974 (NFMA), the Federal Land Policy and Management Act of 1976 (FLPMA), and the Public Rangelands Improvement Act of 1978 (PRIA).

Robert Nelson (1995, p. 123) convincingly argues that the planning required by these statutes

did not create a rational decision process but it did serve to redistribute political power. Environmental and recreation groups were able to manipulate the legal and procedural handles created by planning to obtain greater influence over public land decisions. The planning requirements of FLPMA and NFMA in this respect had practical consequences similar to NEPA. To be sure, the land was not literally conveyed to these groups, but in wilderness areas, critical areas, wild and scenic rivers, and a host of other new protective zones, recreational and environmental groups acquired effective control over future uses. If the control over use is the essence of a property right, it might be said that the late twentieth century witnessed the creation of a whole set of private rights to public lands.

But these rights are seriously incomplete. The Austrian economists, especially, have shown that market transfers of rights promote diversity, freedom of choice, innovation, and most of all, harmony. Market exchange by competent individuals permits people with differing tastes and views to peacefully coexist (Baden 1995). But it is public bickering over entitlements and influence peddling that characterize resource allocation on the public lands.

Political Allocations and Rent Seeking

The "public choice" school has provided the most compelling theoretical rationale for understanding political decisions. Public choice is an effort to apply economic reasoning to politics (Gwartney and Wagner, p. 17). At the center of political bargaining are assumed to be rational and self-interested agents who invest in activities available to them that will increase their wealth. The suppliers of political favors (politicians and bureaucrats) provide subsidies, tax benefits, and favorable regulations to the demanders (interest groups) in exchange for votes, contributions to political campaigns, and job perquisites (Gardner 1995a, chapter 7). Hence, if interest groups have the constitutional option of using resources available to them to buy political favors, and if this activity is expected to yield higher returns than alternative investments, they will engage in purposeful collective political action (Olson).

With respect to the public lands, it is important to recognize that demanders of favors cannot purchase commodities (services) directly, as they would in an economic market, although they may pay fees. The government is a monopoly supplier, and the demanders can only increase their share by persuading government, through rent-seeking behavior, to do so through legislation, bureaucratic dispositions, or judicial rulings.

Probably the most potent of all public-choice principles is "concentrated benefits and diffused costs." Political decisions can be more effectively manipulated to redistribute wealth in behalf of an interest group if the beneficiaries are relatively small in number and individually have a large stake in the outcome. Free riding can be more effectively controlled with a small number of beneficiaries, so generating resources to influence political decision is less costly. On the other hand, those who lose from the redistribution must be numerous and individually have a small stake. For example, subsidized federal grazing fees have an important impact on the wealth of a relatively few permittees, while their costs are spread over many millions of taxpayers who allow their wealth to be confiscated as long as the individual costs of blocking redistributive policies are greater than the amount of wealth taken.

Another reason that the concentrated interests of a small group of voters can dominate a much larger group in the political arena is "rational ignorance" (Downs). Voters are assumed to weigh the benefits and costs of becoming informed about a particular issue or a particular candidate. If the expected costs exceed the expected benefits, they will remain "ignorant." Rational ignorance explains why so many voters are relatively uninformed. Thus, they are easily "fleeced" by well-organized interest groups which represent large wealth positions.

On the other side of the political spectrum, politicians in democracies bear extremely high information costs. To be effective representatives, they should know something about a wide variety of issues of concern to their constituents. It is not that they lack information; their offices are inundated with it, primarily slanted toward the interests of those who submit it. Hence, lobbyists fill any vacuum and may even economize on information retrieval for the politician. By heeding the information provided by interest groups, politicians also increase their chances of getting elected because the bulk of their campaign financial support comes from these groups.

Capturing a wealth transfer from the public sector through rent-seeking investment, however, may be expensive where there is vigorous competition for government favors. Each competing interest group can be expected to pay something to obtain a transfer.

What they pay will depend on the degree of competition by both demanders and suppliers of favors (Gardner 1995a, Chapter 7). The size of the transfer and the probability of obtaining it are significant factors in accounting for rent-seeking expenditures. Over the whole economy, the expenditure of scarce resources to affect the distribution of political rents is enormous, and there are few examples more visible and more costly than decisions that affect the use of the public lands.

Economic rent is the difference between what is paid for resources in their actual use and their best alternative use. As applied to users of resources from the public lands, rent may be calculated as the use value of the product (service) minus the costs (including fees paid to the government) of obtaining this use value. For example, in the case of an animal unit month (AUM) of federal forage, the economic rent captured by the permittee would be the value of the AUM to the grazer minus the sum of the federal fee and the nonfee costs of taking the forage. *Ceteris paribus*, the rent per AUM will be higher where fees are lower, forage is more valuable, and auxiliary costs are smaller.

Groups Competing for Rents and Their Relative Success

The primary groups contending for use of the public lands are preservationists (conservationists), recreationists, loggers and wood processors, livestock grazers, miners, water users, and energy producers. Although some of these groups are competitive, others represent interests that are at least partially complementary. In addition, a whole host of derivative industries capture rents which often have a considerable effect on political outcomes.

Under most circumstances the resource-use interests of preservationists are quite different from those of traditional "commodity" groups. In the 1960s, contention between preservationists and multiple-use advocates escalated into a heated debate over wilderness vs. nonwilderness values. Ultimately, this debate revealed two conflicting visions of the character of modern society (Nelson 1995). Baden (1996b, p. 45) has argued that the protected-area approach, coerced by top-down government and advocated by preservationists, has "robbed rural communities of their traditional user-rights over forests, waters, fisheries, and wildlife, without offering appropriate remuneration." As a consequence, many local people see conservation as anti-development and anti-people, to be fiercely resisted.

Over the past 30 years a striking change in federal land management policy is suggested by the number of acres said to be managed for "conservation" purposes. In 1964, what was defined as conservation acreage amounted to only 9.4% of the federal total, whereas in 1994 it was 43.7% (Eco-logic). Similarly, the wilderness act set aside nine million acres of the federal domain as wilderness. By 1994, the United States Forest Service (FS) and the Bureau of Land Management (BLM) managed 69.4 million acres of wilderness and conservationist groups demand even more. Mining is *not* allowed on 93.1 million acres; oil and gas development on 77.3 million acres; hunting on 57 million acres; and grazing on 20.6 million acres not included in the wilderness system. These data demonstrate the increasing political muscle of conservation users vis-à-vis traditional commodity users.

The shifting political power of various groups may also be inferred from the amount of acreage managed by the four major federal land management agencies. Eco-logic

refers to a General Accounting Office (GAO) report which points out that FS total acreage increased from 186.3 million acres in 1964 to 191.6 million in 1994. Over the same period, BLM acreage fell from 464.3 million to 267.1 million acres.¹ Fish and Wildlife Service (FWS) acreage increased from 22.7 million to 87.5 million, and National Park Service (NPS) acreage increased from 27.5 million to 76.6 million over the same period. Obviously, the big gainers have been those agencies which serve conservation, wildlife, and recreation interests.

Nor are changes in public land ownership the whole story. The GAO reported that federal land managers are turning to leases, agreements, and easements as a means of controlling private land that the government does not want to buy.² Out of more than three million acres of private property under federal control through these arrangements, 2.1 million are in conservation easements, and 1.7 million acres of easements are administered by the FWS (Eco-logic).

The number of lobbying groups with offices in the nation's capital is a rough indication of attempts to influence federal land use (table A1). All classes of interest groups are well represented, but registered environmental (conservation) organizations are clearly the most numerous. The conservation organizations registered specifically in the various public land states are also of interest (table A2). As might be expected, the number of organizations is largest in the states with the highest population (California, Washington, Oregon, and Colorado). The ecological variability of the various states is also positively associated with the number of organizations, and a relatively large number of recreational and wildlife groups are registered in every state.

Let us now look briefly at some of the large-acreage user groups of the federal lands to see how they have fared in recent times.

Livestock Permittees

AUMs of federal grazing are only 7% of national total grazing, but about 17% of the livestock in the 11 western states graze some of the year on the public lands (Joyce). The ranching community claims, however, that these numbers understate the importance of federal grazing to local economies. Since public lands are almost always grazed in rotation with private lands, it is argued that if public grazing had to be replaced with more costly feeds, the viability of many existing ranching operations would be threatened. While this view may be valid in the short run, over time the land market would rearrange resources into viable ranching units as it has always done, but there may well be fewer of them (Gardner 1995b).

FS, BLM, and total federal AUMs since the mid-1960s are graphed in figure 1 as a percentage of their numbers in 1980. Total federal grazing use is relatively flat, despite the views of many scientists that federal ranges are now in the best condition for livestock grazing than at any other time in this century (Gardner 1991). This suggests that livestock permittees have not done well compared to some classes of users of the public lands. Part of the explanation for the flat trend is that economic rents captured by permittees

¹ The BLM decrease of 197.2 million acres was produced largely by a transfer of 113 million acres from BLM to Alaska and Alaskan natives. The balance was transferred to the other three agencies.

² The FWS reported that about 1.1 million acres of private property has been restricted, mostly for the desert tortoise. Of the estimated 187 million acres of wetlands in America, as much as 165 million acres are privately owned, and their productive use remains severely restricted while owners are still required to pay property taxes.

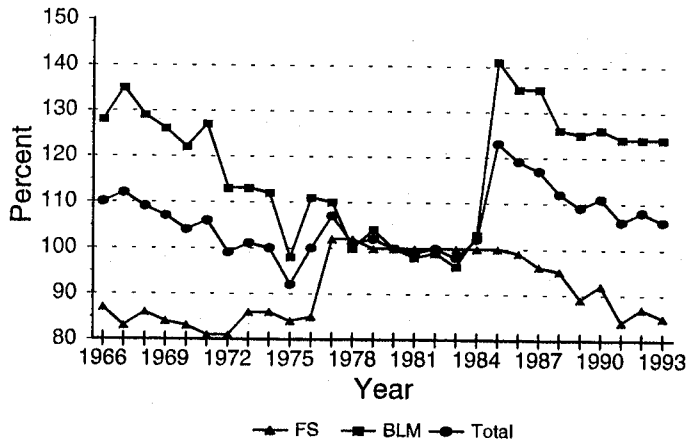


Figure 1. AUMs of grazing on public lands as % of 1980, 1966-93

Sources: *The Grazing Statistical Summary*, U.S. Dept. of Agriculture and *The Public Lands*, U.S. Dept. of the Interior.

are probably declining. Many ranchers have simply given up their grazing preferences rather than hassle with the government over what are perceived as onerous regulations. Others are opting for temporary nonuse because the net value of grazing on some allotments is now not worth the fee (Nielsen, Godfrey, and Lytle). Still, there is hope that profitability will improve in the future so permittees do not have to give up their grazing altogether (Gardner 1989).

Another factor suggesting smaller rents from public grazing is the declining real price of substitute private forage over the last three decades (fig. 2). Because the nominal price for private grazing is used in the PRIA formula for determining public grazing fees, rising nominal private fees would have pushed up public fees, *ceteris paribus*.³ However, real public fees are declining. This might have increased rents were it not for the fact

³ The role of the nominal price of private forage in the formula is to move the public fee in concert with the price of substitute forage. Even though this role makes this price highly sensitive politically, I have seen no evidence that it is downward biased.

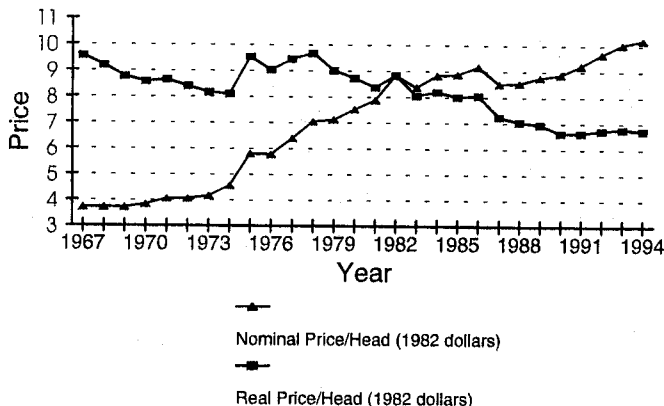


Figure 2. Nominal and real prices/head of forage on comparable private ranges, 1967-94

Sources: Torell, A. and *Statistical Abstract of the U.S., 1975-95*.

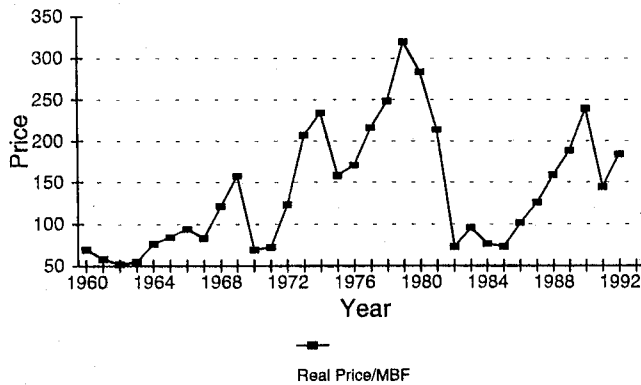


Figure 3. Real yearly stumpage prices in the Pacific Northwest Region, 1960-92

Sources: Sohngren, B. L. and Haynes, R. W.

that the real price of alternative private forage is also declining, meaning that it might be profitable to shift to the private substitute.⁴

There are also pressures on the suppliers of the rents, the bureaucrats and politicians. The political importance of budget deficits is obvious to bureaucrats and politicians, but grazing fees contribute so little to government revenues that raising fees or leaving them unchanged would make little difference to the size of the deficit. Also, politicians encounter relentless pressure, principally from environmentalists, to remove livestock from public lands altogether. Given the relatively few grazing permittees, the declining net economic rents per AUM, the high rent-seeking costs required to be competitive with other user groups, the "low" revenues produced for the government, and the pressures from alternative user groups, it is not surprising that rancher permittees have lost ground. They will probably continue to do so in the future.

Loggers and Timber Producers

Over most of the last thirty years, timber harvesters have done much better than grazers, both in the trends of value of harvested output and in revenues generated for the government. The overall trend in real timber prices since 1960 is up slightly, implying some higher economic rents for timber producers (fig. 3). However, timber harvests from public lands have been highly volatile with substantial declines in the early 80s, with increases from 1982 to 1987, and another rapid decline since 1988 (fig. 4).

A reason for the first decline is the sharp recession and diminution of the inflation rate produced in the early Reagan years by the monetary policy of the Federal Reserve under Paul Volcker. The effect on timber prices is revealed in the huge decline in real stumpage prices from 1980 to 1985 (fig. 3). Suppliers of timber responded by reducing their harvests from the national forests and turning instead to their inventories on private lands. The federal government uses a competitive bidding policy undergirded by minimum appraisal prices to allocate federal timber. Apparently the harvesters were not willing to bid on many parcels of federal timber during this period of very low prices.

⁴ One of the referees of this paper makes an important point. He/she suggests that livestock numbers by location over time suggest that beef production is shifting from the public land states to private land states.

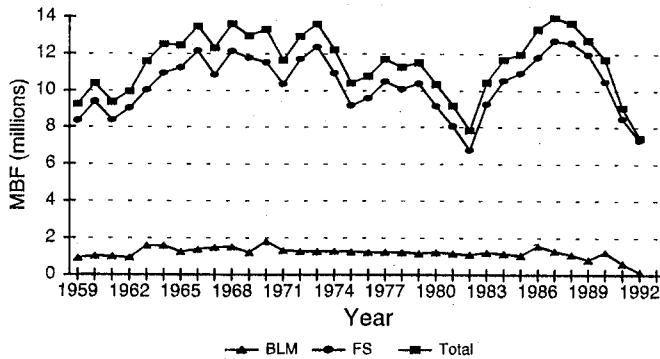


Figure 4. Harvest of timber from public lands 1959-92

Sources: *The Report of the Forest Service*, U.S. Dept. of Agriculture and *Public Lands Statistics*, U.S. Dept. of the Interior.

The decline in the late 1980s and 1990s is attributable to the impact of the political hassles involved with enforcement of the endangered species protection act and, notably, protection of the spotted owl in the Pacific Northwest.

The competition between recreation and logging is probably less severe than between recreation and livestock grazing in most circumstances.

Recreation does not necessarily conflict with timber harvesting; many game animals, for example, require a diversity of habitat, which timber harvesting can provide . . . For the bulk of recreation, however, especially ordinary hiking and camping, most recreationists prefer uncut old-growth forests. Almost all recreationists find the immediate aftermath of clear cutting to be visually unattractive or worse (Nelson 1995, p. 67).

The politics of public land timber harvesting are complicated because of diverse interests and the relative size of timber companies operating mostly on private land. There can be no question that as harvests from the public lands have declined in recent years, small independent loggers and timber producers have been hurt, as have many rural communities dependent on them. (However, a stable resource flow from the public lands does not necessarily guarantee a stable local economy or community.) But large timber companies with extensive private timber holdings have gained because of more favorable timber prices that are partially attributable to less supply from the public lands. In fact, some of the most vigorous lobbying in support of the endangered species act has come from large timber companies.

Fishing, Hunting, and Recreation

From 1967 to 1993 recreation use of FS and BLM lands approximately doubled (fig. 5). Recreational visits to the national parks have increased even faster. The prices (fees) paid by recreational users are minimal, so prices have not dampened the quantity demanded. Outdoor recreation is a superior good and demand rises as income increases. From 1967 to 1991 the per capita real net national product rose from \$17,545 to \$22,071 (in 1994 dollars), or at the rate of about 1% compounded annually, so some of the increase in outdoor recreation is attributable to income increases. Most of the increase in demand, however, is probably due to a shift in preferences. Since the fees paid by recreational users are so small, the consumer surpluses (economic rents) captured must be very large.

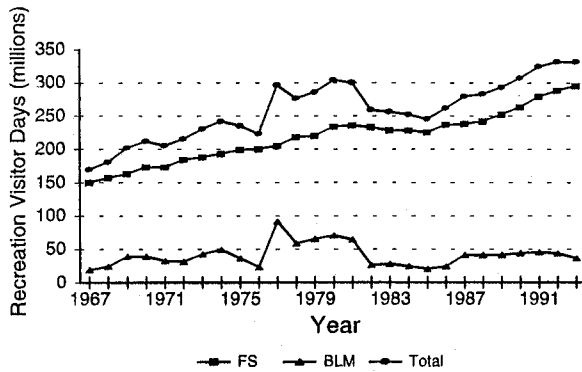


Figure 5. Recreation on public lands 1967-93

Sources: *The Report of the Forest Service*, U.S. Dept. of Agriculture and *Public Lands Statistics*, U.S. Dept. of the Interior.

Valuing nonmarket outdoor recreation has always been a difficult empirical problem, but at just \$5 per day, the value of recreation on the public lands would have been \$1.5 billion in 1993.

Nelson argues that land-use planning required of the federal agencies by recent legislation has served to redistribute political power toward recreational use.

Environmental and recreation groups were able to manipulate the legal and procedural handles created by planning to obtain greater influence over public land decisions. The planning requirements of FLPMA and NFMA in this respect had practical consequences similar to NEPA. To be sure, the land was not literally conveyed to these groups, but in wilderness areas, critical areas, wild and scenic rivers, and a host of other new protective zones, recreational and environmental groups acquired effective control over future uses (Nelson 1995, p. 123).

The nominal or zero fee paid by recreationists is itself some indication of the political power of this group. FLPMA specifically states that it is the policy of the United States to receive fair market value of the use of federal lands and their resources unless otherwise provided by statute. Small fees are commonly collected for using campgrounds, but no fees are charged for most other recreational activities. In 1994, the FS and the BLM collected less than \$0.05 per recreational visitor day, while the NPS collected less than \$0.25 per visitor (Godfrey).⁵ So why do recreationists pay so little? It is not convincing to argue that transaction costs associated with collecting fees are the reason. Federal licenses could be required similar to those used by the states for hunting and fishing.⁶

Since recreational users of the public lands tend, on average, to have higher incomes than nonusers, charging fair-market fees as recommended by FLPMA would be both equitable and efficient. However, given the access to the political system of high-income

⁵ An extremely interesting set of issues involves shifting of costs and revenues between local and federal governments. Increasing use of federal lands for recreation is almost always accompanied by large expenditure increases by local government. For example, Grand County officials in Utah estimated that search and rescue expenditures by the Sheriff's Office increased from \$3,000 in 1985 to more than \$165,000 in 1995 (Godfrey). Godfrey further points out that Grand County spent \$328,000 to provide services directly related to recreational activity in 1994, most of it on federal lands. This was more than the total amount received in the county's fraction of the federal fees (payments in lieu of taxes) collected in that year. Only a small fraction of the sales tax revenues associated with the nonlocal or nonrural purchase of supplies and equipment are returned to rural communities where the purchases are used.

⁶ Forest economist Randal O'Toole has pointed out that a small rise in the recreation fee to only \$2 per visitor/day would make recreation competitive with timber in generating revenues in nearly every forest region (O'Toole, p. 209).

people, along with the size of the rents being collected, it would be imprudent to predict that "fair" fees will soon be forthcoming.

Minerals

Mineral products from the public lands have been significant revenue producers, but revenues have declined significantly in recent years. Besides, mineral production does not involve large acreages of public lands and are governed by unique policies. Further discussion of these issues seems beyond the scope of this article.

In summary, this section demonstrates that trends in use of the public lands suggest that traditional "commodity" users (timber, grazing, and minerals) that have been charged for their uses have lost out in the political arena to those who pay little or nothing (recreationists). This strongly implies that those who capture the highest rents have the most political clout, the central tenet of the rent-seeking hypothesis.

The Significant Efficiency Costs of Government Public-Land Management

Economists have observed that economic efficiency plays only a minor role at best in the management of the federal agencies (Krutilla and Haigh). Marion Clawson, perhaps the dean of forest economists, pointed out in 1977 that the FS spends too much money in timber management of low-productivity sites and not enough on sites of high productivity. "One can only conclude that the national forests have been managed with virtually no regard for costs and returns" (Clawson, p. 66).

Although it may not have been the intent of Congress, recent legislation appears to discourage rigorous economic analysis. The FLPMA of 1976 directs that management be on the basis of multiple use and sustained yield, while the PRIA of 1978 dictates a policy to manage, maintain, and improve the condition of the public rangelands so that they become as productive as feasible for all rangeland values. Both imperatives weigh heavily against management where maximum net social benefits would be the major goal.

In fact, political decisions will always be influenced primarily by equity rather than by efficiency considerations. Nelson (U.S. Congress) argues that serious economic analysis by federal government agencies would serve as pressure for a national rather than a local perspective. Therefore, the reluctance of the agencies to use economics reflects a long tradition of deference to local equity concerns. The public land agencies have even justified the sustained-yield dictum partially as a means of promoting community stability. These agencies have done whatever was politically expedient to generate a multiple clientele for obvious political reasons.

Evidence for Inefficient Management

What evidence has been brought forward that federal public-land management has been economically inefficient?

Years ago it was demonstrated how eligibility requirements for obtaining grazing preferences—politically necessary to secure local rancher acquiescence to regulation of public grazing—have misallocated authorized grazing among western ranchers (Gardner

1962). Leal (1995) shows that state forest lands are more efficiently managed than federal lands because states have an overriding requirement to generate revenues from timber to fund public schools and county services, and therefore, local taxpayers have a vested interest in superior performance.

The environmental impact studies (EISs) required of the BLM by NEPA provide an excellent example of the tremendously costly administrative burden imposed on government agencies by adversarial rent-seeking competition for political favors.⁷ Nelson (1995) has shown that the first nine EISs made by the BLM cost \$5.7 million in direct preparation costs, or an average of \$630,000 per EIS. And the direct costs did not include the inventories and land-use planning required to lay the groundwork. Indirect costs were approximately 10 times greater.⁸ In fact, Nelson has estimated that the cost of each EIS may well have approached the total value of the forage on the allotments being studied. This means that the government could have used the EIS funds to buy out all the grazing privileges to public land, leaving all parties, including the permittees, better off.

Nelson (1995) believes that the total capital value of all grazing permits on BLM rangelands may not be more than \$1 billion.⁹ The total direct rangeland expenditures by the BLM in 1981 were on the order of \$125 million. Adding in the overhead in support of BLM's direct programs brings the total agency costs for grazing to about \$230 million per year. The government collects only about \$15 to \$30 million per year in grazing fees. Even if livestock grazing were worth four times the fees that the government collects, which is not probable based on market permit values, the total annual value of grazing on BLM lands would still be only approximately \$100 million. This suggests that the value of the resources being used up in administration is substantially higher than the grazing is worth, not a good bargain for taxpayers and consumers.¹⁰

Studies abound which indicate that national forest timber revenues do not come close to covering costs of sales, except possibly for regions in the Pacific Northwest. In 1980, Assistant Secretary of Agriculture Rupert Cutler reported FS calculations that showed that almost 22% of the volume of timber harvested in 1978 did not generate enough public revenues to cover public cost (Nelson 1995). Because agency responsibilities mandated by Congress may be highly complex, comparing agency costs and revenues for a given activity, such as timber harvesting, may be somewhat misleading. But where a large disparity exists at least a question can be raised about whether the activity meets economic efficiency criteria.

Dr. William Hyde showed that a 1976 proposal to harvest timber in the San Juan National Forest in Colorado generated revenues of \$2.65 per thousand board feet whereas it would have required \$38.70 to cover the cost of the sale. Hyde concluded that sales in roadless areas would rarely, if ever, justify their costs.

In 1980, the Natural Resources Defense Council (NRDC) compared receipts with costs of timber harvesting for each national forest during the period 1974–78, when timber

⁷ One range scientist, Boysie Day, considered the EISs to be "pure busywork carried out in the name of decision making, but serving only to divert energy, attention and effort from management functions to useless paperwork" (Nelson 1995, p. 111).

⁸ By 1980, BLM expenditures on rangeland inventories alone equaled \$26.1 million, more than the total revenues collected from grazing fees (Nelson 1995, p. 109).

⁹ My own estimate (Gardner 1995, p. 79) of the rancher wealth tied up in BLM grazing permits is \$2.2 billion.

¹⁰ The Interior Department reports that from 1975 to 1977 funding for on-the-ground capital improvements declined from \$8.3 million to \$5.8 million per year, while "paperwork" expenditures for inventory, planning, and EIS writing rose sharply from \$3 million to \$13 million (Nelson 1995, p. 108).

prices were relatively favorable. If expenses for reforestation, timber stand improvement, timber sale preparation, administration, and road building are included into the calculation of total costs, then 73 of the 118 national forests spent more than they collected (O'Toole, p. 29). When only half of the road costs were counted, 66 forests lost money (Barlow et al.).

The most extreme example of "deficit harvesting" seems to be on the Tongass National Forest in Alaska. FS data show that each dollar expended on federal timber sales in 1983 returned merely two cents in timber sales receipts (Emerson, Stout, and Kloepfer.) In 1980 Congress enacted the Alaska National Interest Lands Conservation Act which set a goal of supplying 4.5 billion board feet of timber per decade to "dependent industry." This act is the only example of Congress specifically mandating a timber sales goal for a national forest. As a result, the 16.8-million-acre Tongass sells below-cost timber to create employment for the 60,000 residents of the area. The act also provides an open-ended appropriation of at least \$40 million annually or as much as the secretary of agriculture finds is necessary. A timber appraisal done in 1982 concluded that potential government losses between 1959 and 1980 ranged from \$76.5 to \$81.5 million (Emerson and Turnage).

The highest economic use of national forests increasingly lies in recreation rather than commodity production. In the Gallatin National Forest it costs taxpayers \$50,000 per year to maintain a single timber-related job (Baden and Geddes). The recreation industry directly employs 1,200 people in that forest, while the timber industry employs only 50. By requiring the FS to sell timber at far below its true costs, Congress undermines the region's natural transition from a commodity-based to a service- and information-based economy.

The potential for shifting resource allocation to more efficient uses on the public lands through markets seems almost limitless. What if environmental groups could compete with grazers and timber producers for use of federal lands? The FS recently offered for sale 275 acres of scorched or burned trees in a remote pocket of the Thunder Mountains in the Okanogan National Forest (Baden 1996b). It spent \$200,000 to plan the sale, and ultimately two wood-product firms placed bids. However, they were outbid by the Northwest Ecosystem Alliance (NWEA), an environmental group. While this appears to be the first time an environmental organization has outbid timber companies for logging rights, this might have been their first opportunity to bid at all. In any case, the FS is likely to reject NWEA's bid because the Alliance wants to let the trees stand to complete a 100-year cycle. The federal regulations mandate that purchasers be responsible for cutting the trees, and the FS says it will disqualify purchasers who lack such "integrity" and "ethics."

What Can Be Done Now?

Given the evidence presented for inefficient resource allocation under federal management, a strong case can be made for privatizing the bulk of the public lands (Gardner 1983). However, it is doubtful that such can be accomplished politically. The obstacles are formidable: first, the lack of a viable constituency able to mount an effective campaign among the gainers (taxpayers and consumers) because of diffused costs and rational ignorance; and second, the concentrated power of groups which have an interest in main-

taining the status quo. In addition, the problems of transition to privatization and/or to state ownership and control are not adequately understood. Nelson (1995) believes that privatization recommendations have failed to recognize that the public lands are already privatized to a greater degree than either the proponents or opponents acknowledge. As Nelson (1995, p. 343) puts it, the designation of

timber harvest areas, wilderness areas, coal mining areas, conservation areas, wild horse areas, critical environmental areas, and various other special categories of public lands are gradually establishing a zoning system on the public lands. And much like urban zoning of private land, the long-run trend of public land zoning is toward a system of collective private rights to use these areas of public lands.

Nelson is right only up to a point. None of the users of public lands obtain fee simple title, but user groups are receiving use entitlements through the planning process. Because these entitlements are not private rights, they cannot be traded to achieve more efficient resource allocation when demand shifts. But this is exactly what is so urgently needed.

Nor does devolution of the public lands to state ownership and management appear likely, despite movement in this direction on other fronts such as the proposal for combining, under state control, federal and state water projects in California. The primary reason is skepticism that states can be efficient in administering these lands. Political opportunism by interest groups is potentially just as likely at the state level as the national level. State governors, legislators, bureaucrats, and local politicians would be vulnerable to the same rent-seeking abuses that now afflict federal managers and politicians. What evidence exists that there would be less corruption at the local level, given the sorry record that local decision makers have in land-use planning, zoning, and similar activities?

Clearly, however, even if ownership and management remain in federal hands, market processes could be used to a greater extent than at present to provide access to resources. What is most desperately needed in public land administration is the flexibility to change uses at the margin as demand shifts, rather than locking in a permanent use entitlement for every interest group that makes demands on the government. Providing a climate for economically feasible investment is also important. It is difficult to see how either can emerge without the creation of "real" rights that are transferable and unrestricted as to who is eligible to hold them.

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 1996). 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.

The potential importance for public-land management of recent political trends should not be overlooked. The election of conservative Republicans to Congress in 1994, and continued in 1996, could have some interesting impacts. These conservatives are likely to be more hostile to subsidies, but at the same time may give greater autonomy to users in managing resources. Legislation has been considered that would compensate land-owners for "takings" associated with the enforcement of the endangered species act and wetlands designations. If enacted, agency officials should be less aggressive in taking private property for social purposes. But, for reasons advanced earlier, it is still a long stretch to believe that the production of primary commodities such as forage, timber,

energy, and minerals on the public lands will ever again match their former levels as long as the land remains under public ownership.

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References

- Baden, J. A. "Diversity and Harmony Merge in the Marketplace." *The Seattle Times*, 22 November 1995, p. B5.
- . "Community-Based Conservation Works." *The Seattle Times*, 3 January 1996a, p. B5.
- . "Forest Amenities in Thunder Mountains." *The Seattle Times*, 31 January 1996b, p. B5.
- Baden, J. A., and P. Geddes. "Resources Politics Miss the Forest for the Trees." *Wall Street Journal*, 22 May 1996, p. A30.
- Barlow, T. J., and G. Helfand. *Giving Away the National Forests*, appendix 1. Washington DC: Natural Resources Defense Council, 1980.
- Clawson, M. *Man, Land and the Forest Environment*. Seattle: University of Washington Press, 1977.
- Conservation Directory*, 41st ed. Washington DC: National Wildlife Federation, 1996.
- Downs, A. *An Economic Theory of Democracy*. New York: Harper and Brother, 1957.
- Eco-Logic, Environmental Conservation Organization. "Federal Land Report," p. 30, March-April 1986.
- Emerson, M. A., A. T. Stout, and D. Kloefer. Title unavailable. Unpub. pap., The Wilderness Society, Res. Planning and Econ. Dept., Washington DC, September 1884.
- Emerson, P. M., and R. W. Turnage. "The Great Tongass Timber Heist: Vested Interests and Obsolete Policies on the National Forests." Paper presented at the political Economy Research Center's National Conference for Journalists, Big Sky, Montana, 8–11 October 1986.
- Gardner, B. D. "Transfer Restrictions and Misallocation in Grazing Public Range." *J. Farm Econ.* 44,1(1962): 50–63.
- . "A Proposal to Reduce Misallocation of Livestock Grazing Permits." *J. Farm Econ.* 45,1(1963): 109–20.
- . "Market versus Political Allocations of Natural Resources in the 1980s." *West. J. Agr. Econ.* 8,2(1983):215–29.
- . "A Proposal for Reallocation of Federal Grazing—Revisited." *Rangelands* 11,3(June 1989):107–11.
- . "Rangeland Resources: Changing Uses and Productivity," chapter 5. In *America's Renewable Resources*, eds., K. Frederick and R. Sedjo, pp. 123–65. Washington DC: Resources for the Future, 1991.
- . *Plowing Ground in Washington: The Political Economy of U.S. Agriculture*. San Francisco: Pacific Institute for Public Policy Research, 1995a.
- . "The Future for Rural Areas in the Western Region." In *The Changing American Countryside: Past, Present, and Future*, eds., E. Castle and B. Baldwin, pp. 115–26. National Rural Studies Committee, Western Rural Development Center, Oregon State University, November 1995b.
- General Accounting Office (GAO). *Land Ownership Information on Acreage, Management and Use of Federal and Other Lands*. Pub. No. GAO/RCED-96-40, USGAO, Washington DC, 13 March 1996.
- Godfrey, E. B. "Recreational Use of Public Lands in Utah: A Rural Government Perspective." *Perspectives* VI,1(Spring 1996):1–4.
- Gwartney, J. D., and R. E. Wagner. "The Public Choice Revolution." *The Intercollegiate Rev.* 23,2(Spring 1988):17–26.
- Hyde, W. F. "Timber Economics in the Rockies: Efficiency and Management Options." *Land Econ.* 57,4(November 1981):630–37.
- Joyce, L. A. "An Analysis of the Range Forage Situation in the United States: 1989–2040." Tech. Doc. supporting the 1989 RPA assessment, USDA/Forest Service, Rocky Mountain Forest and Range Exp. Sta., Fort Collins CO, 1989.
- Krutilla, J. V., and J. A. Haigh. "An Integrated Approach to National Forest Management." *Environ. Law* 8,2(Winter 1978): 373–415.
- Leal, D. R. "Turning a Profit on Public Forests." In *PERC Policy Series*, ed., J. S. Shaw, pp. 1–27. Bozeman MT: Political Research Center, 1995.
- Nelson, R. H. *Public Lands and Private Rights*. Lanham MD:Rowman & Littlefield Publishers, Inc., 1995.

- . "Real Rangeland Reform." *CEI Update* 9,2(February 1996):2.
- Nielson, D. B., E. B. Godfrey, and D. Lytle. "Vacant Federal Grazing Allotments in the West." *Utah Science* 46,3(1985):100-2.
- Olson, M. *The Logic of Collective Action*. Cambridge: Harvard University Press, 1965.
- O'Toole, R. *Reforming the Forest Service*. Washington DC: Island Press, 1988.
- Overdahl, J. A. *Washington Information Directory*. Washington DC: Congressional Quarterly, Inc., 1993.
- Sohngen, B. L., and R. W. Haynes. "The 'Great' Timber Price Spike of '93." Forest Service Res. Pap. No. PNW-RP-476, U.S. Department of Agriculture, 1994.
- Torell, A. Professor of Agricultural Economics, New Mexico State University, Las Cruces NM. Personal communication, 12 April 1996.
- U. S. Congress. Senate. Subcommittee on Forests and Public Land Management, Committee on Energy and Natural Resources. *The Future of the National Forests: Hearing before the Committee on Energy and Natural Resources*. 103rd Cong., 2nd sess., 2 November 1995.
- U.S. Department of Agriculture. *The Grazing Statistical Summary*. Washington DC: Government Printing Office. Various issues, 1965-94.
- . Statistical Reporting Service. *Statistical Abstract of the U.S.* Washington DC: Government Printing Office. Various issues, 1975-95.
- . *The Report of the Forest Service*. Washington DC: Government Printing Office. Various issues, 1965-94.
- U. S. Department of Interior. *The Public Lands*. Washington DC: Government Printing Office. Various issues, 1965-94.

Appendix: Table 1A. Organizations with Interests in Public Lands Having Offices in Washington, D.C.

Mining:

American Mining Congress
 Mineralogical Society of America
 Salt Institute
 American Zinc Assn.
 American Iron and Steel Institute
 National Ocean Industries Assn. (Continental shelf)
 National Mining Association

Water:

American Rivers
 American Water Resources Assn.
 Environmental Defense Fund
 National Assn. of Regulatory Utility Commissioners
 National Association of Water Companies
 National Water Resources Assn.
 Water Resources Congress

Recreation:

American Resort Development Assn.
 National Inholders Assn./Multiple Use Land Alliance
 Land Trust Alliance
 Scenic America
 American Hiking Society
 American Recreation Coalition
 Nation Recreation and Park Assn.

Grazing:

National Cattlemen Association
 U.S. Meat Export Federation
 National Livestock and Meat Board
 Beef Industry Council
 Cattlemen Beef Promotion and Research Board
 American Meat Institute
 American Sheep Industry Assn.
 Animal Health Institute
 National Assn. of Meat Purveyors
 National Meat Cannery Assn.
 Public Lands Council

Timber:

American Forests and Paper Association
 International Paper
 Society of American Foresters
 Builders Trade Association
 American Forest Council
 American Hardwood Export Council
 American Pulpwood Association
 American Wood Preservers Institute
 National Lumber and Building Material Dealers Assn.
 Save America's Forests

Environmental:

Friends of the Earth
 Izaak Walton League of America
 National Assn. of Conservation Districts
 National Audubon Society
 National Wildlife Federation
 Natural Resources Defense Council
 The Nature Conservancy
 Renewable Natural Resources Foundation
 Resources for the Future
 Sierra Club
 Wilderness Society
 U.S. Chamber of Commerce
 Wildlife Management Institute
 World Resources Institute
 World Wildlife Fund
 American Fisheries Society
 Sport Fishing Institute
 Trout Unlimited
 Duck Unlimited
 Greenpeace
 Defenders of Wildlife

Appendix: Table 2A. Wildlife and Conservation Organizations Registered in Various Western States

Arizona:

Arizona Wildlife Federation
 Arizona Association of Conservation Districts
 Arizona Bass Chapter Federation
 Arizona Conservation Council
 The Rincon Institute
 Trout Unlimited Arizona Council
 Wildlife Society Arizona Chapter

California:

American Fisheries Society, California-Nevada Chapt.
 American Fisheries Society, Humboldt Chapter Association for Environmental and Outdoor Education
 California Assn. of Resource Conservation Districts
 California Bass Chapter Federation
 The California Native Plant Society
 California Trappers Association
 California Trout, Inc.
 California Waterfowl Association
 California Wildlife Defenders
 California Wildlife Federation
 Californians for Population Stabilization
 Citizens for a Better Environment
 Council for Planning and Conservation
 Environmental Defense Center, Inc.
 Forest Landowners of America
 Izaak Walton League of America, Inc.
 Marin Conservation League
 Mount Shasta Area Audubon Society
 Northcoast Environment Center
 Planning and Conservation League
 Stanford Environmental Law Society
 Trout Unlimited California Council
 Wildlife Society California Central Coast Chapter
 Wildlife Society Humboldt Chapter
 Wildlife Society Sacramento Chapter
 Wildlife Society San Francisco Bay Area Chapter
 Wildlife Society San Joaquin Valley Chapter
 Wildlife Society Southern California Chapter

Idaho:

Idaho Wildlife Federation
 American Fisheries Society, Idaho Chapter
 Idaho Bass chapter Federation
 Idaho Conservation League
 Idaho Environmental Council
 Idaho Forest Owners Association
 Idaho Trappers Association
 Trout Unlimited Idaho Council
 Wildlife Society Idaho Chapter

Washington:

Washington Wildlife Federation
 Chautaugua Northwest
 Friends of Discovery Park
 Hood Canal Land Trust
 Inland Northwest Wildlife Council
 League of Women Voters of Washington
 The Mountaineers
 Olympic Park Associates
 Olympic Wildlife Rescue
 The San Juan Preservation Trust
 Trout Unlimited Washington Council
 Washington Association of Conservation Districts
 Washington Bass Chapter Federation
 Washington Environmental Council
 Washington Farm Forestry Association
 Washington Foundation for the Environment
 Washington Native Plant Society
 Washington Recreation and Park Association
 Washington Society of American Foresters
 Washington State Forestry Conference
 Washington Trails Association
 Washington Wildlife Heritage Foundation
 Washington Wildlife and Recreation Coalition
 Washington Society Washington Chapter

Montana:

Montana Wildlife Federation
 Confederated Salsih and Kootenai Tribes
 Montana Association of Conservation Districts
 Montana Audubon Council
 Montana Bass Chapter Federation
 Montana Environmental Information Center
 Montana Forest Owners Association
 Montana Land Reliance
 Montana Wilderness Association
 Trout Unlimited Montana Council
 Wildlife Society Montana Chapter

New Mexico:

New Mexico Wildlife Federation
 American Fisheries Society, New Mexico State University Student Chapter
 The Forest Trust
 New Mexico Association of Conservation Districts
 New Mexico Bass Chapter Federation
 New Mexico Environmental Law Center
 Trout Unlimited Rio Grande Chapter
 Wildlife Society New Mexico Chapter

Appendix: Table 2A. Continued**Colorado:**

Colorado Wildlife Federation
 American Fisheries Society, Colorado-Wyoming
 Chapt.
 Colorado Bass Chapter Federation
 Colorado Environmental Coalition, Inc.
 Colorado Forestry Association
 Colorado Trappers Association
 Colorado Water Congress
 Colorado Wildlife Heritage Foundation
 Izaak Walton League of America, Inc.
 The Nature Conservancy of Colorado
 Rocky Mountain Bighorn Society
 Sinapu
 Trout Unlimited Colorado Council
 Wildlife Society Colorado Chapter

Oregon:

Oregon Wildlife Federation
 American Fisheries Society, Oregon Chapter
 American Fisheries Society, Portland Chapter
 Audubon Society of Portland
 Izaak Walton League of America, Inc.
 Oregon Association of Conservation Districts
 Oregon Bass Chapter Federation
 Oregon Environmental Council, Inc.
 Oregon Natural Resources Council
 Oregon Small Woodlands Association
 Oregon Society of American Foresters
 Oregon Trout, Inc.
 Oregon Wildlife Heritage Foundation
 Trout Unlimited Oregon Council
 Wildlife Society Oregon Chapter

Utah:

Utah Wildlife Federation
 American Fisheries Society, Bonneville Chapter
 Southern Utah Wilderness Alliance
 Trout Unlimited Utah Council
 Utah Bass Chapter Federation
 Utah Nature Study Society
 Utah Wilderness Association
 Utah Wilderness Coalition
 Wasatch Mountain Club
 Wildlife Society Utah Chapter

Nevada:

Nevada Association of Conservation Districts
 Wildlife Society Nevada Chapter

Wyoming:

Wyoming Wildlife Federation
 Izaak Walton League of America, Inc.
 Powder River Basin Resource Council
 Trout Unlimited Wyoming
 Wildlife Society Wyoming Chapter
 Wyoming Association of Conservation Districts
 Wyoming Bass Chapter Federation
 Wyoming Native Plant Society
 Wyoming Outdoor Council