CHARGING FAIR MARKET VALUE FOR USING FEDERAL LANDS: SOME IMPLICATIONS OF AN IGNORED POLICY

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ABSTRACT

The Federal Land Policy and Management Act of 1976 (FLPMA) specifically states, "The Congress declares that it is the policy of the United States that– … (9) the United States receive fair market value of the use of federal lands and their resources unless otherwise provided by statute … ." This policy either has been ignored or unevenly administered by federal agencies. As a result, some user groups are subsidized to a much greater degree than others. If all user groups were treated equally, there would be a significant change in net benefits received by users and agency revenues. Charging fair market value for all uses of federal lands also would affect the use of public and private lands.

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INTRODUCTION

Issues associated with the acquisition, disposal, retention, and use of public lands[2] in America have been important topics for more than 200 years. The acquisition and disposal of public lands dominated discussions in the 18th and 19th centuries (Clawson and Held 1957, Gates 1968), but these issues are not as controversial today because decisions concerning use (amount and type of use) now dominate discussions of public land policy, and it is likely that these issues will become even more controversial in the coming century. One reason why this is likely is that the existence of public lands is not evenly distributed—all citizens have an interest in the management of federal lands, but everyone is not equally affected by land management decisions. Figure 1 shows that most lands administered by the federal government are located in the western United States. For example, less than 1% of the land in Connecticut and Kansas is owned by the federal government. This is different from states like Alaska, Idaho, and Utah, where at least 60% of the land is federally owned. It also should be noted that the percentage of land owned by the federal government is even more widely disbursed within the various states. For example, in Utah, the percentage of federal land varies from a high of nearly 92% in Garfield County, where Bryce Canyon National Park is located, to just over 5% in Morgan County, which is located just east of Ogden. (USDI-BLM). As a result, public land management issues are more important in some areas and to some people than they are to others.

AGENCY ADMINISTRATION

Agency administration of public lands has become more important over time. One of the reasons why this is critical stems from the fact that the various agencies that administer these lands have differing legislative mandates and objectives. Figure 2 shows the percentage of federal land administered by the various agencies in 1997[3]. These data show the four agencies of the federal government that administer the largest number of acres are the Bureau of Land Management (BLM) , U.S. Forest Service (USFS), Park Service, and Fish and Wildlife Service (FWS). These four agencies are the primary focus of this paper, with the greatest emphasis placed on lands administered by the BLM and USFS.

During most of the history of the United States, land disposal was encouraged. Today, however, the budgets for most federal land management agencies include funds for the acquisition of land. In addition, lands may be administratively shifted from one agency to another. This has resulted in an increase in the acreage administered by some agencies and declines for others. For example, the number of acres administered by the four major agencies has generally increased during the past two decades (Fig. 3). The major exception is land administered by BLM, which declined by more than 20% between 1985 and 1996 (Rezendes 1997). However, essentially all of this reduction was due to the transfer of federal lands in Alaska.

CHANGES IN USE OF FEDERAL LANDS

The data in Figures 4–6 show a fairly consistent pattern. The number of animal unit months (AUMs) of grazing, board feet of timber harvested, and extraction of most minerals on BLM and USFS lands has generally declined over time while recreational use has increased[4], as has the number of acres managed by the FWS and Park Service. When land administration shifts to either the Park Service or FWS, there is an inherent change in use from commercial uses (primarily timber harvesting, grazing, and mining) to "noncommercial" uses—primarily preservation and recreation. The implications and impact of these decisions has received very little attention in the literature. Most of the emphasis has focused on the changes in use of lands administered by a single agency—particularly lands administered by the BLM and USFS. In addition, the number of acres designated as wilderness has increased over time (Landers and Meyer 1998). These lands are " …in contrast with those areas where man and his works dominate the landscape … " to lands " … where man himself is a visitor who does not remain." As a result, a number of restrictions are placed on the management of wilderness lands that limit the application "multiple use" principles that govern the use of other lands managed by the BLM and USFS. All of these changes have resulted in a general decline in use by all user groups, except recreation. These changes in use have had an impact on agency revenues and expenditures.

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[2]Public lands are any lands owned and managed by any unit of government. In this paper, however, the discussion will be limited to those lands that are managed by agencies of the federal government. Many of these same issues exist with respect to lands owned and managed by state or local units of government, but these will be ignored in this paper.

[3]The data on land administration over time by agency is not consistent. This is particularly true for the Fish and Wildlife Service. For example, General Services Administration reported 288,049 acres were managed by FWS in 1997, while data from FWS reported 90,058,831 acres. In some years, the total reported by the agency was greater than the reported total of all federal lands (sum of the parts was greater than the whole). As a result, these data should be viewed as "best estimates."

[4]Additional detail concerning these trends can be obtained from various agency publications and sources. The primary sources are BLM Public Land Statistics for the BLM and annual reports of the chief of the USFS. Information concerning use of lands administered by the Park Service and FWS is limited except for recreational visitation.

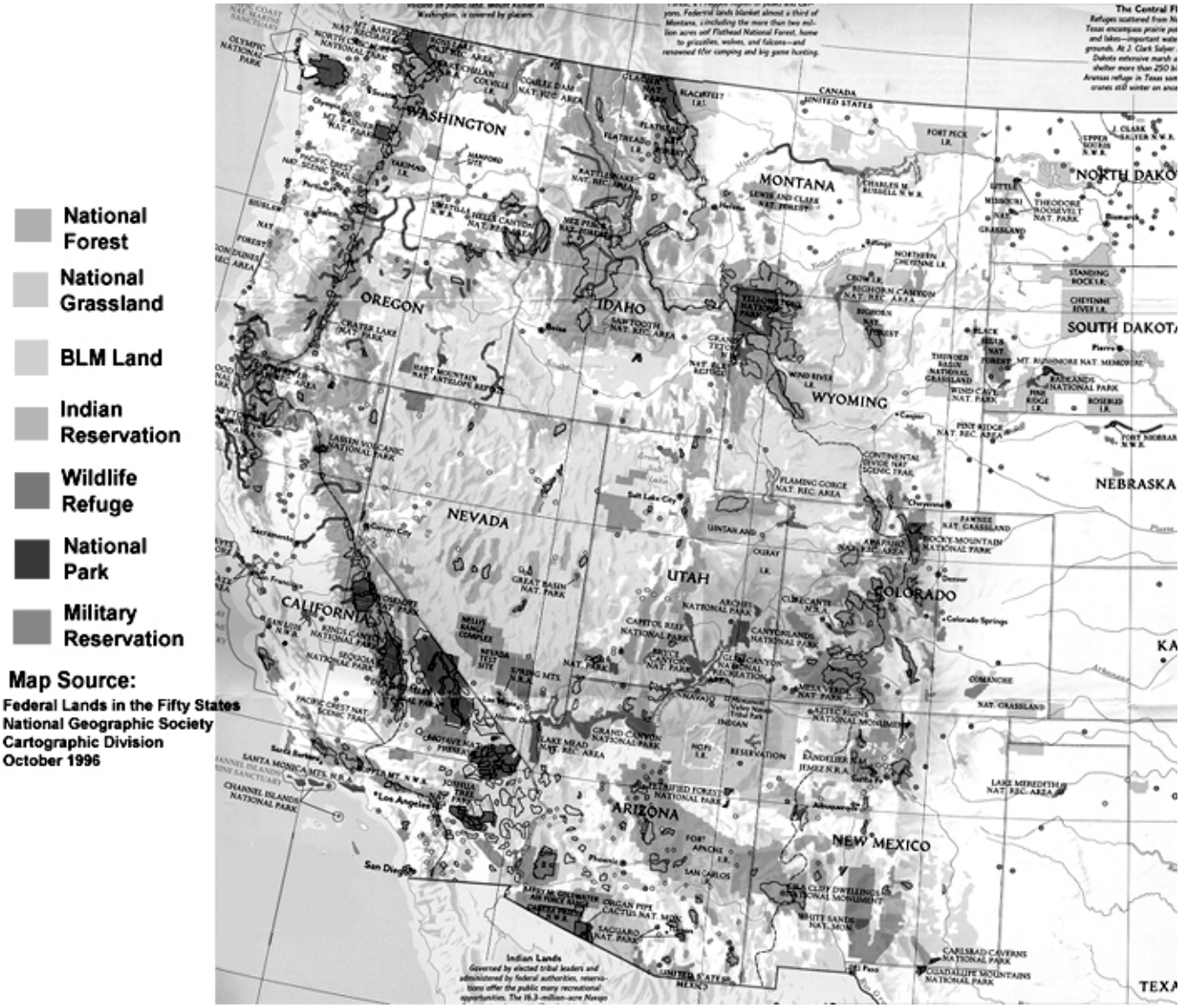

Figure 1. Federal lands in the 11 western states.

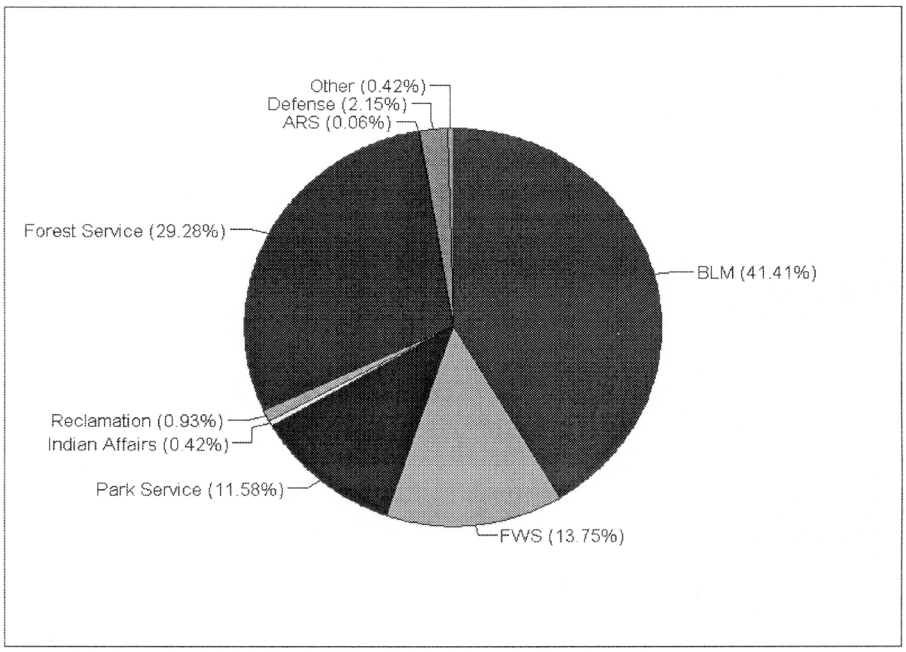

Figure 2. Percentage of federal land administered by agency, 1997.

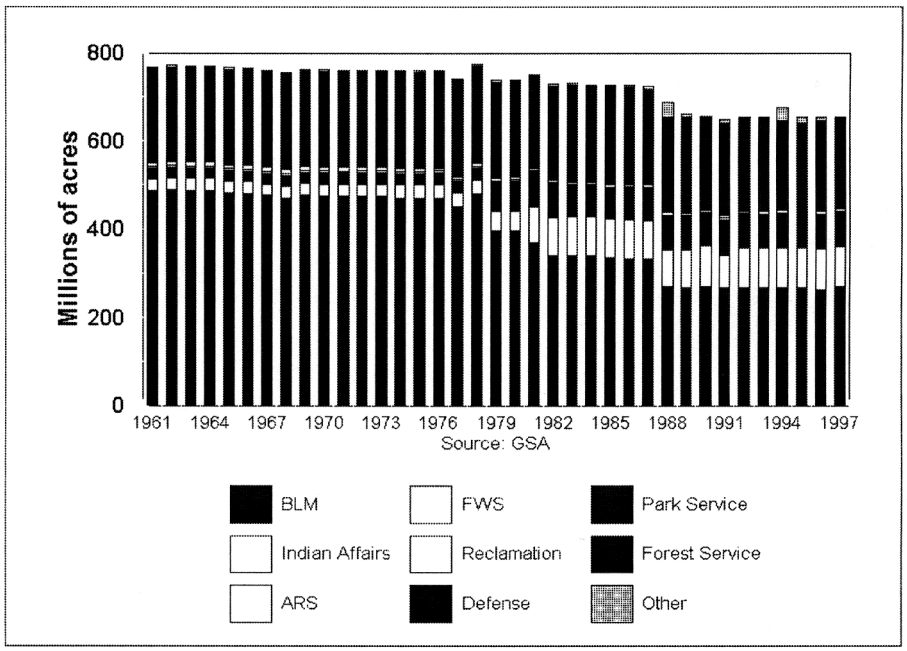

Figure 3. Acres of federal land administered by agency, 1961–1997.

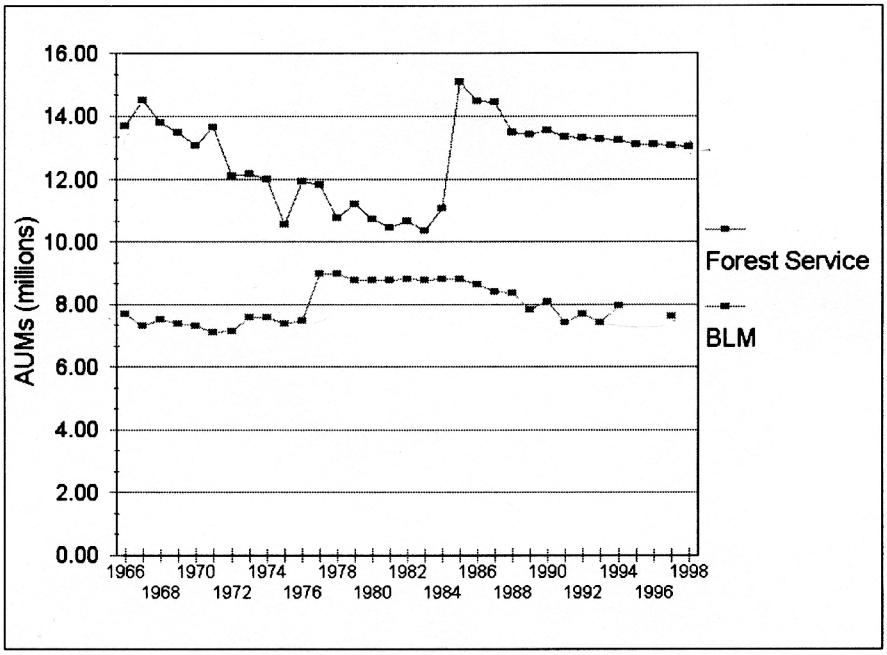

Figure. 4. Animal unit months (AUMs) of grazing by livestock on lands administered by the BLM and USFS, 1966–1998.

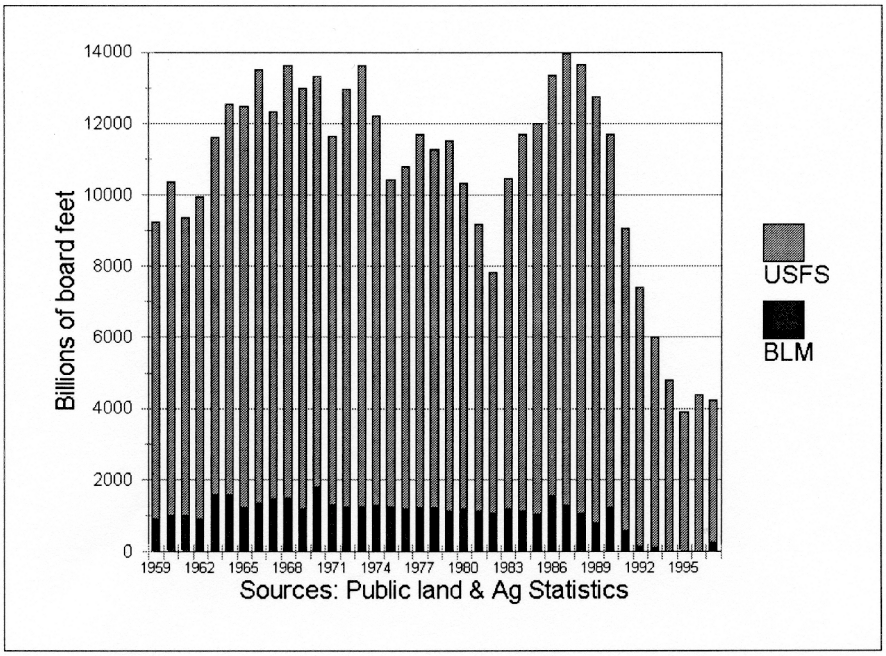

Figure 5. Board feet of timber removed from BLM and USFS lands, 1959–1998.

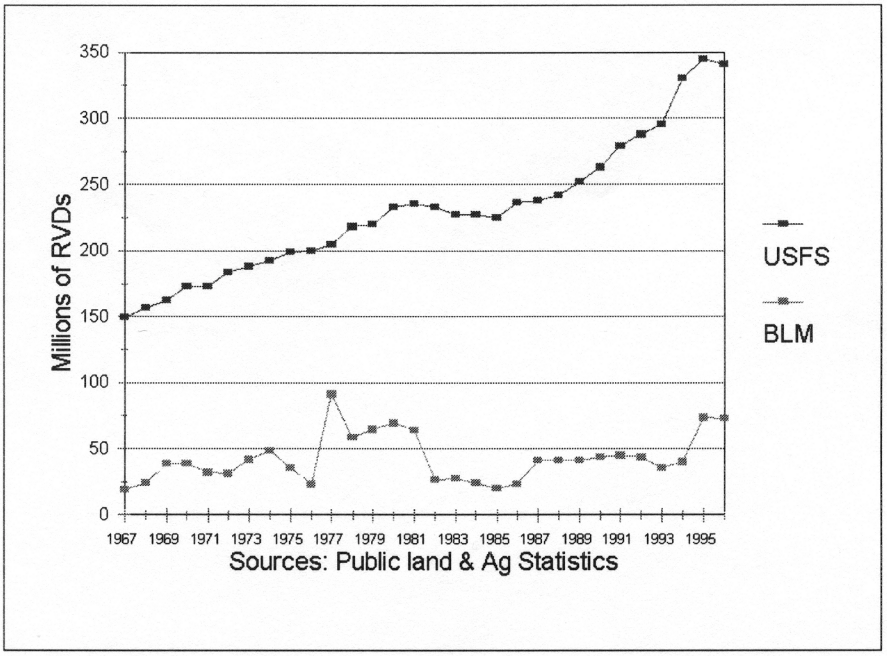

Figure 6. Recreational visitor days (RVDs) on BLM and USFS lands, 1967–1997.

AGENCY DEFICITS

The number of studies that have evaluated agency spending versus revenues is limited[5], but they all indicate that revenues are less than expenditures (Hyde and Chamberlain 1995, Nelson 1979). The study by Nelson indicated that most (63%) of the BLM revenues were from the mineral estate and from O&C lands in Oregon and California (29% of revenues). Nelson's study also indicated that the largest deficits were associated with the management of recreation and wildlife. However, these studies were conducted some time ago and may not be indicative of agency revenues and expenditures today.

Data concerning current revenues and costs of administering lands managed by the federal agencies are limited[6]. Available data (Table 1) suggests that the amount of the deficits is not trivial, and that the deficits (Figs. 7 and 8) have probably increased over time because revenues have declined with the reduction of use of federal lands by commercial users while costs have increased. While revenue data are not reported for the FWS or Park Service, what data are available suggest current deficits for the Park Service are probably close to those for the USFS (about a billion dollars a year), while those for the FWS are probably close to those for the BLM (about a half billion a year). Thus, these four agencies are probably incurring a total deficit of about $3 billion a year or nearly $5 per acre administered.

Table 1. Revenues collected, expenditures, and estimated yearly deficit by BLM, USFS, Park Service, and FWS for Fiscal Year 1997 or 1998.

Agency	Year reported	Revenues x $1,000	Expenditures or outlays x $1,000	Estimated deficit ($)
BLM	FY 1998	146,938	582,080	Half billion
Forest Service	1997	368,789	1,307,000	Billion
Park Service	1997	Not reported	1,156,000	Billion
FWS	FY 1997	Not reported	587,000	Half billion

Sources: BLM, Public Land Statistics, Forest Service, FWS, and Park Service, Budget of the U.S. Government.

[5]Some of this work has been conducted in an effort to estimate the benefits and costs of transferring federal land to state or private ownership. These studies (Workman et al. 1991, Hyde and Chamberlain 1995, Nelson 1989) have generally shown that the potential gains are not as great as some have suggested (Fretwell 1998), although substantial reductions in deficits appear to be possible by reducing costs.

[6]It should be noted that the available data on costs and returns should be used with care. For example, the studies by Calbom (1998a, b) indicate that Forest Service accounting is suspect, and it is likely that the errors are just as large for the other agencies as they are for the USFS. She indicted that " … the Forest Service was not always able to determine the amount of funds spent, reimbursements it should have received of the validity of recorded assets or liabilities" (Calbom 1998a, p. 3). In addition, " … they could not determine for what purposes $215 of the $2.4 billion in operating and program funds were spent" (Calbom 1998b, p. 3).

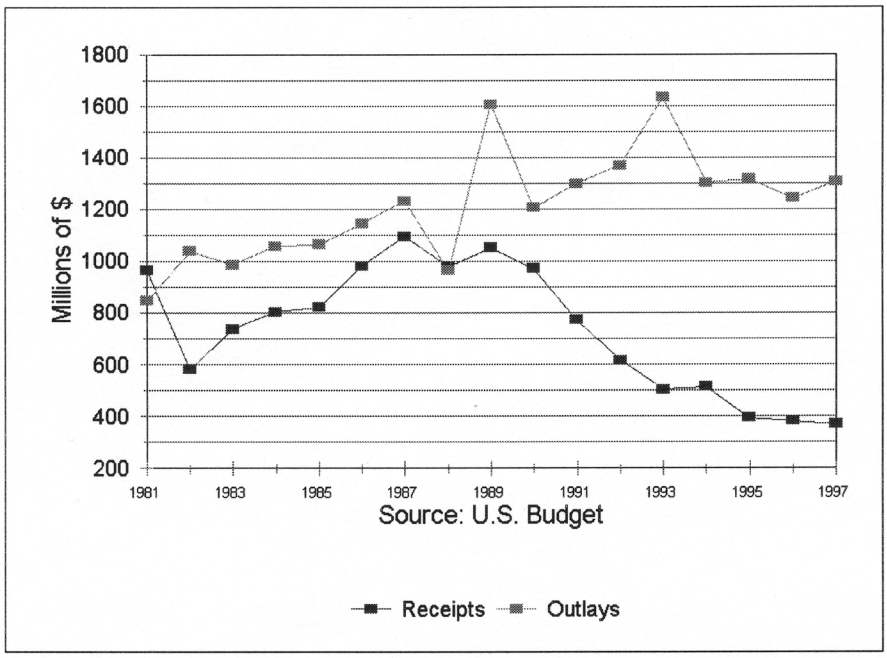

Figure 7. Forest Service receipts and outlays, 1981–1997.

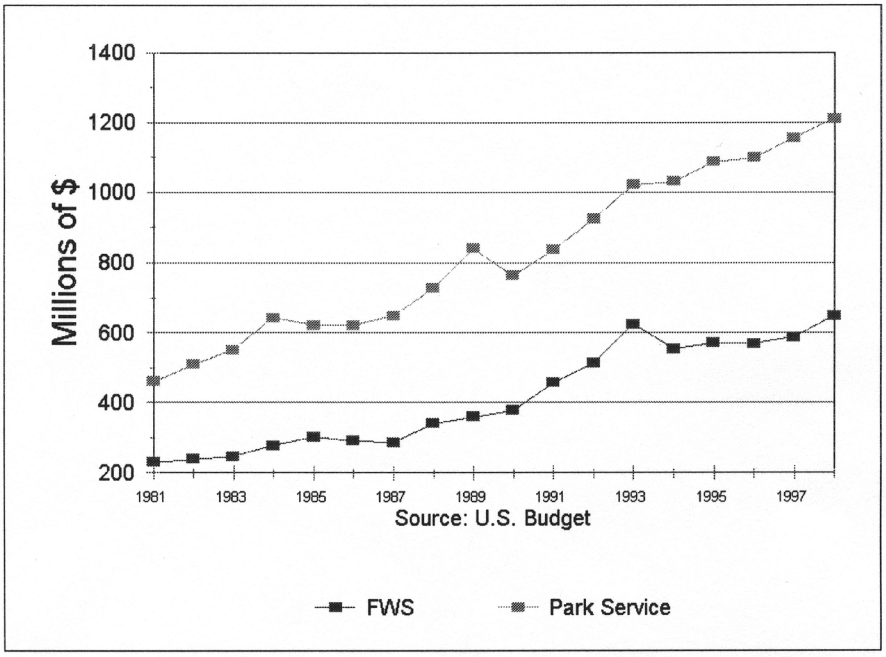

Figure 8. Outlays by the Fish and Wildlife Service (FWS) and Park Service, 1981–1998.

Two alternatives exist that can be used to reduce these deficits if federal lands are retained. One must either increase revenues and/or reduce costs. Hill (1999a) recently summarized some of the problems of reducing agency deficits when he indicated that "Generating revenue is not a mission priority of the Forest Service ... and the costs (of USFS programs) are funded from annual appropriations rather than from revenue generated... (The USFS, therefore,) does not have an incentive to control costs. Moreover, when the Congress has provided the Forest Service with the authority to obtain fair market value ... the agency has not done so. As a result, the Forest Service forgoes at least $50 million in revenue annually" (p. 1).

The primary focus of this paper concerns increasing revenues by obtaining fair market values. The Federal Land Policy and Management Act of 1976 (FLPMA) specifically states, "The Congress declares that it is the policy of the United States that– … (9) the United States receive fair market value of the use of federal lands and their resources unless otherwise provided by statute … ." Congress did not define what it meant by "fair market value," and the definition of what is meant by "fair market value" is not a mute issue. Several definitions could be used, but I assume that fair market value represents what fees would be if the lands were managed as if a competitive market existed for the use of federal lands. This suggests that the current fees need to be examined to see whether they meet these criteria.

FEES FOR USING FEDERAL LANDS

Clawson (1965) noted more than 30 years ago that "Broadly speaking, prices and charges for goods and services from federal lands fall into three general groups: (1) those more or less at market prices, (2) those free or nearly so, and (3) those at intermediate levels" (p. 35). These same general groups exist today. Numerous uses of federal lands exist and evaluating the fees for all uses is beyond the scope of this paper. But, some insight into the problems that exist in obtaining "fair market values" can be obtained by examining the fees used for the five major uses associated with federal lands—livestock grazing, timber production, minerals, water, and outdoor recreation including fish and wildlife[7].

Livestock Grazing

There probably has been more published research done on determining the "fair market value" of grazing than any other use of federal lands[8]. At the present time, fees are set for using lands administered by the BLM and USFS using the formula outlined in the Public Rangeland Improvement Act (PRIA). This formula is:

Grazing fee = $1.23 ((FVI + BCPI -PPI)/100)

where:

$1.23 is the base forage value (difference between total fee and nonfee costs of using federal and nonfederal lands),

FVI is an index of prices for using private lands,

BCPI is the price index for beef cattle, and

PPI is the price index for the cost of beef cattle production.

This formula has been criticized by numerous authors. The papers contained in the publication edited by Rimbey and Izaak 1994; and the publications by Quigley, Taylor, and Cawley 1988; and Torell et al. 1993, 1994 contain a summary of most of the issues. One of the key issues associated with the PRIA formula is that it results in a fee that is uniform for all areas, classes of livestock, and points in time. A voluminous body of literature clearly shows that the value of grazing does vary with respect to time, location, and class of animal. As a result, some livestock operators pay less than would be expected under competitive conditions. However, the total cost of grazing (fee and nonfee costs) are such that use of some areas is unprofitable and the grazing allotment is vacant (Godfrey, Nielsen, and Lytle 1985)[9]—available for use, but no operator has filed for use of the area/allotment. Another implication of the PRIA fee formula results in grazing permits that have value—the difference between the fees paid and the value of the forage obtained has been capitalized into the value of the grazing permit. As a result, any increase in fees would be expected to reduce the value of these permits (Torell and Doll 1991, Lambert 1995, Lambert and Shonkwiler1995, Egan and Watts 1998, Johnson and Watts 1989) that are commonly bought, sold[10], and used as collateral for loans. This differs significantly from permits to graze FWS lands. These permits are commonly sold to the highest bidder and probably reflect fair market value.

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[7]Outdoor recreation is the only major use of lands administered by the FWS and Park Service. As a result, fee issues for the other uses are essentially mute issues for lands administered by these agencies. As a result, most of the discussion deals specifically with lands administered by the BLM and USFS.

[8]Some have suggested that if the money spent to study grazing fees had been used to purchase grazing permits, most of the permits to use federal lands by livestock operators would not exist today. But, several economists, including this author, probably would have been forced to find other employment over time.

[9]The data in this publication were updated in 1992 and are being updated again in 1999. These updates indicate that the number of vacant allotments has increased.

[10]The original owners of these permits obtained a windfall, but few of these permits are currently owned by original permittees. See the discussion by Gardner (1997a) concerning this issue as it relates to grazing, timber, and water.

Timber

Timber removed from federal lands has historically been assessed a fee that is close to fair market value. Federal land managers appraise the value of timber in an area proposed for sale. This timber is then sold to the highest bidder. One would expect the revenues from the sale of timber to be close to that of a competitive market. However, numerous cases have been documented where a competitive bid did not exist (U.S. Congress 1994). In addition, below-cost (revenues are less than the costs incurred) timber sales have been criticized since the early days of the USFS (O'Toole 1988) as have many sales on BLM lands. Liggett, Prausa, and Hickman (1995) have suggested that there are reasons why below-cost timber sales exist that may be beyond the control of the land management agencies. In addition, proposals that would raise bids enough to meet agency costs have serious drawbacks (costs may not be justified). This does not mean that additional revenues cannot be generated (Hill 1999b). But, timber sale revenues probably come closer to being fair market values than any other use.

Minerals

No other use results in more revenue from federal lands than the extraction of minerals including oil, gas, and coal. For example, in 1990, competitive oil leases generated royalties of $588 million and $49 million in bonuses (Gerard 1997). The Minerals Management Service reported revenues to the U.S. Treasury of $3.6 billion in 1998 from federal and Indian mineral lease revenues. But, three comments should be understood about these large revenues. First, $3.4 of the $3.6 billion in 1998 were generated from off-shore mineral activity and, therefore, have essentially nothing to do with land management. Second, a large portion of the total mineral revenues are distributed to various funds (e.g, Indian tribes, states, Land and Water Conservation Fund, Historic Preservation Fund, etc.) and are not distributed to the U.S. Treasury (61.3% of the total went to the U.S. Treasury in 1998). Third, most of the total revenues both on- and off-shore come from the sale of fossil fuels—oil, gas, and coal. Without these revenues, federal lands would generate only a fraction of the costs of management. This does not mean that mineral activity generates as much as it could. For example, many of the leases for mineral activity are competitively bid while others are not. This is particularly true for "hard rock" leases. As Gerard (1997) stated, "Much of the criticism of the mining law concerns the lack of fair return to the public for the use of these lands, leading to a reformer's web site claim that it is the 'granddaddy of all subsidies.' Such criticisms generally focus on the absence of production royalties, the low price of federal lands offered by patent provision, and returns from speculation." Royalties are based on a percentage of either gross revenue or net profit and, if competitively bid, generally result in a "fair market return." One area where the potential for change exists concerns mineral patents. Some lands (amount is unknown) are patented for mineral purposes, but are subsequently developed for other purposes. In many of these cases, the difference between the amount paid for these lands and their market value is very large (Gerard 1997, U.S. Congress 1994). The holding fee (fee paid to maintain a mining claim) also has been abused in the past, but this is probably not as true today as it was before 1992, when Congress changed the holding fee requirements from $100 worth of "assessment work" to be conducted by the owner of the mining claim to a payment to the government of $100 per year for each claim. As a result, mining represents a "mixed bag" where some sales are close to fair market value while others are not.

Water

There is little doubt that water is one of the most valuable products coming from federal lands. However, it is different from all other uses in one important aspect—most of the value does not occur in situ for three reasons. First, water used for consumptive purposes (primarily municipal, industrial, and irrigation) must leave the federal lands before it is useful. Furthermore, there is no way to exclude use by holding water on federal lands. Second, the amount of water used for nonconsumptive uses (e.g., fisheries and wildlife) is small, and its value is likely to be small *at the margin*. Third, water allocation is administered by the states and not by the federal government. These three factors suggest that there is little potential for increased revenues from the sale of water from lands administered by the BLM, USFS, FWS, or Park Service. However, water coming from federally funded water development projects (e.g., Corps of Engineers or Bureau of Reclamation projects) historically has not earned fees equal to its fair market value. The cost/fee for water from these projects generally has been determined by calculating the separable costs/remaining benefits of irrigation for a multiple purpose project (Eckstein 1958, chap. 9). This method is not designed to obtain fair market value, but, rather to obtain reimbursable expenses. As a result, the difference between the value of the water and what users have to pay has been capitalized into the value of lands[11] that receive this water (Gardner 1997a) and is similar to the capitalized value of grazing permits.

[11]Some beneficiaries (generally navigation, flood control, and recreation) are not required to pay for the benefits of a water development project. Some of these beneficiaries will not have obtained a windfall gain that is capitalized into the value of land, but it is likely that these gains are capitalized into the value other resources.

Recreation

There is no use of federal lands today that is as heavily subsidized (fees paid versus what would exist in a competitive market) as recreation. For example, Fretwell (1998) found that the losses (cost of administration less revenues collected) from recreation ($355 million) for the USFS and BLM were about equal to the losses for timber ($290 million) and grazing ($66 million) combined. But, revenues less administrative costs is not the only measure of the degree of subsidization. There is a voluminous body of literature that includes estimates of the value of recreation on federal lands. Most of these estimates determine consumers' surplus and reflect the users' "willingness to pay." These estimates are rarely compared to what the users do in fact pay. One example of many that may be used will illustrate this point. The publication edited by Payne, Bowker, and Reed (1993) summarized the work that has been done concerning the value of wilderness. Some of these studies (Loomis and Walsh 1993) suggest a willingness to pay that is much greater than many other types of recreational use. Yet, this group of users rarely pays anything for using federal lands. This does not mean that costs are not incurred, but there is no direct fee charged for using federal lands by this group of recreational users. As a result, there have been a number of proposals made that would impose fees for the recreational use of federal lands. As might be expected, these proposals, like similar proposals that would increase the fees paid by other users, have been and will continue to be resisted.

ARGUMENTS FOR/AGAINST FEES

There are seven interrelated reasons that have been used to either support increased fees or maintenance of low or zero fees for using federal lands. These include: (1) taxes are paid and, therefore, fees should not be levied, (2) the need to stimulate development or stability of the local economy, (3) equity considerations, (4) increased fees would reduce use, (5) generation of revenues, (6) a particular use possesses a "public interest," and (7) encouragement of economic efficiency (see the articles by Moore 1998, Clawson 1965, Harris and Driver 1987, Binkley and Mendelsohn 1987, and Leuschner et al. 1987).

Payment of Taxes and Equity

Some have argued that charging fees for using federal lands is a form of double taxation because taxes are paid to provide these uses. It should be noted that all users pay taxes, but not everyone who pays taxes is either willing or able to use federal lands. Given the large agency deficits outlined above that are paid by the general taxpayer, it is likely that those who use the federal lands gain benefits that are supported by others. This difference is perhaps most clearly illustrated by recreation. Most research has shown that the majority of recreational users of public lands have higher-than-average incomes and they pay low or zero fees. This represents a case of the relative rich obtaining benefits supported by the relative poor. Even if the public lands were primarily used by the relative poor, two important questions need be answered. "Why do they deserve help at the expense of other people? Is free use of federal lands the best way to help them?" (Clawson 1965).

Development and/or Stability of Local Economy

One of the early public land policies was to provide land to settlers at low or zero cost (nonfee costs were not zero). This was done to encourage "settlement of the West." This reason has little support today because these lands have been settled. Some groups, however, argue that increased fees would result in reduced use of federal lands, the exit of firms from the local area, and the demise of the local economy (Godfrey and Pope 1990).

Reduced Use from Fees

Basic economics would suggest that an increase in fees would result in reduced use of federal lands. But, it is not clear how much most uses would decline as a result of increased fees. Most of those who oppose increased fees at least implicitly assume that the demands for using federal lands are relatively elastic (Moore 1998). Little empirical work has been done concerning the elasticity of demand for most uses of the federal lands. Some insight for recreation has recently been gained with the fee demonstration program. The effect of imposing fees for the use of these areas has shown "visitation by the public to the vast majority of fee demonstration sites does not appear to have been negatively affected by increased or new fees. Public acceptance of the fee program remains high, particularly with the provision for retaining the majority of the fee revenues at the site where they were collected" (USDI and USDA 1999, p. 4.; Rezendes 1997, 1998a, b). This suggests that use of at least these areas is relatively inelastic with respect to fees. This is probably due to the fact that fees for using areas such as Yellowstone Park, and where most of the demonstration areas have been established, are probably a small portion of the total cost of using the area (travel expenses and opportunity costs of time are likely to be much higher). As Clawson (1965) noted more than three decades ago, "Can we argue, with a straight face, that an entrance fee equal to 1, 2, or 3 tankfuls of gasoline is really the margin that will keep many people out of a national park?" (p. 38).

Studies that have examined forage demands for livestock grazing and timber removal from public lands suggest that the demand for these uses tend to be relatively elastic. The reason for this stems from the fact that there are substitutes—primarily timber and forage from private lands. This also is likely to be true for mineral activity, except that the substitutes are probably from nondomestic sources (nonfee costs in the form of environmental regulation are probably smaller). It should be noted that, in some cases, the demand for forage or timber at a particular place and/or point in time (early

spring forage) may be relatively inelastic because few substitutes are available. In conclusion, one would expect increased fees to reduce use, but the order of magnitude of the decrease is not known for most uses.

Revenue Generation

If revenue generation is a major concern, one would seek to increase the fees for those uses having an inelastic demand. One example of this involves recreational activities that are relatively unique (e.g., white water rafting, wilderness exploration, visitation to some parks). The demands for these uses also tend to have high income elasticity and are used primarily by those having above-average incomes. Furthermore, it is likely that the cost of obtaining these fees is small relative to dispersed forms of recreation (e.g. sight-seeing). These uses, therefore, hold considerable promise as sources of increased revenues from fees. Gardner (1997a), for example, indicated that " … at just $5 per day, the value of recreation on the public lands would be over $1.6 billion in 1993, clearly an amount that dwarfs the value of other uses" (p. 13). This suggests that considerable potential for revenue generation exists, especially if recreational users paid rates that were even close to estimates made by economists of their willingness to pay[12]. In addition, agency experience with the fee demonstration program has shown that "significant amounts of revenue can be generated from recreational fees—in two years ... the agencies have approximately doubled revenues over levels that existed before the program began" (USDI and USDA 1999). In fact, "some demonstration sites are generating so much revenue as to raise questions about the long-term ability to spend these revenues on high priority items" (Hill 1999b, p. 2). This suggests that recreation probably has the highest potential for revenue generation because many of the other uses are paying fees that are close to fair market value.

Public Interest Qualities

There is little doubt the nonuse values (option, existence, and bequest) exist for many public lands, and some of these values have little to do with the type of use(s) available in the area. However, public interest has been most commonly used to justify low or reduced fees for recreation. But, it is not obvious that increased fees would have any impact on these values. In fact, the opposite may be true, because increased fees may reduce use and degradation associated with use. In addition, nonuse values tend to be high on the average, but they are probably not high at the margin (Godfrey and Christy year), and are not unique to recreation. As Clawson (1965) noted, "I have come to believe that every interest group honestly believes that there is a genuine public interest in whatever program it advocates" (p. 38).

Economic Efficiency

The agency deficits outlined above clearly show that the cost of providing for use of federal lands is not zero. Economic efficiency would suggest that the fees charged should be such that the marginal cost of providing a use is equal to the marginal benefits. Clearly, this principle is not commonly (never?) used by agency administrators in allocating use of federally administered lands. As a result, the existence of fees for most uses, and minimal fees for recreation, probably have had some effect on resource allocation over time. This may be one of the major reasons why recreational use, which generally does not pay, has increased while most other uses, which do pay, have commonly declined. It probably also is one of the major reasons why administrative decisions that increase some uses while others decline are so contentious—economic rents can be captured through political means as long as the benefits obtained are greater than the (fee and nonfee) costs incurred (Stevens 1993, chaps. 7 and 8). Thus, if the benefits are equal and some use has high fee costs while another low, the second group has greater incentive to seek rents via political means (Krueger 1974). It also suggests that nonfee costs (e.g., attending public hearings, providing input on administrative decisions, paying legal fees in court proceedings) of using federal lands could affect the use of federal lands by some users or user groups because those who do not pay fees have potentially greater ability to incur nonfee costs in efforts to obtain benefits they seek. One would therefore expect recreational and environmental groups to be the most active politically in seeking preferential treatment by agency administrators. This, however, has not always been true. For example, it was argued for many years that the agencies were captured (e.g., BLM has been referred to as the Bureau of Lumber and Mining) by traditional commercial user groups (timber, mining, grazing), but these arguments are not as popular today because it is likely that the rents have shifted to nontraditional users.

All of the above suggest that serious consideration be given to implementing fair market fees for all users because, as Clawson (1965) asked, "Why should any goods or service from federal lands be made available to any user at a price less than the fully competitive market price?" (p. 38). Implementation of this policy, however, would have some economic consequences that would need to be evaluated.

IMPLEMENTING FAIR MARKET FEES: IMPACTS AND CONSEQUENCES

One of the things we learn from the public choice literature is that any action by government is bound to benefit some and cost others (Stevens 1993). The decision to implement a

[12]There is some difference in the literature concerning these values and what they represent. There also are large differences in estimates in willingness to pay versus willingness to accept, which one would not expect theoretically. Of greater importance to this paper, however, is the question, "Are these average or marginal values?" Fair market values will represent values at the margin and not the average.

policy of obtaining fair market values for using federal lands is certainly one case where users and user groups will not be affected equally. Table 2 and the discussion above provide a summary of some of the issues that are important to the consequences of implementing a policy of obtaining fair market values for all users of federal lands.

Current Basis of Fees

The discussion above indicated the methods that are currently being used to determine fees paid by the primary users of federal lands. None of the users pay fair market value all of the time. Bidding procedures have the greatest potential of approaching fair market value, but it may not be possible to implement this method for all uses. This method has been effectively used to sell timber and permits to extract fossil fuels, but it is unlikely that it could be used to allocate some types of recreation (e.g., camping, hunting, sight-seeing). All other uses have potential for increased fees if a competitive market existed, but it is not clear what method could be used to obtain these fees in a cost-effective manner (the cost of obtaining some fees may be greater than the fees obtained).

Wealth Impacts

Obviously, if fees were increased for any user of federal lands that did not pay a fair market value, a reduction in either their wealth position or their use of federally managed resources would occur. For example, if grazing fees were increased, the value of grazing permits would decline. However, this is not the only user group that would likely experience a decline in asset values owned. One area where very little empirical work has been done concerns the possible value of lands that were purchased to capture amenity values. For example, some ranches are situated in areas where they can capture the benefits of recreation on federal lands. One would expect these operations to have values that are greater than comparable operations that do not have easy access to federal lands. In some of these cases, livestock grazing can become a secondary use. One also would expect outfitting and guiding permits, licenses awarded to concessionaires who operate on federal lands, leases paid by owners of cabins on federal lands, and other similar commercial operations to have value as long as the fees paid (zero, in many cases) are less than the value of the services provided or benefits obtained. The study by Shelby (1984) provides some estimates of the value of some recreation permits. To the degree that these permits can be transferred for some market value, there would be evidence that the fees charged for these uses would be less than their fair market value. But, unlike grazing permits, the owners of recreational permits can probably pass any increased fees onto clients. To the degree this occurs, there would not be a large decline in the value of recreation permits, and the wealth impact of an increase in fees on owners of recreational permits would be small.

Fees for Using Federal Lands and Private Land Use

Numerous studies have evaluated the impact of increased grazing fees and/or changes in the use of federal lands on livestock operators who have permits to graze livestock on BLM or USFS lands (Lewandrowski and Ingram 1999). Some studies also have evaluated the impact these changes would have on the economies of local communities. There also are a limited number of studies that have empirically evaluated the impact of recreation on local communities including local units of government (Godfrey 1996; Meyer, Harp, and McGuire 1998). Most of these studies, however, have not evaluated how the use and/or the cost of using

Table 2. Fair market fees for using federal lands: current status and potential impacts.

	Type of use					
Question or alternative	Livestock grazing	Timber harvesting	Mining fossil fuels	Hard rock mining	Water from federal projects	Recreation
Basis of current fees	PRIA formula	Bids	Bids and shared revenue	Shared revenue	Separable costs	None or variable
Do current fees reflect values at the margin?	No	Generally	Generally	Unknown	No	No
Would fees increase if competitively bid?	Yes	Minimal	Minimal	Unknown	Yes	Yes
Potential for increased federal revenues	Some	Some	Some	Unknown	Yes	Large
Wealth impacts of implementing increased fees	Decreased value of grazing permits	Minimal	Minimal	Unknown	Decline in land values	Poss. decline in permit and land values
Impact of increased fees on use of private lands	Enhanced use and development	Increased activity	Increased activity	Increased activity	Poss. shift to other uses	Increased activity and development

federal lands affect the use of private lands. Some indications of these possible effects are suggested by the increased activity (harvests, investments, and increased stumpage prices) that have occurred on private forest lands since timber harvests on federal lands have been reduced. Some of my early work in Utah involved estimating the impact of reductions in the use of federal lands in Wayne County. While many of the people who held permits to graze federal land in Wayne County are no longer in business, livestock production in the county has not declined as much as I predicted. One reason why these reductions have been smaller than predicted is a result of improvements in the productivity of private lands (e.g., irrigation and conversion of land from rangeland to cultivated agriculture).

Some have suggested that recreation holds the promise of economic growth in rural communities in the West (Power1996; Salwasser, Morton, and Rasker 1998; Rudzitas and Johansen 1989). But, this position has been questioned by others (Keith and Fawson 1995; Keith, Fawson, and Chang 1996; Fawson 1997; Meyer, Harp, and McGuire 1998). Furthermore, it is not clear if low fees help or hinder community development, because the use of federal lands generally affects the use of private lands.

Gardner (1997a) recently suggested that "since the fees paid by recreational users of the public lands are so very low, the subsidies captured must be very large. And, since there is no mechanism to gain entitlement, like purchasing water rights of grazing permits, the subsidies are captured each time recreationists use the resources" (p. 14). While there is little doubt that the subsidies are probably large, one can question that there is no "mechanism to gain entitlement." Have these subsidies been capitalized into the value of lands in rural communities? Is this the reason why these areas apparently grow at rates that are greater than other rural communities (Rudzitas and Johansen 1989)? If the answer to either of these questions is yes, an increase in the fees for using federal lands may reduce the value of these private lands. However, it also may have a positive impact on the use of private lands. The work that has been done on hunting on private lands in the West shows that large a number of acres must be under private ownership and/or some additional services must be offered before fee hunting opportunities are successful (Godfrey and Nielsen 1994). One reason why private recreational developments commonly struggle in many rural communities in the West dominated by federal land ownership is due to the fact that federally owned land can be used freely or at very low fees. Thus, the implementation of increased fees for some uses of federal lands, particularly recreation, could increase the demand for activities on privately held lands. Is this, therefore, a case where it may be in the best interests of rural communities to advocate increased fees for using federal lands? This may, in fact, be a way whereby the relative poor (rural residents) could capture benefits that are now being captured primarily by the relative rich (urban residents), or at least provide a means whereby rural areas can obtain revenues to offset the costs of providing services for visitors (Godfrey 1996; Meyer, Harp, and McGuire 1998).

Efficiency and Allocation Issues

Efficiency in resource allocation is a strong argument in favor of a fee system that is closely aligned to market values. But, it would have several important implications. First, some people can economically use the federal lands, while others cannot. For example, the cost of using most federal lands by producers or consumers in the eastern part of the United States is simply too large when compared to those in the West. Second, any uses with low fee and nonfee costs will be used to a greater degree than they would if a higher fee was charged. This argument has been used extensively by those opposed to livestock grazing on federal lands as a reason for "overgrazing." But, this same argument can be applied to congested campgrounds and damaged resources (the issue of recreational carrying capacity) by recreationists. Third, low fees also encourage speculation. For example, is there any doubt that some "developments" occur more rapidly and extensively than they would if a higher fee was imposed? Would ranches be purchased for recreational development if the fees for grazing these lands were zero and the cost of using federal lands for recreation was priced at the rate of the users "willingness to pay?" Fourth, fees may provide a relatively inexpensive way to shift use from one area to another. At the present time, agency personnel must set limits on some uses during particular times or at certain locations. This requires some enforcement. Differential fees could be used to shift use from peak use periods or from highly used areas (e.g., recreational use of congested areas) or to other periods.

SUMMARY

Gardner (1997b) indicated that the " … regulatory controls and allocation procedures associated with federal [land] ownership and management are very costly since they are completely disassociated from economic efficiency criteria and rely, instead, on the existence of political power" (p. 12). It is recognized that the market is not a perfect allocator of resources, and increases in fees for using federal lands would hurt some users and user groups more than others. But, the use of market prices in allocating resources is similar to the comment attributed to Maurice Chevalier when asked how he felt about growing older: "It's not exactly ideal, but it's better than the alternative." In my opinion, a movement to implement fees closer to fair market value for all users would at least be a step in the right direction in reducing the inefficiencies associated with public land management.

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