



TAKING STOCK OF PUBLIC LANDS GRAZING

An Economic Analysis

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Livestock grazing on federal lands is generally unimportant to local economies and even less so to state and regional economies. In terms of income and numbers of jobs provided, the contribution of federal lands grazing is less than 0.1 percent across the West. Farm and ranch operations are increasingly reliant on nonfarm income sources to be financially feasible, while livestock grazing competes with other uses of public lands—such as clean water, recreation, and wildlife habitat—that contribute to the ongoing vitality of western economies.

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For the last decade and a half, one of the more emotional public policy issues in the western states has been the level of grazing on federal lands and the appropriate fee to charge for those domestic animals that are allowed to graze. Much of the emotion is tied to the perception that most ranching operations in the West rely on these federal lands, and that without access to the forage these federal lands provide, many western ranches would cease to be economically viable. Since, it is usually assumed, ranching is the economic backbone of the western economies, such a loss, it is concluded, would have a devastating impact on the western states. Arguments of this sort successfully blocked almost all the significant reforms of federal grazing policies attempted between 1975 and 1999 and fueled the political assertion that environmentalists and the Clinton administration were waging a “war on the West.”

In this essay, I analyze these economic claims for the entire eleven-western-state region (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming), for the individual states, and for individual counties in two case-study areas. My empirical analysis demonstrates that grazing on federal lands contributes only a tiny sliver of economic activity to the local economies—usually a small fraction of 1 percent of total income and employment, and rarely more than 1 percent. During the 1990s, local economies in the West grew by this amount every few weeks. The ongoing rapid economic growth has been heavily fueled by families and businesses relocating in the pursuit of higher-quality living environments. Protecting the environmental integrity of public lands contributes to this ongoing economic vitality and almost certainly offsets any losses in the livestock sectors that may be associated with changes in livestock use of federal lands.

Measuring the Relative Economic Importance of Grazing on Federal Lands

Claims about the relative importance of federal grazing to the economies of the western states can be simply analyzed by answering the following four questions:

1. What portion of the value produced by cattle and sheep operations is associated with the feed used?

Peruvian shepherd, Idaho. The livestock industry provides very few jobs relative to the economy as a whole, and ranch hands, shepherders, and the like make very low wages. Some jobs pay so little that foreign workers have to be brought in to take them.

2. What portion of the feed for those cattle and sheep operations comes from grazing on federal lands?
3. What portion of the total agricultural activity involves raising cattle and sheep?
4. What part of the total economy is represented by agriculture?

Although it is easy to argue that without livestock feed there cannot be livestock produced, the same argument holds for all other inputs to livestock production. Without water; without trace elements, vitamins, and medicines; without land; without machinery; without fuel for the machinery; and importantly, without labor and management efforts, there would be no livestock produced, or much, much less. Clearly all of the inputs play an economic role, not just feed. According to the U.S. Department of Commerce, in 1992–1996, purchased feed—not including feed grown by the rancher—made up a fifth to a quarter of the total value of livestock sold.¹ In any case, feed—whether purchased, leased as pasture from private owners or public land agencies, or raised by the rancher—is not the only important input to livestock production.

For many of the western states, federal lands provide only a small percentage of the total feed needed to support cattle and sheep herds. California, Washington, and Montana, for instance, obtain less than 10 percent of their cattle and sheep feed from federal lands. Colorado, Oregon, and Wyoming obtain 20 percent or less of the feed for their livestock herds from this source. Overall, the eleven western states obtain only about a fifth of the feed needed to support their beef cattle and sheep herds from federal lands (see Table 1). From a national perspective, the reliance on western federal lands is dramati-

cally lower: only 4 percent of the feed consumed by beef cattle is provided by grazing federal lands.²

In many parts of the West, cattle raising is not the dominant agricultural activity. In Montana, dryland wheat operations are the source of about half of agricultural sales. In other areas of the West, irrigated crop production often is the dominant agricultural activity and includes everything from potatoes to cotton to grain. In still other areas, fruit or nut production is most important. In the Southwest (including Texas), livestock represents about two-thirds of the value of agricultural production. In the Rocky Mountain region, livestock represents about 60 percent of agricultural production. In the far West, livestock makes up about 30 percent of total agricultural production. Thus, agriculture in the West does not necessarily mean livestock production.³

It should also be kept in mind that “livestock” is not synonymous with “cattle” in the West. In many western states, poultry raising is the dominant form of “livestock” production. For instance, in California, the livestock workforce is not primarily “cowboys,” but chicken or hog raisers. About 75 percent of California livestock marketings are not cattle or sheep. In Washington, Arizona, and Utah, only about half of the “livestock” are cattle or sheep. At the opposite extreme are Montana and Wyoming, where about 90 percent of livestock sales are cattle and sheep. In the eleven western states as a whole, only 53 percent of the livestock activity is associated with cattle or sheep.⁴

Next, it is important to realize that agriculture makes up only a tiny and decreasing fraction of the overall economic activity in the West. The West, like

Table 1. The Relative Importance of Federal Lands Grazing as a Source of Jobs and Income, 1997

State	Arizona	Calif.	Colorado	Idaho	Montana	Nevada
Agriculture as a source of income	0.8%	1.0%	0.8%	3.9%	2.7%	0.2%
Agriculture as a source of jobs	0.9%	1.6%	1.6%	5.5%	5.6%	0.5%
Livestock's share of agriculture	42.8%	27.3%	70.4%	46.7%	49.5%	64.5%
Cattle/sheep's share of livestock	53.2%	24.3%	83.4%	59.8%	89.5%	71.1%
Federal forage's share of total cattle/sheep feed	47.5%	7.3%	12.0%	26.5%	9.3%	50.3%
% of income derived from federal forage	0.09%	0.00%	0.06%	0.29%	0.11%	0.04%
% of jobs derived from federal forage	0.10%	0.01%	0.11%	0.41%	0.23%	0.11%
Days of real income growth to replace federal grazing	9	2	6	31	17	3
Days of job growth to replace federal grazing	10	5	13	45	30	9
State	New Mexico	Oregon	Utah	Wash.	Wyoming	11 W. States
Agriculture as a source of income	1.5%	1.1%	0.7%	1.2%	1.5%	1.0%
Agriculture as a source of jobs	2.4%	3.5%	1.6%	2.5%	4.2%	1.9%
Livestock's share of agriculture	68.9%	30.0%	74.9%	34.9%	77.5%	39.2%
Cattle/sheep's share of livestock	57.5%	59.2%	46.1%	42.9%	93.5%	52.8%
Federal forage's share of total cattle/sheep feed	32.2%	16.3%	31.7%	2.6%	21.1%	18.6%
% of income derived from federal forage	0.19%	0.03%	0.08%	0.00%	0.24%	0.04%
% of jobs derived from federal forage	0.30%	0.10%	0.18%	0.01%	0.64%	0.07%
Days of real income growth to replace federal grazing	23	4	7	1	54	8
Days of job growth to replace federal grazing	43	14	17	2	120	16

Sources: U.S. Department of Agriculture, Forest Service, Range Management, *Grazing Statistical Summary, FY 1997* (Washington, D.C.: Superintendent of Documents, 1998); U.S. Department of Agriculture, National Agricultural Statistics Service, *1997 Census of Agriculture*, vol. 1, *Geographic Area Series*, www.nass.usda.gov/census; U.S. Department of Commerce, Bureau of Economic Analysis, *Regional Economic Information System, 1996*, CD-ROM; U. S. Department of the Interior, *Public Land Statistics, Vol. 153, Statistical Appendix to the Annual Report of the Director, Bureau of Land Management, to the Secretary of the Interior* (Washington, D.C.: Superintendent of Documents, 1998).

most of the rest of the nation, is largely urban, and its economies are largely nonagricultural. This is true even of the nonmetropolitan areas. Using a five-year average to smooth out fluctuations in agricultural earnings, for the 1992–1996 period, agriculture was directly the source of only 1 percent of total income in the eleven western states. For the nonmetropolitan areas of those states, agricultural earnings represented about 3 percent of total income. Idaho and Montana were the most dependent on agriculture for income, at around 4 and 3 percent, respectively. In the nonmetropolitan parts of those two states, agriculture was directly the source of about 6 and 4 percent of total income, respectively. (See Table 2.)

Agricultural interests often seek to inflate the relative importance of agriculture by including in agriculture all food- and fiber-related activities. For instance, food stores and restaurants are included as part of agriculture because they sell food products. In addition, food processors, such as flour mills and meat packing and canning facilities, are included in the agricultural total. Following this logic, cotton and wool clothing manufacturing and sales could also be counted in the total. There is no limit to such creative calculations. Since without food we would all die, one could claim that all economic activity ultimately can be traced back to agriculture. Similarly, all products that contain mineral materials could be traced back to mining.

The problem with all these efforts to exaggerate the relative importance of a particular industry for political purposes is that they ignore the actual incremental contribution a particular activity makes to the creation of economic value. Forage on federal land is just one type of livestock feed, and livestock feed is just one of the many inputs that go into our ultimate enjoyment of a beef steak or hamburger. When competitive markets are functioning, the rewards to various inputs reflect their relative contribution to the production of economic value. That is the reason we focus here on actual farm earnings as a measure of economic importance.

Given that agriculture is the direct source of only a small fraction of total economic activity, that livestock grazing is only a fraction of total agricultural activity, that federal forage is only a fraction of the total feed required by western livestock, and that feed is only one source of the value created in livestock production, it should not be surprising if that federal forage supports only a very small fraction of total economic activity in the West.

Our calculation of the contribution that federal grazing makes to the ranching economy is based on the percentage of total feed needed to support the cattle and sheep herds. This direct calculation of the degree of ranching “dependence” on federal lands is to be contrasted with the method used by livestock interests in their efforts to make the case for protecting the status quo on western public lands. Often a ranch is labeled “dependent” on federal lands if any cow ever makes use of federal lands for forage. No matter how small the contribution to total feed needs, the ranch is considered dependent on that federal grazing. Alternatively, some studies label any ranch that obtains more than 5 percent of its cattle feed from federal lands as “dependent” on that federal grazing.

Such “dependence” is a rhetorical device intended to exaggerate ranches’ reliance on federal grazing. Ranchers almost always have to supplement the forage they obtain from federal lands with other sources of feed. Ranchers rely on a mix of feed sources, depending on local supply and cost. They raise hay and feed grains themselves on their own or privately leased land. They graze cattle on their own or other private land. They purchase protein supplements

Table 2. Agriculture Earnings as a Percentage of Total Income (Average, 1992–1996)

State	% Total Income	% Nonmetro Income
Arizona	0.8%	0.9%
California	1.0%	4.1%
Colorado	0.8%	4.1%
Idaho	3.9%	5.9%
Montana	2.7%	3.5%
Nevada	0.2%	1.2%
New Mexico	1.5%	3.1%
Oregon	1.1%	1.8%
Utah	0.7%	2.6%
Washington	1.2%	4.1%
Wyoming	1.5%	2.1%
11 western states	1.0%	3.2%

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Regional Economic Information System, 1996*, CD-ROM.

and other feed for their cattle. Federal forage is only one source of feed for western livestock. Ranches are no more dependent on it than they are on other sources. Among those sources of feed, there are considerable opportunities for substitution, depending on the cost of each.

The contribution federal grazing makes to the economies of the eleven western states can be calculated by multiplying four percentages together. The percentage reliance of cattle and sheep on federal forage for feed is multiplied by the percentage of agricultural economic activity represented by livestock, which in turn is multiplied by the percentage of livestock sales that are from cattle and sheep operations. Finally, this product is multiplied by the direct contribution agriculture makes to the economy in terms of both income and employment. (See Table 1.)

For instance, for Montana, federal forage represents 9.3 percent of total cattle/sheep feed. Cattle and sheep operations are responsible for about 90 percent of livestock sales, which in turn are about 50 percent of the dollar value of all agricultural sales. Finally, agriculture is directly responsible for about 2.7 percent of total personal income in the state. As a result, federal grazing is responsible for about 0.11 percent of all income in Montana ($0.093 \times 0.895 \times 0.495 \times 0.027 = 0.0011$).⁵

Note that in this calculation we attribute *all* the value of the livestock production to the feed used. Clearly this exaggerates the role of feed by a significant factor since the economic role of other inputs—such as management, labor, capital, equipment, buildings, fuel, water, and land—is ignored.

Table 1 shows that only about \$1 out of every \$2,500 of income (0.04 percent) received in the western states is directly associated with grazing on federal lands. In employment terms, one out of every 1,400 jobs (0.07 percent) is directly tied to federal lands grazing. For none of the eleven western states does the direct impact of federal grazing even approach 1 percent. Not all grazing on federal lands, of course, is threatened by proposed changes in federal grazing policy. Only some fraction is. Thus the impact of any of the proposed changes in federal grazing policy will be only a fraction of these estimated *maximum* direct impacts.

These potential job and income losses associated with federal grazing reform can be expressed in terms of the time it would take for the local western economies to replace these jobs and income through the normal expansion of the economy. If the average annual economic growth between 1990 and 1997 is taken as a reference point, the loss of *all* federal grazing in 1997 would have caused income growth in the eleven western states to pause for *eight days*. To make up for the lost jobs, economic growth would have had to pause for about two weeks. (See Table 1.)

Thus, even under the most extreme scenario, in which all grazing on federal lands would be eliminated, the direct income and job losses could be made up in a matter of a few days by the normal expansion of the economy. Obviously, some communities would be harder hit than others, given the uneven distribution of public grazing lands across states and the fact that some areas are more specialized in cattle raising. This potential will be analyzed in the following section. However, although the potential for such localized disruption should be analyzed and mitigated where necessary, it still is the case that economies of broad parts of the West will *not* be significantly harmed by a downsizing of the herds of commercial animals grazing on public lands.

Taking a Closer Look at Individual Counties That Are Dependent on Federal Lands

The preceding discussion was carried out in terms of whole states. One objection to this broad geographic focus is that it allows the metropolitan areas that dominate most states' economies to obscure the important role being played by agriculture and public lands livestock grazing. As shown earlier, however, the nonmetropolitan West is also not dominated by agriculture. Only 3 percent of total income in the nonmetro West originates in agriculture. There are counties, however, where agriculture is much more important, where ranching is the dominant type of agricultural activity, and where federal lands are a major source of cattle feed. In such counties, the role of federal grazing on the local economies could be much larger than the statewide averages reported earlier.

Before analyzing this possibility, however, it is important to understand that discovering such local dependency does not necessarily tell us what the appropriate public policy response should be. It is also valuable to know that for the vast majority of the population of the West and for the vast majority of economic activity in the West, federal grazing is not in any sense crucial; it is clearly quite peripheral. It is not obvious that public policy affecting millions of acres of public land—public lands with many other values in addition to their commercial forage value—should be dictated by the interests of a tiny fraction of the West's population.

The Bureau of Land Management (BLM) studied the quantitative role of federal grazing in the economies of over a hundred contiguous counties in seven western states as part of the Interior Columbia Basin Ecosystem Management Project (ICBEMP).⁶ The area studied is that east of the Cascade Mountains drained by tributaries to the Columbia River. It includes all of Idaho, western Montana, eastern Oregon and Washington, and small parts of Utah, Nevada, and Wyoming. Federal grazing leases in this region support about 5.3 million AUMs (animal unit months—one AUM being the amount of forage required by a cow-calf pair, or five ewes with lambs, for a month). ICBEMP federal forage represents about a third of the total federal grazing supply in the eleven western states.

Table 3. Interior Columbia River Basin Counties Dependent on Federal Grazing, 1996

County	State	Economic Activity Due to Grazing Federal Lands	
		% of Income	% of Jobs
Adams	ID	0.7%	3.5%
Camas	ID	1.9%	2.4%
Clark	ID	7.5%	5.9%
Custer	ID	0.3%	1.3%
Owyhee	ID	1.4%	2.1%
Harney	OR	0.1%	3.1%
Malheur	OR	1.1%	2.0%
Wallowa	OR	0.2%	1.5%
Ferry	WA	1.4%	0.9%
Sublette	WY	1.0%	3.0%
Humboldt	NV	1.6%	1.4%

Source: Based on L. Frewing-Runyon, "Importance and Dependency of the Livestock Industry on Federal Lands in the Columbia River Basin" (unpublished report prepared at the Oregon State Office of the Bureau of Land Management for the Interior Columbia Basin Ecosystem Management Project, Walla Walla, Wash., 10 April 1995).

The economic importance of public lands grazing was analyzed in this BLM report as outlined earlier. The relative importance of agriculture in the economy, the relative importance of livestock activity in agriculture, and the relative importance of federal forage as a source of feed were combined to estimate the contribution of that federal forage to the county economies.⁷ Of the 102 counties, only 11 were found to have more than 1 percent of total income or employment associated with public lands grazing (see Table 3).

Clearly there are some counties in the West where federal grazing plays a greater role than the tiny fraction of 1 percent found at the state level. It is important to put these more dependent counties in perspective. The five Idaho counties (out of forty-four) represent a little over 1 percent of the total Idaho economy. The three Oregon counties (out of eighteen) represent about 11 percent of the eastern Oregon economy. The one Washington county (out of twenty-one) represents about 2 percent of the eastern Washington economy. The parts of Wyoming and Nevada included in the study were too small to characterize in this way. None of the twelve western Montana counties had a dependence on federal grazing that exceeded 1 percent of income or employment.

These counties had a higher dependence on federal grazing because some, like Clark County, Idaho, derived a very large percentage of their income (58 percent) from agriculture. Others, such as Harney County, Oregon, derived almost all (88 percent) of their agricultural income from livestock. Others, such as Camas County, Idaho, and Humboldt County, Nevada, relied on federal grazing for as much as 40 percent of their livestock feed. These higher dependencies were clearly the exception, not the rule, in the broad seven-state region of the West that the ICBEMP grazing analysis studied.

Another way to investigate the potential local dependence on federal grazing is to pick a particular local region in the West where federal grazing policy has been very controversial and analyze the relative importance of federal forage there. Southwest New Mexico, including Catron County, makes an interesting case study. The "county ordinance" movement, which asserts that county gov-

ernments can exercise control over federal lands, began in Catron County. It was conflict over federal land management policies, including grazing policies, that ignited this part of the “Sagebrush Rebellion.” Table 4 reports on an analysis of the five counties in the southwest corner of New Mexico.

In that isolated rural area, about 3 percent of income and 6.5 percent of jobs are associated directly with agriculture. Because agricultural prices, especially cattle prices, were low in the mid-1990s, the income figure probably understates the relative importance of agriculture in more normal times. On the other hand, since 30 to 40 percent of income is derived from nonlabor sources (for example, investment and retirement income), the jobs figure overstates the relative importance of agriculture.

The relative importance of livestock as a percentage of all agricultural activity varies considerably in these five counties. In Catron County, it is nearly 100 percent. In Luna County, less than a quarter of agricultural sales are from livestock. Reliance on federal lands for forage also varies from 34 to 43 percent in Luna and Catron Counties, to only 10 to 15 percent in Grant and Sierra Counties.⁸ As a result, for four of the five counties, less than 1 percent of income is tied to federal grazing. Only in Catron County does the economic importance of federal grazing rise much above 1 percent. For Catron County, about 2 percent of income and 9 percent of jobs appear to be tied to public lands grazing. For this group of southwest New Mexico counties as a whole, less than half to three-quarters of 1 percent of the economy is tied to federal grazing.

Taking a More Dynamic View of the Economic Impact of Federal Grazing

The discussion thus far has assumed that if the forage available from federal lands is reduced, cattle production will be reduced proportionately. This is a rather simplified view of the local economy that can be criticized as both understating and overstating the impacts of changes in federal grazing policy.

Grazing interests are likely to make two points. First, the privately owned “base” ranch may depend on adjacent federal lands for grazing while the private lands are used to raise livestock feed for winter or dry-season use. Those ranches depend on federal grazing leases on surrounding land to be viable. Without access to that federal land, it is argued, the ranch operation ceases to be viable, and the decline in cattle production will be more than just propor-

tional to the lost federal forage. The ranches will cease to function, and the entire output will be lost. Second, it is usually argued that declines in agricultural operations will have amplified impacts on the rest of the economy because ranching is the central part of the local economic base, and as it declines, the locally oriented businesses that depend upon it will also decline. In short, besides the direct impact, there will be an indirect “multiplier” effect.

Both of these criticisms of the proportional approach I have taken make the same assumption the proportional approach made, which is that there will be no dynamic, business-like adjustments to changes in the availability of forage. This is a static view of the economy: When there is a reduction in the availability of an input, production just passively adjusts downward. Less is produced and previously productively employed resources now sit idle or underemployed.

That is not how an entrepreneurial market economy responds to change. Productive resources are almost never left unemployed for a substantial period of time. Changes in the availability and cost of inputs do not lead to permanent shutdowns. Profit-seeking or loss-minimizing businesses immediately begin adjusting what they produce and how they produce it to accommodate the changes in economic circumstances.

Ranchers will respond to reductions in the availability of federal forage or increases in the cost of federal forage just as they have responded to the constantly falling real price of beef, lamb, and wool or the rise in cost of other inputs relative to commodity values. When fuel or feed costs rise, ranchers do not just reduce cattle production proportionately and permanently. They find ways of cutting other costs and improving the efficiency of their operations. Federal forage is just one type of feed and just one cost of ranching operations. As the availability and cost of federal forage changes, ranching will change to accommodate it. There may be some reduction in production, especially in the short run, but the more likely response will be a reorganization of western ranch operations to adjust to the new circumstances. Land, capital, equipment, water, and buildings will be incrementally redeployed to accommodate the new economic circumstances. This is not a new phenomenon. It is how farms and ranches have survived for a century or more.

Ranchers are not tied to a single way in which to use their resources to raise cattle. A variety of livestock systems are available and in use. Some operations plan for calves in the fall, either from purchase or from the operation’s

Table 4. Economic Dependence on Federal Grazing in Southwest New Mexico: Catron, Grant, Hidalgo, Luna, and Sierra Counties (Average, 1992–1996)

County	% of Income from Agriculture	% of Jobs from Agriculture	% of Agriculture in Livestock	% of Livestock Feed from Federal Grazing	% of Total Income from Federal Grazing	% of Total Jobs from Federal Grazing
Catron	4.2%	20.8%	99.6%	42.8%	1.80%	8.88%
Grant	0.4%	2.9%	93.7%	10.0%	0.03%	0.27%
Hidalgo	8.3%	10.5%	35.6%	29.3%	0.89%	1.09%
Luna	5.7%	7.5%	23.9%	33.6%	0.49%	0.61%
Sierra	3.5%	8.2%	64.2%	15.0%	0.34%	0.79%
5 counties	3.3%	6.5%	45.5%	25.5%	0.39%	0.76%

Source: K. Moskowitz, personal communication, 21 January 1999.

own breeding cows, then put the calves on rations of alfalfa hay and small amounts of grain or other concentrates until spring. At that time they can be sold or put on pasture and range. Other operations purchase heavier animals to start with, put them on spring and summer pasture, and then sell them in the fall. That way, no winter feeding is necessary, and the short ownership period protects against price fluctuations. A third system, of course, is the cow-calf operation that involves calving in the late winter or early spring, when feeding is usually necessary; grazing during the summer and early fall; then sale of the calves and feeding of the cows over the winter. These are just three examples. The point is that there is considerable flexibility in how cattle growers can deploy their resources.

Federal agricultural economists have modeled the likely impact of a significant reduction in the availability of forage from public lands, specifically a 33 percent reduction. The rising cost of irrigation water and high value of irrigated land for crop production were assumed to block any expansion of irrigated pasture. Problems associated with farm organization were assumed to block any expansion in the use of crop residue for forage. This left only private dryland pasture and rangeland available to fill in the gap caused by the reduction in grazing on federal lands. The federal researchers estimated that not only could this gap be filled, but a significant expansion in total cattle production could take place.

The basis for this assumed ability of livestock producers to adapt to the loss of access to some federal grazing lands was the fact that in the recent past, private lands throughout the nation supported significantly larger cattle herds than they do today. Cattle numbers peaked in the mid-1970s and are 25 percent lower today. This indicates that private grazing lands can support a significantly larger number of livestock than they do today. The federal researchers estimated that a 40 to 50 percent increase on private grazing lands was possible.⁹

A market economy is not a static one in which workers, business managers, capital, land, water, equipment, buildings, and so forth get permanently wasted every time there is a significant change in economic circumstances. Quite the contrary. The genius of a market system is its ability to adapt to

change and keep valuable resources in productive use. Projections based on the static assumption of valuable economic resources being permanently unemployed are simply wrong.

There is an important corollary to this thesis of a dynamic economy. The demand for agricultural products is limited. Consumption does not surge when prices are low or when incomes increase. There is only so much food we are likely to consume, and this quantity increases only as the population grows. That is one reason why farms and ranches are perennially in trouble. Each agricultural operation seeks to increase its income by expanding production. The collective impact of this is to drive prices downward. Demand does not respond much to the lower prices, and farmers and ranchers are simply worse off.

This relatively fixed demand for agricultural products also means that when the government supports expanded production in one geographical area, the inevitable result is hardship in other geographic areas where farmers and ranchers are not getting similar support. In that sense, for the nation as a whole, government support for cattle production in the West is not a boon to cattle producers as a whole. In fact, cattle producers in a state like Montana, where federal forage plays only a limited role, regularly express hostility toward other western ranchers, whom they see as being on the federal “dole” at Montanans’ expense.

Who Depends on Whom:

The Increasing Reliance of Farm Families on the Nonfarm Economy

The last two decades have not been good ones for farmers or ranchers in the West. In both the mid-1980s and in the mid-1990s, net farm and ranch incomes in many areas approached zero or actually became negative. Despite these serious problems in agriculture in the West, since the late 1980s the western states have led the nation in job, income, and population growth. This western growth has not just been a metropolitan phenomenon. During the 1990s, almost every single nonmetropolitan county in the inland West saw significant population growth.

This extensive economic vitality despite difficulties in the agricultural sector speaks to the diversity and resilience of the economies of the West. This region is no longer primarily a ranching or farming or mining or timber area. Despite relative or absolute declines in all of these sectors, almost the entire region has shown impressive economic vitality. This tells us something about what is and is not energizing the economies of the West.

Farm and ranch operations are increasingly made financially feasible only because farm families have access to nonfarm employment and income. Nationally and within the Rocky Mountain region, almost 90 percent of the income received by farm and ranch operator families comes from nonfarm sources.¹⁰ Of course, many of these farms and ranches are small and not the main income-producing economic activity of the operators. If we look only at farms and ranches with sales of \$100,000 or more, about half of household income still comes from nonfarm sources.

Beef cattle ranchers in the western states also depend significantly on off-farm work to support their families, with 40 to 60 percent reporting their main occupation to be something other than rancher or farmer. In addition, 60 to 70 percent of western beef cattle ranchers report that they do some paid work

Table 5. Off-Farm Employment of Beef Cattle Ranchers, 1997

State	Worked Off-Ranch Some of Time	Worked 20 or More Weeks Off-Ranch	Main Occupation Not Rancher or Farmer
Arizona	59%	50%	47%
California	57%	52%	47%
Colorado	61%	49%	46%
Idaho	60%	50%	46%
Montana	53%	58%	35%
Nevada	60%	50%	45%
New Mexico	59%	51%	49%
Oregon	63%	53%	54%
Utah	66%	57%	58%
Washington	57%	51%	47%
Wyoming	57%	53%	40%

Source: U.S. Department of Agriculture, National Agricultural Statistics Service, 1997 Census of Agriculture, vol. 1, Geographic Area Series, Table 16, www.nass.usda.gov/census.

off the ranch. Over half of beef cattle ranch operators worked twenty or more weeks off the ranch. (See Table 5.)

These figures suggest that assertions about the dependence of urban economies on agricultural activity taking place on the rural landscape have the relationship reversed. It is not that towns depend on agriculture but that agriculture increasingly depends on the vitality of urban and nonagricultural rural economies to provide the nonfarm income that keeps farm operations alive. Agriculture is a subsidiary activity supported by the vitality of the nonagricultural economy. It is the growth in locally oriented jobs and income during the past two decades that has kept the agricultural sector from shrinking significantly more than it has, not the other way around. This suggests that those concerned with the financial viability of agriculture need to be focused on enhancing the nonfarm economy—the economic base supporting agriculture.

Looking at the Whole Economy, Not Just One Sector

The political pressure to reduce the level of grazing on public lands is not motivated by some irrational desire to harm western ranchers or some irrational dislike of cattle and sheep. Rather, livestock grazing increasingly is competing with other valuable uses of public lands. Our federal lands are capable of contributing to many different commonly held objectives: food, minerals, recreation, open space, wildlife habitat, clean water, biological diversity, and other environmental services.

Not all of these values can be pursued simultaneously on each piece of public land. In that sense we face a familiar economic choice: What is the highest-valued use or mix of uses for any particular area? Unavoidably, the choice of one set of uses requires us to forgo other uses. This dilemma does not mean that we suffer net losses no matter what we do. Quite the contrary, when we choose a set of uses on which we place higher value—whether that value is monetary in nature or not—we improve our well-being. Making such choices among competing alternatives is something we do every day. When we pay for a meal at a restaurant or purchase an automobile, most of us do not feel that that economic act made us worse off. The value of what we gained, if we made the right choice, justifies the cost in terms of what we gave up. On net, we have improved our well-being.

This is a point of fundamental importance. In the analysis thus far we have focused only on what we might have to give up if livestock grazing on public lands were reduced. Since, however, we would be reducing public lands grazing in the pursuit of other valued objectives, against that loss has to be set the expected gain: a healthier landscape, cleaner water, more diverse wildlife, highly valued recreation experiences, and so on. If these nongrazing uses are in fact the more highly valued uses, we as a nation will experience a net gain in well-being, not a loss because of the changes in livestock production.

This same focus on net gain applies to the local economy as well. The ongoing growth in the western states' economies, despite relative or absolute declines in their natural resource sectors, is tied to residential and business location decisions motivated by the pursuit of higher-quality living environments. There is no other plausible explanation.¹¹ Protecting natural landscapes, for better or worse, draws economic activity toward an area. Therefore, efforts to protect the character and quality of the public lands and waters of the West can contribute directly to the ongoing economic vitality of the region.

Offsetting the small decline in economic activity that may accompany reduced public lands grazing will be increased economic activity supported by the public lands amenities that are being protected. Again, from an economic point of view, it would be an error to focus only on the cost of protecting those landscapes (the reduction in livestock activity) while ignoring the gain (improved environmental quality and the well-being and economic vitality it supports). In that basic sense, if the right choices are made in pursuing more highly valued uses of our public lands, there will be no economic loss, just a net economic gain.

Being Clear About What We Seek

Changes in federal policy on grazing on public lands will not lead to a catastrophic collapse of the economies of the West. Only a tiny sliver of those economies rely on federal grazing. A much larger part of those economies rely on the region's higher-quality living environments. The economies can certainly adjust productively to almost any change in the price or quantity of federal forage. Regional economic impacts should not be the issue. Some ranches and individuals will be significantly impacted in a negative way. Some certainly will be hurt by changes in policy. Depending on the equities involved, we as a people may want to assist those negatively impacted. It is grossly inefficient, however, to make blanket public policies to deal with the problems of a few. It is far more efficient to deal directly with those who suffer significant impacts and to assist them in making the necessary adjustments.

Most Americans, however, have an interest in the well-being of western ranchers that goes beyond whether they are or are not the economic base of the rural West. Western ranchers are an important cultural icon. In addition, the wide open spaces of the West that ranchers work are part of the landscape we deeply value. We would like to keep both that ranching way of life and that landscape. We can do that.

Unlimited grazing access to federal lands is not central to either of these objectives. As discussed above, ranching in the West is not going to disappear if it loses access to some or all federal forage. It will simply reorganize and work the private, state, and tribal lands of the West.

In addition, despite the almost explosive population growth in the West, most ranchland is not about to be subdivided and settled. Although subdivisions are occurring on the periphery of our urban areas, the West will continue to be primarily an urban area with huge expanses of open space between settlements. The existence of extensive public lands assures that a considerable amount of that open space will remain so indefinitely. The more remote non-federal lands will continue to be devoted to agricultural uses. If we want to ensure that certain private lands remain as open space and/or in agricultural use, we can work to establish conservation easements and purchase development rights. Identifying key private lands, well before they are under imminent threat of residential development, would enable conservation-minded interests to protect such lands while costs are still relatively low.

Retaining public lands livestock grazing, which compromises other environmental values, is not an efficient or effective way to protect open space or a ranching way of life. If those are our objectives, we have to choose far more direct and focused tools, rather than continuing to sacrifice huge areas of the West to a less valued use—livestock grazing.