Environmental and Economic Benefits of Reducing Livestock Grazing on Public Lands Through Federally Funded Voluntary Retirement of Grazing Permits

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Contents/Summary

I. Ranching on federal public lands is implicated in a wide variety of harms and deficits.
   A. Imperils wildlife through degradation of vegetation and landscapes.
   B. Increases flammability of western forests and grasslands.
   C. Diminishes recreational activities and their associated economic benefits.
   D. Provides minuscule and declining benefit to the national economy.
   E. Requires government land management agencies to massively subsidize grazing program costs with taxpayer revenues.

II. Federally funded voluntary grazing permit retirement provides a systematic approach to reducing environmental harms and economic deficits while benefiting ranchers, rural communities, and taxpayers.

III. Federally funded voluntary grazing permit retirement is but the most recent in a long history of buyout proposals intended to facilitate the transition of American society toward more beneficial activities.

I. Public Lands Ranching’s Harms and Deficits

A. Imperilment of Wildlife

Across the United States, livestock grazing has contributed to the decline of 33 percent of federally listed (or listing-proposed) threatened and endangered species of plants, in addition to 22 percent of listed/proposed species of wildlife. Grazing’s contribution to wildlife imperilment is approximately equal to that of mining (11 percent) and logging (12 percent) combined.¹

Livestock grazing as a cause of species endangerment ranks 1st in southern Arizona/western New Mexico, 3rd in southern Nevada/central Arizona, and 4th in California.²

No less than 151 wildlife species harmed by ranching on federal public lands are federally listed as threatened or endangered, or are petitioned/candidates for such listing.³ Degraded habitat and competition with livestock for natural resources constitute the greatest threats to these species, some images of which appear below.

B. Increased Flammability of Western Forests and Grasslands

Livestock grazing contributes to the frequency and severity of fires in western forests and grasslands, costing the Forest Service more than $800 million annually for fuel reduction and presuppression. Here are some of the ways in which livestock grazing plays a role:

- By removing grassy understory, livestock grazing favors tree establishment and greater tree-stockling density, which can lead to less frequent but more intense blazes.

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Greater tree density, resulting from livestock grazing, leads to more competition among trees for water. Water-stressed trees, more vulnerable to insects and other pathogens, produce greater fuel loads of dead or dying trees which help to carry blazes.6

Livestock facilitate the spread and persistence of highly flammable alien weedy species like cheatgrass.7

C. Economic Opportunities Foregone
Ranching’s degradation of landscapes depresses wildlife populations, which then leads to economic opportunities dependent on those populations being foregone. Government agencies lose revenue from the sale of hunting and fishing licenses. And rural communities lose tourism revenue.

Less ranching would mean less environmental impact, which over time can result in greater wildlife-dependent economic activity. A few examples from the scientific literature will illustrate the point.

On the Central Winter Ecosystem Management Area located on Arizona’s Kaibab Plateau, the benefit received from an AUM8 of forage for livestock was calculated to be $22.95. Calculation of an AUM’s value as forage for mule deer yielded $129.41, approximately five times the value of livestock forage. The current hunting level for mule deer produces an annual economic benefit of $922,604 compared to $45,988 for livestock grazing. Because hunter demand currently outstrips availability of deer tags, reduced ranching that allows more AUMs for deer production would increase economic benefit.9

In reference to the X5 hunting zones in California, the economic benefit of existing deer populations was 16-times the benefit of current cattle grazing. If deer populations were to increase from 5,200 animals to 15,000 animals, while cattle AUMs were reduced by 4,000, the additional deer tags that could be issued as a result of the increased deer population would increase the economic benefit to 54-times current management, even further upon including other game species as well as nongame wildlife values that would benefit from reduced cattle grazing.10

Economic benefits that would accrue from recreational fishing after restoration of streams through reduction of livestock grazing in California’s Golden Trout Wilderness are estimated at between $148,000 and $713,000 annually, while current economic benefits from livestock grazing are estimated at only $35,000 annually. The estimate for recreational fishing is conservative because it does not include non-fishing recreation values, passive-use values, option value that accrues from maintaining the ability to fish for the species in the future, existence value to the general public from knowing that the California state fish continues to thrive in the wild, and the bequest value of providing viable populations of the golden trout for future generations. Studies suggest passive-use values are at least equal to and may be several times greater than recreation use values.11

Removal of cattle in 1987 from the San Pedro Riparian National Conservation Area in southeastern Arizona led by 1991 to increased density of herbaceous vegetation by four- to six-fold in riparian and mesquite grassland communities. Of 61 bird species studied, mean detections per kilometer increased for 42 species and decreased for 19 species (ones commonly found outside of riparian zones such as desert-scrub species and cavity nesters). The number of individuals of all avian species detected on surveys increased from 103/kilometer (1986) to 221/kilometer (1991). The authors of the study conclude:

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8. AUM: animal unit month; average amount of forage consumed by a cow-calf pair during one month.


"Our results suggest that removing cattle from riparian areas in the southwestern United States can have profound benefits for breeding birds." Annual non-resident birder visitation to the San Pedro NCA during 2000–2001 was estimated at 25,194, producing direct expenditures of $9.64 million and total economic output of $16.2 million.

D. Minuscule and Declining Benefit to the National Economy

- Nationally, public lands ranchers account for less than 1 percent of operations with beef cattle. The approximately 28,000 grazing allotment permits in the 17 western states are distributed to only about 23,600 permittees. Federal public lands provide only 2 percent of U.S. cattle feed.

- Across the 11 western states, public lands ranching provides 0.07 percent of the jobs and 0.04 percent of the income.

- An analysis of 102 counties in the Columbia River Basin encompassing 7 states and representing about 5.3 million AUMs of federal forage (approximately one-third the federal forage in the 11 western states) found that only 11 counties had more than 1 percent of total income or employment associated with public lands ranching.

- Public lands ranching is not only a marginal activity, it is a dying activity. Between 1982 and 1992, the number of permittees declined by 14 percent, and cash receipts for cattle and calves decreased by 7 percent (in 1982–84 dollars). Real receipts for public grazing allotments from 1988–97 decreased by a third or more.

E. Massive Taxpayer Subsidy of Government Programs

- In 2004, federal grazing permits and leases generated less than one-sixth of the direct expenditures to manage grazing with the remaining program costs of approximately $114.9 million coming from general revenues.

- When indirect federal expenditures for livestock grazing on the U.S. Forest Service and BLM lands are taken into account, the annual subsidy from taxpayers rises to approximately $452 million.

II. Economic Benefits of Federally Funded Voluntary Grazing Permit Retirement

Federally funded voluntary grazing permit retirement would be especially beneficial to ranchers who are economically stressed or are nearing retirement. Consider the situation of an elderly rancher who wishes to retire from ranching or to reduce the size of his operation. Currently, such a person can realize property value in his ranch's grazing permit(s) ONLY by selling the base property associated with those permit(s), an

22. NPLGC, "The Cost of the Forest Service and Bureau of Land Management Livestock Grazing Programs," available at www.publiclandsranching.org/htmlres/PDF_FS_Fiscal_Costs.PDF. Examples of indirect costs include programs for "Land Management Planning," "Inventory and Monitoring," and "Wildlife and Fisheries Habitat Management." See Table 1 (Forest Service Indirect Grazing Costs) and Table 2 (Bureau of Land Management Indirect Grazing Costs) for the complete list of affected programs and annual appropriations. Comparable amounts for the total of direct and indirect costs of the Forest Service and BLM grazing programs have been independently reported in "Subsidized Cow Chow," The Economist (March 7, 2002), 39; Karl Hess Jr. and Johanna H. Wald, "Grazing Reform: Here's the Answer." High Country News 27, no. 18 (October 2, 1995).
action which would typically require the rancher to vacate his property. With a retirement program in place, a rancher could donate his permit(s) to the government, perhaps for more than they would bring on the real estate market, while retaining ownership of his private land. And the money so received might even be used for on-site improvements that could produce new economic activity, such as by establishing a lodge or dude ranch with associated hunting or fishing guide services.

Would ranchers willingly relinquish their grazing permits in return for monetary compensation? Yes. A study of Nevada ranchers holding federal grazing permits suggests that approximately half of them would relinquish those permits in return for compensation at the rate of $255 per animal unit month (AUM) of forage in their annual permits. Our demonstration project, though, is intended to focus on those lands most environmentally impacted by ranching. Based on the assumption that lower-valued permits are associated with less productive allotments (which are often less productive because of environmental degradation), we set the compensation rate at $100/AUM. This figure also reflects real estate data for the value of permits and the suggestion from the van Kooten et al. study that ranchers, in general, expect a higher value for permits that are disposed of separately from their base property. The $100/AUM figure, we estimate, would prove most attractive to ranchers holding permits valued at less than $50/AUM on the real estate market.

Consider the economic implications to the government of compensating virtually all federal grazing permittees at the $100/AUM rate. As of FY 2004, the annual direct cost to administer the BLM and USFS grazing programs, plus related activities of Wildlife Services, was $138 million, or $9.06 per year per AUM provided on public lands ($138 million divided by 15,231,254 AUMs). When indirect federal expenditures for the USFS and BLM are included, that cost rises to $30.86 per year per AUM ($470 million divided by 15,231,254).

Assuming a real interest rate of 3.1 percent (OMB direction for analysis in 2005) over 50 years provides present net values (PNVs) of $228.75 (based on a “direct cost” of $9.06 per AUM) and $779.15 (“direct + indirect cost” of $30.86 per AUM). The corresponding Benefit/Cost Ratios (PNVs divided by $100) are 2.29:1 (based on direct costs) and 7.79:1 (based on direct + indirect costs). In other words, at the compensation rate of $100/AUM the legislation saves up to $7.79 for every dollar spent.

A similarly positive result is found for the return on investment, which ranges from 9.1 percent (at $9.06/AUM) to 30.9 percent (at $30.86/AUM). (Annual taxpayer cost of providing an AUM divided by $100 (the proposed rate of compensation) multiplied by 100 to convert to percentage.)

Additional governmental expenditures may add several tens of millions of dollars annually to the cost of ranching on federal lands. Doing so raises even higher the Benefit/Cost Ratio favorable to compensating ranchers who relinquish their grazing permits. These additional expenditures include

- Endangered Species Act consultation by the U. S. Fish and Wildlife Service and National Marine Fisheries Service on listed species harmed by public lands grazing,
- various USDA agricultural programs and subsidies that cost more per animal to administer to public lands grazing operations than to private lands operations,
- Clean Water Act monitoring and enforcement by the Environmental Protection Agency to protect surface waters on public lands polluted by livestock grazing,
- flood control by U. S. Army Corps of Engineers and Bureau of Reclamation to channel and restore surface waterways damaged by public lands livestock grazing, and
- U. S. Department of Justice defense against litigation and appeals filed by citizens to oppose grazing management and planning by the Forest Service and BLM that is not in compliance with federal law.

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24. Ibid., 518, 520.
26. The total number of AUMs is obtained by summing the number of authorized AUMs (6,638,469) reported for the USDA Forest Service (USDA, Grazing Statistical Survey FY 2005, 4) and the number of authorized AUMs (8,592,785) reported for the Bureau of Land Management (USDI, Bureau of Land Management, Public Land Statistics, Summary of Authorized Use of Grazing District Lands and Grazing Lease Lands for Billing Year 2006 (FY 2007)).
27. See Footnote 22.
Also, no attempt here has been made to quantify the economic costs of the severe environmental damage caused by public lands ranching. This damage, underlying the species endangerment profiled earlier in this report, could be many times greater than the direct and indirect fiscal costs of the federal grazing program.

III. Federally Funded Voluntary Grazing Permit Retirement Viewed Within the Context of American History

Our country has a long history of proposing to use government funds as incentive to replace less desirable activities with more beneficial ones. Consider that within the first year of his presidency, Abraham Lincoln outlined federal legislation that would have provided funds to slave states that established plans to compensate slave owners in return for the mandatory emancipation of their slaves. Lincoln justified his proposal on economic grounds—that it would shorten the duration of the Civil War, and that it would be less disruptive than the uncompensated emancipation of the slave population that would occur at the war’s conclusion if the North was victorious.

Throughout the war, neither the U.S. Congress nor any slave state (not even one still loyal to the Union) embraced Lincoln’s plan. Nevertheless, the president remained undaunted in his advocacy for the proposal, even pitching it to representatives of the Confederacy at the Hampton Roads Conference of February 3, 1865. Yet, even with Confederate war-related deaths at approximately 250,000, much of the South’s infrastructure in ruins, and the South’s ultimate surrender only two months away, Confederate representatives still refused consideration of Lincoln’s offer.

Over subsequent years, other proposals for federally funded buyouts of various sorts have been enacted and have proven successful in their purpose. The 2004 tobacco buyout enacted as part of corporate tax legislation provided $10.1 billion to compensate farmers who stopped growing tobacco. (Note that the amount of funding allocated for this program is more than six times the amount ($1.5 billion) that would be required under our legislation for compensating all grazing permit holders were the rate set at $100 per AUM.)

More recently, enactment of the “Cash for Clunkers” legislation provided $3 billion to motivate drivers to trade in their cars for more fuel-efficient ones, thus providing the triple benefit of reducing oil dependence and air pollution, while stimulating the automobile industry.

But there are interesting parallels between Lincoln’s proposed buyout of slave ownership and voluntary retirement of grazing permits as specified by our legislation that are worth considering. While our nation is not engaged in a war over public land use that entails the deaths of human combatants, there is a war of sorts being played out in the courts between federal agencies that manage ranching on these lands and conservationists who bring lawsuits on behalf of species endangered by that management. Over the years, conservationists have won many of these lawsuits. And when such a lawsuit is successful, the intensity of grazing allowed on the rancher’s allotment is reduced, sometimes to zero, and the rancher receives no compensation for his loss.

This “war in the courts” has been ongoing now for more than fifteen years, which might lead one to ask why ranchers themselves aren’t already clamoring for an economic safety net of the sort that our legislation would provide. One observation—generally true—is that the economic harm inflicted by these lawsuits has not yet outweighed what many ranching leaders view as the greater benefit of having no retirement option available.

One reason for this view is that ranching leaders tend to be “large” ranchers whose economic interests differ from those of “small” ranchers. While small ranchers comprise the vast majority of the ranching community and would greatly benefit from the compensation that our legislation would provide, it’s the large ranchers who are more politically savvy and who control the pro-ranching organizations such as the National Cattlemen’s Beef Association and its state chapters. And because large ranchers, typically, are not so economically stressed as are small ranchers, they do not anticipate such an immediate benefit from the money

that our legislation would provide. In fact, they might see such legislation as generally standing in the way of increasing their profitability, at least in the short term. That’s because the primary way that a large rancher can become more profitable is by becoming larger. And an easy way to become larger is to buy small ranches at low prices. The absence of voluntary grazing permit retirement legislation leaves many a small rancher with no option other than to sell out cheaply to a larger one.

Another major reason that ranching organizations will not embrace any permit retirement proposal in the foreseeable future is because of the harm that doing so might inflict on ranching’s public image. As described by Denzel and Nancy Ferguson, that image is here worth noting: “In our country, the cowboy is much admired. In the eye of the public, he rivals sainthood. Library shelves strain with the weight of volumes testifying to the virtues of cowmen, magazines make a business of garnishing his image, and if that weren’t enough, movies, and television drive the point home.” One need not be a public relations professional to recognize that ranching industry support for buyout legislation, even one greatly beneficial to many of the industry’s smaller operators, would call into question the very virtues of environmental stewardship, personal success, and self-reliance that ranchers and their admirers in the entertainment industry have so skillfully crafted for public consumption since the late 19th century.

Could we ever expect a large rancher to support a voluntary buyout of the sort that our legislation would provide? Sure. Without such legislation, if a rancher wants to subdivide his private property, he’d receive nothing for relinquishing his now useless grazing permits to the government. And a rancher embroiled in a lawsuit over a conflict on his allotment with an endangered species might also see a benefit to retiring his permit in return for cash. But at the present time, at least, we have little evidence to suggest that many large ranchers would choose to stop ranching before the public lands become so degraded over the next 40 to 50 years that they become “unranchable.” Perhaps then these ranchers might come to their congressional representatives and ask for a buyout. Unfortunately, by that time the land will also be worthless as wildlife habitat. And so, from the viewpoint of people who care about wildlife and our other natural resources, the removal of cattle at that time will be much less a concern than it is today.

That’s because although cattle-degraded waterways—riparian areas as they’re called—can often totally recover within 30 to 50 years, degraded uplands, particularly desert grasslands, which have lost much of their topsoil and have been overrun by weeds, will not naturally recover even within several human generations. And we should also not have false hope that science will save the day by allowing us to speed up this recovery. We do not now possess the scientific understanding necessary to restore the complex mix of native vegetation on a large scale. And even if we did possess that knowledge, the cost to apply it over many tens of millions of acres would be prohibitive.

Consequently, it will make a difference for much of the arid western lands whether ranching ends there today, or within ten or twenty years, rather than in fifty years. The longer the ranching continues, the greater will be the degradation, and the longer will be the recovery—extending in many cases into thousands of years.

If we want to save the ranched public lands from degradation that will persist for millennia, we need to begin acting now. And unlike the recalcitrant slave owners that confronted President Lincoln in the 1860s, we know from a scientifically conducted survey that if a cost-beneficial, voluntary buyout program for public lands ranchers were enacted today, that some of them, and perhaps an increasing number over time, would avail themselves of its benefits. This would spare much public land from further degradation. And likely save dozens of wildlife species from extinction.

30. Denzel and Nancy Ferguson, Sacred Cows at the Public Trough (Bend, OR: Maverick, 1983), 2.
31. See Footnote 23.