Livestock Grazing on Public Lands: Unity for Political, Economic, and Ecological Reasons

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Highlight: *The increased pressure on public lands due to conflicting interests, combined with the increased concern on the part of each individual for the environment, makes it imperative that each land use alternative be carefully examined. Decisions on land use must take into consideration the economic importance of the ranching industry to the nation, the social and political climate of the times, and most importantly, sound ecological principles. A careful examination of long-range research can only lead to the conclusion that: (1) on vast areas of public lands, livestock grazing, under proper management, is compatible with other uses, (2) on a limited number of sites, grazing by domestic livestock is detrimental to the resources and competitive with other uses, and (3) on other sites, grazing by livestock can be the most beneficial use to society for economic, social, and ecological reasons.*

It is inevitable that pressure on the public land base in the United States will increase as the numbers of people increase. Also, it is inevitable that each person will have more impact on the land and more concern for land use as our level of living improves, as we become more mobile and able to travel, as we build into our schedules more leisure time for outdoor recreation, and as we become better informed about ecology and the environment. This increased pressure on public lands coupled with the increased concern on the part of each individual will generate more and more conflicting interests—more problems in land management and land use.

It would be foolish to assume that an easy solution to these conflicts will be forthcoming. There is no single solution that will satisfy all interest groups. Rather, there are several alternatives, and each alternative will require some compromise between livestock, wildlife, forest, watershed, mining, recreational, and other interests.

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Economic Considerations

In 1972, there were nearly 118 million head of cattle and 18.5 million head of sheep in the United States (Table 1). The 17 western states contained 61 million cattle and about 15 million sheep. The inventory value of these cattle and sheep was about $12.9 billion, while the gross annual income is about $9.5 billion.

Dr. James R. Gray, New Mexico State University, says that it is safe to use 2.86 as a multiplier factor for range livestock. This means that the annual contribution of the industry as we proceed from the supplier through the producer and on to the consumer in the 17 western states would be about $27 billion. This is a big and important business for this country.

The U. S. Forest Service now issues grazing permits in the 17 western states for about 1.5 million cattle and horses and 2 million head of sheep and goats (Table 2). The Federal government owns and administers approximately 273 million acres on which grazing is allowed (Public Land Law Review Commission, 1970).

Table 1. Number (1,000), inventory value ($1,000), and gross income ($1,000) from cattle and sheep in the United States, 1971-1972.[1]

Area	Cattle			Sheep		
	Number Jan. 1, 1972 (1,000 head)	Inventory Value 1972 ($1,000)	Gross Income 1971 ($1,000)	Number Jan. 1, 1972 (1,000 head)	Inventory Value 1972 ($1,000)	Gross Income 1971 ($1,000)
11 Western States	22,191	4,747,840	3,753,410	8,795	226,049	156,881
17 Western States	61,319	12,503,301	9,261,595	14,640	347,103	243,757
United States	117,916	24,616,530	15,230,924	18,482	423,531	318,979

[1] Sources: "Cattle, Sheep and Goat Inventory," Crop and Livestock Reporting Board Lv. Gr. 1 (72), SRS, U.S. Dep. Agr., Washington, D.C., February 4, 1972, 16 p., and "Meat Animals, Farm Production and Income," Crop Reporting Board MtAn 1-1 (72), SRS, U.S. Dep. Agr., Washington, D.C., April 1972, 15 p.

Of course, most of us realize that this major grazing area is in the 11 contiguous western states where Federal land comprises a range of 86% of the total area of Nevada to 29% of the land area in the State of Washington. The Public Land Law Review Commission Report shows 64% of Idaho as Federal lands, which contribute 17% of the total forage consumed in the state. In a study by Neilson and Workman (1971) in Utah, the statement is made that, "about 36% of all federal land is grazed by livestock, and about 73% of the federal land that is grazed is located in the 11 western states." The Public Land Law Review Commission Report states: "We have recognized the dominant role of Federal public land in the 12 far Western states. In large measure the future of those states may depend on the adoption of sound public land laws and policies. . . ." Certainly, grazing on public lands is highly significant to the economy and well-being of the West as well as to the nation as a whole.

I am concerned about the lack of knowledge of the economic facts of life that is prevalent in certain segments of today's society. Some people seem to forget that the government runs on tax dollars—not welfare programs. People also forget that our international balance of payments is now highly dependent upon the sale of agricultural products abroad. Yet, it appears that many of our actions tend to hamper the growth and development of the agricultural industry. Before we prohibit livestock grazing on public lands, let's re-examine the role of the industry in our economy. Unity of purpose and effort, through the Society for Range Management, can lead to more careful economic analyses and more balanced action programs.

Political and Social Considerations

I would like to preface my discussion of social and political considerations relating to public land use by the presentation of a philosophical principle. Since I'm not sure who deserves the complete credit for this concept, I am going to call this the "Thomas Principle (more or less)." It compares, in its sweeping implications to the Peter Principle and Parkinson's Law. It goes something like this:

> Traditional heroes can become overnight villains with a change in the attitudes of people or the laws of the land.

I'm quite sure this principle is not original. Seems like I've heard something somewhat like this somewhere before. Therefore, when you pass this on to your friends, be sure to include the parenthesis (more or less) with the citation. Let me illustrate this principle with a review of history. The people of America have gone

Table 2. Number of animals grazing lands administered by the Forest Service and Bureau of Land Management in the 11 and 17 Western States 1970-71.[1,2]

State	Forest Service		Bureau of Land Management[3]		Total	
	Cattle and horses	Sheep and goats	Cattle and horses	Sheep and goats	Cattle and horses	Sheep and goats
Arizona	158,219	58,547	224,924	28,530	383,143	87,077
California	126,725	79,594	131,981	260,901	258,706	340,495
Colorado	204,330	384,217	594,255	851,609	798,585	1,235,826
Idaho	138,808	446,728	576,050	1,326,159	714,858	1,772,887
Montana	114,798	99,711	615,201	369,722	729,999	469,433
Nevada	62,350	105,236	356,040	406,416	418,390	511,652
New Mexico	105,703	43,072	264,307	211,592	370,010	254,664
Oregon	124,805	66,626	278,356	64,437	403,161	131,063
Utah	118,634	382,766	173,454	1,047,603	292,088	1,430,369
Washington	39,940	11,374	11,200	8,800	51,140	20,174
Wyoming	147,681	347,737	721,866	1,412,559	869,547	1,760,296
11 states	1,341,993	2,025,608	3,947,634	5,988,328	5,289,627	8,013,936
Kansas	111	0	1,800	0	1,911	0
Nebraska	22,159	1,350	10,500	100	32,659	1,450
North Dakota	77,733	1,400	8,200	5,200	85,933	6,600
Oklahoma	5,728	0	0	0	5,728	0
South Dakota	80,638	10,719	9,400	24,200	90,038	34,919
Texas	12,093	0	0	0	12,093	0
17 states	1,540,455	2,039,077	3,977,534	6,017,828	5,517,989	8,056,905
United States	1,582,630	2,039,876	3,977,589	6,034,628	5,560,219	8,074,504

[1] Data for the Forest Service is 1971, for the Bureau of Land Management is 1970, both being the latest available.
[2] Sources: "Agricultural Statistics 1972," U.S. Dep. Agr., Washington, D.C., 1972, and "Public Land Statistics," Bureau of Land Management, U.S. Dep. Int., Washington, D.C., 1972.
[3] Includes both grazing district and estimate of livestock using leased lands.

through several stages in the development of attitudes and policies relating to public land use. In the early years of our history, the major policy and practice was toward settlement of the West—to *utilize* and *exploit* the vast and "unlimited" land, forest, and range resources. The headlong dash toward the Pacific was encouraged by the passage of the Homestead Act in 1862, the Desert Land Act in 1877, the Enlarged Homestead Act in 1909, and other legislation to encourage land settlement by individuals. Large Federal land grants were also made to railroads and to the states for educational purposes.

As the frontiersman reached the Pacific Coast—and settled much of the better land in the central United States—it became apparent that the forest, farm, and range resources were not "unlimited" as visualized during the colonial period. There began, therefore, a period of increasing concern about relentless exploitation. New concepts of conservation were promoted. National Parks were established. Forest Reserves were set aside. As attitudes of people changed, new laws were passed. The pioneer frontiersman and the Paul Bunyan heroes of the lumber industry became the culprits who were exploiting our natural resources. The Thomas Principle (more or less) was at work.

Out on the range the Indian wars were replaced by conflicts between cowboys and sheepherders—between stockmen and sodbusters. Barbed wire became both one tool of conflict and one means of compromise. On Dec. 29, 1904, the newspaper *Morning Oregonian* carried a letter to the editor which read in part (Neilson and Workman, 1971):

Mr. Editor: Seeing that you are giving quite a bit of publicity to the Sheep Shooters of Crook County, I thought I would lend you some assistance by giving you a short synopsis of the proceedings of the organization during the past year—

I am authorized by the association (The inland Sheep Shooters) to notify the Oregonian to desist from publishing matter derogatory to the reputation of the sheep shooters of Eastern Oregon . . . . We would thank the Oregonian and the Governor to attend strictly to their business and not meddle with the settlement of the range question in our province.

We are the direct and effective means of controlling the range in our jurisdiction. If we want more range we simply fence it in and live up to the maxim of the Golden Rule that possession represents nine points of the law. If fencing is too expensive, substitutes are readily manufactured. When sheepmen fail to observe these peaceable obstructions, we delegate a committee to notify offenders . . . and being men of high ideals as well as good shots by moonlight, they promptly enforce the edicts of the Association. Our annual report shows that we have slaughtered between 8,000 and 10,000 head of sheep during the last shooting season and we expect to increase this respectable showing during the next season providing the sheep hold out and the Governor and the Oregonian observe the customary laws of neutrality . . . .

(Signed) Corresponding Secretary
Crook County's Sheep Shooting
Association of Eastern Oregon

Conflicts between the cowboys and sheepherders soon became insignificant as government moved in to control the public lands. The new hero was the independent rancher—either a cowman or a sheepman who could stand up to the forest ranger. The Thomas Principle (more or less) was still at work. But, I agree with Dr. Marion Clawson when he stated, "As a nation, we were extremely fortunate in the caliber of our public land managers" (Clawson, undated).

With the onset of the Great Depression and the Dust Bowl, some historians say we entered the "golden years of conservation" in the United States (Colorado Forest Industries Committee, 1965). Under Franklin Roosevelt's administration significant conservation legislation was enacted—including the establishment of the Soil Conservation Service, the TVA, the Civilian Conservation Corps, and the Resettlement Administration; finally, the era of the "free range" ended with the passage of the Taylor Grazing Act in 1934. I well remember from my ranch background on Medicine Lodge that these were sad days for many ranchers as they saw the Wild West changed and many of their ranching enterprises virtually crumble. The evangelistic approaches of such dedicated individuals as Forest Service Chief Gifford Pinchot and SCS Chief Hugh Hammond Bennett began to have an impact on land-use policies. But conservation was still an uphill battle.

In the political arena we have seen different individuals and groups emerge as the proponents of various policies on public lands. In the 30's, 40's, and 50's, Federal land agencies and their technical personnel were face to face with the ranchers on specific controversial issues. Hard feelings were common. Heroes and villains were identified by the laws and the attitudes of people. The Thomas Principle (more or less) was still functioning.

Bureaucracies continued to grow. The political strength of the farm and ranch sector dwindled. Total number of farms and ranches peaked out in 1935 at 6.8 million. From this high point the number of farms and ranches dropped to the present level of just under 3 million. As the shift in population from the agricultural sector continues, the rancher loses his political clout. A few years ago, nearly everyone was acquainted with agricultural problems—most people still had relatives on farms and ranches or were only "once

removed" from direct contact with the industry. This is no longer true. We have lost strength in numbers and lost public awareness of farming and ranching problems.

I'm proud to say that during this period—particularly during the last three decades—most ranchers have become "conservation" conscious, most have begun to work with the technically trained personnel of the Federal agencies as they saw the need for wise use of natural resources. Most ranchers can now identify the major plant species; most have good concepts of habitat requirements and carrying capacities; and most are conscious of wildlife relationships.

Suddenly, something else has happened! The average citizen has become "ecology conscious"—although many don't know the definition of the term. The environmental movement has swept through the country. Emotionalism about resource use and public land policies is at a new peak. And new heroes and new villains are emerging as the Thomas Principle (more or less) continues to operate. When the dust and dirt settle from the 1973 political storms, it will be difficult to tell the "white hats" from the "black hats."

Personally, I welcome the emergence of the science of ecology; *but*, I fear the emotionalistic approach of the amateur. I welcome the impact of all scientific disciplines on environmental problems; *but*, I am concerned about the elite scientist who gets out of his field and becomes an expert ecologist overnight. I am concerned about some interpretative news features and such biased approaches to conservation as was promulgated by the TV special called "Say Goodby." Aldo Leopold, a management ecologist if there ever was one, would turn over in his grave if he knew about some programs that were being promoted in his name.

Well, it should be obvious from my discussion of social and political considerations that unity is essential—unity among ranchers and other sectors of the livestock industry, unity among land management agencies and technicians, and unity between the livestock industry and technical and scientific personnel. Let's re-examine our own biases, let's unite to counter the pressures from extremists, let's fight to keep the "conservation rancher" of the year from becoming the culprit of tomorrow. The Society for Range Management can provide the means of bringing people together through rational discussion of research findings as they relate to political issues.

Ecological Considerations

As I stated earlier, I welcome the renewed interest in ecology and the environment. It is my hope that this interest will lead to a better understanding of the "scientific" principles of ecology and not just stir up the emotions. We need to make decisions based upon facts, not fears. In the long pull, public land use must be based upon sound ecological principles and practices.

I feel certain that there are "alternative" solutions to our pressing problems of environmental pollution and deterioration. The answer, in my opinion, is not to "stop everything"—to halt economic development, to stop progress on health care, consumer goods, and services.

Changes are necessary—changes must be made. But we cannot pass a retroactive birth control law; we cannot halt development by legislative edict. We must make provisions for the masses of people now on the planet Earth and somehow we must also plan for about 6.5 billion by the year 2000. We need to make provisions to house, feed, clothe, and care for these large numbers of people, and we must do so without further harm to the environment.

What have we learned from the science of ecology that could help us with environmental problems? More specifically, what have we learned from the many grazing experiments and biological studies that have been conducted over the last 30-40 years that could help us with decisions about grazing on public lands?

(1) First, we should have learned that *the world has changed, is changing,* and *will continue to change, regardless of man's efforts pro or con.* Even without man's influence the principles of geology are at work, weathering and geologic erosion are taking place, soil development is at work. The Genesis rock returned by the astronauts from the moon indicates that the world—our Planet Earth—has been in existence for over 4.5 billion years. Much change has occurred during these eons of time. The ecological principles of primary plant and animal succession, under the influence of climate, present evidence of change through time; and change in habitat means change in biological populations. One hundred-forty million years ago the dinosaur, the brontosaurus, and other prehistoric forage eating animals disappeared from the scene. Some of these species required 1 ton of forage per day and placed tremendous pressures on the vegetation resource. Factors were at work to bring about change even before the presence of mankind. Change in environment will continue, based upon natural forces which are always present.

(2) The second principle that we have learned from the science of ecology is that man has been and is influencing the environment on all areas of the earth's surface—and perhaps beyond. *Man is the great "accelerator of change."* Part of his efforts have been toward "intentional" management to improve crop and livestock production, to create better homes and more consumer goods, to make humid areas more arid, and to make arid regions productive and livable by irrigation and temperature control. By modifying his environment, man has added millions of acres to the production potential and created desirable living situations in hazardous climates for both rural and metropolitan living. In areas where the environment has been difficult to modify, he has adapted to the environment himself and modified the biological organisms using the area. He has developed drought-resistant plants, bred up animals to withstand climatic extremes, and learned to cooperate with the climate. He has introduced literally thousands of plants, brought in horses, cattle, and sheep and introduced many exotic species of wildlife. Thus, he has changed the vegetation complex and the animal populations. He has also brought about an industrial revolution to improve all forms of consumer goods. Many of these changes add up to man's credit, based upon goals established early in our history.

But, while man has thus been busy modifying the environment, adjusting the plant and animal life, and developing business and industry to serve his special needs, he has, for the most part unintentionally, created problems of pollution and contamination. He has had too little concern and too little understanding of the quality of the "total environment." He was not concerned about overgrazing and resource exploitation. He was not aware that his actions have influenced, either directly or indirectly, every area on the earth's surface.

(3) The third principle that we have learned from the science of ecology, combined with the lessons of history and economics, is that *all biological populations must ultimately be controlled by habitat limitations.* This principle applies to *Homo sapiens* as well as to the insect *"Begrothia steelia."* It applies to cattle,

sheep, goats, and deer.

When too much pressure is placed on the habitat, competition between and among species increases. The resource base is endangered or destroyed. Man, as a biological organism, coupled with his associated technological development, is presently being sustained by heavy drains on "depletable" resources–particularly fossil fuels. Our present ecosystems are not sustainable unless energy substitutes can be found. Man's technological development is also causing pollution and deterioration of "renewable" resources.

(4) Finally, *an understanding of the principles of ecology can only lead to the concept of "management" of the environment rather than "protection" per se.*

"Protection" could mean "hands-off," to "shield," or to "let nature take its course." Nature can be vicious; nature can be destructive. I much prefer the terms environmental *improvement* or *management*. These terms imply research, understanding, analysis, and planning. "Improvement" could lead to correction of the existing problems of environmental deterioration as well as "planned" growth and development with man as a part of the formula. We have no choice but to be concerned about *man's* need for consumer goods and well-being. *Ecological understanding and "management" orientation are essential.* I'm pleased to belong to the Society for Range "Management" and not the Society for Range "Protection."

The vegetation complex as we know it today has evolved under millions of years of grazing pressure by various species of wildlife. We also know that by 1900 some U.S. ranges had already been subjected to 200 years of continuous close grazing–particularly in Texas, New Mexico, and Arizona (Dyksterhuis, 1972). We can make some fairly reliable observations from these historical treatments. More importantly, we can add to these qualitative interpretations literally thousands of man-hours of range research at experiment stations in each of the 17 western states.

I conclude from my examination of research in the last four decades that:

(1) On a limited number of sites, grazing by domestic livestock is detrimental to the resource and competitive with certain wildlife populations.
(2) On some sites, grazing by livestock can be the most beneficial use to society for economic, social, and ecological reasons.
(3) On vast areas of native lands, both public and private, grazing is compatible with other uses. There can be benefits to game animals, water yield, fire abatement, nutrient cycling, and people enjoyment from livestock grazing the public lands. Multiple use can be an ecologically sound objective on millions of acres of our public lands.

Ruben Pankey, of the New Mexico Cattle Growers Assn., stated recently (Pankey, 1973);

> We, in the livestock industry, who use public lands for forage purposes, are firmly committed to the multiple-use concept. This concept was not arrived at easily, but after several years of experience we find that we can live under this principle and even enjoy benefits from it, by demonstrating to the American public the values of the production of food and fiber. Forage, namely grass, is not a resource that can be harvested and stored. It has to be utilized in place, *properly*, by livestock and wildlife.

I italicize the term *properly* because this is the key to ecologically sound public land use. Poor management is always a bad practice. We know from our research that, while livestock numbers on Federal lands have been reduced over 50% since 1935, the number of big game animals has doubled (Clawson, 1967). Deer, which are competitive to a certain degree with all classes of livestock, have increased on many public and private range areas. Dr. Jim Teer (1972), after much research, states that the grazing regimes with cattle, sheep, goats, and deer on the Edwards Plateau of Texas are quite marvelous examples of efficient use of a complex vegetation. About 24 million pounds of meat are produced from the 300,000 deer harvested in Texas on ranges carrying deer and domestic livestock. In 1972, Jensen, et al. (1972) in Utah reported that sheep can use big game range without prohibitive use of bitterbrush and other shrubs, a possibility that previously had little support among many biologists." I could cite research indicating that grazing by livestock can be compatible with other uses in virtually every western state as well as in the southern and eastern forests.

As most of you know, there is a move afoot to eliminate all domestic livestock from public lands. Are we willing as a Society to abandon our long-term grazing research–to be carried along with the extremist who cries "protection" based upon fears (or in some cases evidence of poor management)? Shall we join the "purist" who omits man from the formula, or stay with our identification as "applied ecologists"?

This is a time for unity–unity among scientists, unity among range technicians, unity between these groups and conservation-minded leaders of the ranching industry; unity for economic reasons to help hold together a semblance of the free-enterprise system; unity for political and social reasons to strengthen the voice of rural America in an urban oriented world; unity for ecological reasons because of our concern for the environment.

Let us join together, at this time when the international interest in the environment is so high, to promote *more good, sound, long-range ecological research on alternative solutions to resource problems, better education on conservation practices, and stronger technical assistance programs to encourage range improvement.*

The Society for Range Management can be the most effective international organization to accomplish these objectives. But, don't forget the risk. I cite again the Thomas Principle (more or less):

> "Traditional heroes can become overnight villains with a change in the attitudes of people or the laws of the land."

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