

SENTIMENT, GUILT, AND REASON IN THE MANAGEMENT OF WILD HERDS

Garrett Hardin

The Malthusian multiplication of burros and wild horses in recent years has created a political controversy that will not soon be resolved. The dispute is inescapably political because the animals are on public lands; it is controversial because the answer depends not only on the facts, which can be scientifically determined, but also on conflicting human value systems, which is an area for policy decisions. As for the facts, the number of mustangs, for example, has been estimated to have increased from 15,000 in 1972 to a present 45,000, all feeding on public land in the West.¹ If these figures are correct, the yearly rate of increase of the wild horse population has been 12 percent.² Considering the trouble that follows from human rates of increase of one to four percent, we should not be surprised that a 12 percent increase in an equine population creates problems.

The government is necessarily involved in these problems. As always, at times the left hand seems not to know what the right hand is doing. This is no news to government watchers, but it is bad news. The Taylor Grazing Act of 1934 required government agents to make their decisions on the basis of the carrying capacity of the lands being grazed. Using popular language, we could say that the Taylor Grazing Act is built on the rights of the land, largely ignoring rights that might be imputed to animals or their owners. In practice, of course, the political muscle of the owners of the animals is not without power.

On the other hand, we have the Wild, Free-Roaming Horses and

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¹*Newsweek*, May 10, 1982, p. 14.

²For comparison, the rate of natural increase of the human population of the United States is now 0.7 percent. The highest rate of increase in a nation-sized human population is probably that obtaining right now in Kenya, namely 4 percent.

Burros Act of 1971, which is based on a completely different philosophy. In effect, it imputes rights to the animals themselves—animals without owners in this case—and takes no account of the destruction of the public land by the too numerous wild horses and burros. The Act extends the application of the rights that Karl Marx proclaimed in 1875: “. . . and to each according to his needs.” The increase in an unrestrained population of wild animals is necessarily Malthusian, so the assertion that each and every burro or mustang has a right to life, forever and ever, is a recipe for the destruction of their environment—and, ultimately, of themselves. For these unfortunate animals, government lands are a commons, and a limited one at that. In the absence of negative (corrective) feedbacks, these protected animals will once more create a tragedy of the commons.³ In fact, the tragedy is already well under way. If human behavior could be freed of human nature, we could say that the tragedy is unnecessary, since we need only to replace the unmanaged commons with a responsible system.⁴ But our all-too-human nature lays the foundation for the phenomenon of political inertia: Every substantial change in our view of what is right requires at least one generation, and often more than two, before it becomes embodied in law. This is a tragedy of another sort, and apparently we must live with it.

The Leopold Saga

*The metamorphosis that society must now make was undergone by Aldo Leopold in the first half of this century.*⁵ Beginning his professional life as a bounty hunter, Leopold thought that he could increase the well-being of wild deer herds by eliminating their predators. As the number of predators decreased, the deer population did multiply, but the environment deteriorated and so did the health of the deer. After several years of entertaining one medical hypothesis after another, Leopold found the explanation: There were just too many deer. Since it was not politically feasible to endorse a program that encouraged the growth of predator populations, intelligent game managers suggested that the excess deer be killed, the sooner the better. This about-face was necessitated by the facts, but it was unacceptable to the public, which had been subjected to “pro-life” propaganda concerning deer for many decades.

³Garrett Hardin, “The Tragedy of the Commons,” *Science* 161 (1968): 1243–48.

⁴Garrett Hardin, “An Operational Analysis of ‘Responsibility,’” Garrett Hardin and John Baden, eds., *Managing the Commons* (San Francisco: W.H. Freeman, 1977).

⁵Susan L. Flader, *Thinking Like a Mountain* (Columbia: University of Missouri Press, 1974).

The "pro-life" stance was greatly strengthened by the 1942 release of the Walt Disney movie, *Bambi*. Game management theory, which gives carrying capacity considerations dominance over individual rights to life, collided head on with the implication in *Bambi* that innocent life is sacred. *Bambi* is, of course, not a treatise on game management, but the implications of an artistic work can have far more influence on the public than the most carefully wrought academic theory. Just when the game managers seemed to be making progress in persuading the public of the primacy of carrying capacity, *Bambi* came along. In the following year, the miserable condition of the deer and their environment in Wisconsin led the authorities to sanction an "antlerless season" in the hope of reducing the breeding population.

Perhaps because so much of the hunter population was off to war in 1943, the special season resulted in only a 10-percent reduction in the deer population (though this must have included more breeders than would have been killed in a traditional hunting season limited to mature bucks). From a game management point of view, the kill of 50,000 out of an estimated population of 500,000 was far from enough. In terms of the public reaction, it was more than enough. A Save Wisconsin's Deer Committee was formed, and the first issue of its official newspaper, *Save Wisconsin's Deer*, was published in August 1944. The issue included an open letter to the governor, state senators, and assemblymen of Wisconsin with the following significant passage:

The infamous and bloody 1943 deer slaughter was sponsored by one of the commission members, Mr. Aldo Leopold, who admitted in writing that the figures he uses were PURE GUESSWORK. The commission accepted his report on that basis.

Imagine our fine deer herd shot to pieces by a man who rates himself as a Professor and uses a GUESS instead of facts? Mere fawns just out of their spots were sacrificed by our conservation commission. Does, with young already conceived, young, immature bucks, in fact, everything that ran was indiscriminately slaughtered, not by sportsmen, but by the commission's poison propaganda.

Two points deserve noting. First, the motive of this commission was in no way different from the motive of the game managers: to save the deer. The difference between the two groups lies in their time perspective and in their grasp of reality. The deer committee wanted to save each and every deer life today, ignoring what would happen tomorrow if such a policy were adopted. In contrast, game managers wanted to save the maximum number of lives in the long

run and ensure that the health of the surviving population was maximized.

Second, to manage a population of animals it is not necessary to census it exactly. All you have to do is "read the environment." If there are too many grazing or browsing animals, evidence of the surplus can be read in the deterioration of their food source. Yet, so well has science been popularized that the public thinks we must always know exact numbers before we can act. Leopold, who deduced from the manifold evidences of environmental deterioration that the animal population was past its optimum point, was accused of indulging in "pure guesswork." Exact figures are fine, but often simple eyeballing is sufficient to lay out a rational policy.

Ethics and Reason

Some 40 years have passed since *Bambi* and the "infamous massacre of '43." Has rationality made any progress? It is doubtful. In the intervening years, the *Bambi* message has burgeoned. The African missionary, Albert Schweitzer, has been discovered and virtually canonized by a group of untrained but enthusiastic "ecologists." This is unfortunate, because Schweitzer's ideas solidified long before the modern theory of game management was established. Says Schweitzer:

Ethics . . . consists in this, that I experience the necessity of practicing the same reverence for life toward all will-to-live, as toward my own. Therefore, I have already the needed fundamental principle of morality. It is good to maintain and cherish life; it is evil to destroy and to check life. . . .

[Speaking of the "really ethical man"] If he works by lamplight on a summer evening, he prefers to keep the window shut and to breathe stifling air rather than to see insect after insect fall on his table with singed and sinking wings. If he goes out into the street after a rainstorm and sees a worm which has strayed there, he reflects that it will certainly dry up in the sunshine, if it does not quickly regain the damp soil into which it can creep, and so he helps it back from the deadly paving stones into the lush grass.⁶

While a touching passage, it ignores all considerations of the numbers of organisms relative to the quantitative limits of the environment; and it ignores the threat of Malthusian population growth to the animals themselves. As ethics it is useless. The ethics that we need are the ethics of Prometheus, literally "the fore-thinker"—ethics that

⁶Tom Regan and Peter Singer, eds., *Animal Rights and Human Obligations* (Englewood Cliffs, N.J.: Prentice-Hall, 1980), pp. 133-34.

consider the consequences of actions before pronouncing them either good or bad.⁷

Another trend in thinking has helped to undermine rational analysis since 1943. This is the efflorescence of the idea of "rights," an idea that focuses on the individual and is practically blind to the interests of the group, including posterity. In the last 40 years we have witnessed the invention of women's rights, gay rights, the rights of the handicapped, the rights of aliens, and even animal rights.⁸ Whatever the individual merits of these movements, their underlying philosophy emphasizes the demands of the individual and disallows the claims of the community. In other words, today preempts tomorrow.

The atmosphere of radical individualism is unfavorable to the rational discussion of the problems of wild horses and burros. The total lack of understanding of the principles of game management is mirrored in this statement made by a social activist: "Ironically, today's ecology enthusiasts do not seem to like living things. Life must be limited, they say, else it will destroy itself."⁹ The irony is that the author has unwittingly given a correct epitomization of the ecological insight. Since every species of organism has the Malthusian potential of "eating itself out of house and home," individual lives must be limited by some countervailing force—human or other—or the life of the species will self-destruct.

The preeminent importance of carrying capacity has been beautifully brought out by David Klein's study of reindeer on St. Matthew's Island in the Bering Sea.¹⁰ Until 1944, this island was uninhabited by vertebrates. In that year, for some reason, 24 female and five male reindeer were released on the island, where there were no predators and an abundant supply of reindeer moss for them to feed on. In 19 years time, the population increased to some 6,000 animals, a yearly increase of 33 percent. In the heavy winter snows of 1963, virtually the entire population died. In 1966, only 42 animals were found on the island, only one of which was male, suspected to be sterile. Presumably the population has died out since then.

It would be a mistake to presume that winter weather was the cause of the deaths; weather was only the *coup de grace*. Game

⁷Garrett Hardin, *Promethean Ethics: Living with Death, Competition and Triage* (Seattle: University of Washington Press, 1980).

⁸Special Issue on Animal Rights, *Inquiry* 22 (1979): 1-251; and Peter Singer, *Animal Liberation* (London: Jonathan Cape, 1975).

⁹Robert Chrisman, "Ecology: A Racist Shuck," *Scanlan's* 1 (1970): 46-49.

¹⁰David R. Klein, "The Introduction, Increase and Crash of Reindeer on St. Matthew's Island," *Journal of Wildlife Management* 32 (1968): 350-67.

management studies of St. Matthew's Island led to an estimated carrying capacity (for reindeer) of five animals per square kilometer. In 1957, there were only four animals per square kilometer. These animals were about 50 percent greater in body weight than the mainland domestic reindeer, attesting to their good food supply. By 1963, the population had reached a density of 18 per square kilometer, or 3.6 times the estimated carrying capacity. At this time the average body weight of the island animals was less than that of mainland animals, and their environment showed distressing signs of overgrazing. The herd entered the winter season in bad condition. It would be far closer to the truth to say that the animals died of overpopulation than to say that they died of a severe winter.

How would a game manager in complete possession of the facts and fully empowered to act have managed the St. Matthew's herd of reindeer? Assuming that it was out of the question to introduce an effective predator into this simplified environment and assuming that contraception among reindeer was not practicable, the manager would have instituted a killing program in 1957, when the population size was comfortably below the carrying capacity and the animals showed every sign of being in good health. By always keeping the population below the carrying capacity—the engineer's "safety factor" must rule here—the animals could have been maintained in good health indefinitely, without the massive die-off that occurred in the winter of 1963–64. The Schweitzers of this world cannot agree to such systematic culling of a herd; but the Schweitzers would, if given power, increase the total amount of suffering. They would, in fact, extinguish the very life they intend to preserve.

Not many of the general public know of Klein's study or understand its moral. In March 1979, television carried a documentary prepared by the National Geographic Society. "Last Stand in Eden" was an account of the large herds of elephants which have moved into the highlands of Kenya, where they are pillaging the farms. Understandably, the native human beings whose livelihood is threatened want the herds thinned. The film showed helicopters driving the elephants away from populated areas into the wilder areas they had come from. Also shown was the rapid adjustment of the elephants to the new stress of helicopter noise. Very soon the herds started moving back from the wild into the inhabited areas. It was obvious what was happening: The wild areas had been damaged by numbers of elephants that were vastly larger than the carrying capacity. The elephants knew what was wrong and insisted on returning to more favorable areas, despite all the racket that human beings could make. There were film clips of government game managers calling for

“understanding” and “patience” until the elephants could be “persuaded” not to return to the farming areas. Some speakers expressed horror at the thought of killing the elephants. One brief interlude showed the killing of more than 100 elephants in Rwanda several years earlier, presented to underscore the “unthinkability” of killing. There was absolutely no mention of the concept of carrying capacity, nor of the necessity of considering quantities and consequences in arriving at ethical decisions. When a conscientious public educator like the National Geographic Society does so poorly, are we to wonder that the public understands so little of the biological basis of population well-being?

Closer to home, on Angel Island in San Francisco Bay, there is a herd of 150–200 deer, a number clearly beyond the carrying capacity of the island. Naturally, shooting the excess is “unthinkable.” Bearing that in mind, Dale R. McCullough, professor of Resource Management at the University of California at Berkeley, recommended that a few coyotes be released on the island to bring the deer population to carrying capacity. Predictably, a representative of the San Francisco Chapter of the Society for the Prevention of Cruelty to Animals objected: “We are concerned with the way the animal dies. . . . We are concerned in a major way with finding a solution. We favor relocating excess deer. We do not want to see a slaughter of Angel Island deer, whether by man himself, or through a man-made solution such as introducing predators.”¹¹ Relocation is, of course, only an escape from rationality. It may work for a while, but soon the areas available for relocation will be saturated, and then what does one do? In the end, there is no escaping the reality of carrying capacity.

How could so obvious a matter be so easily lost sight of, so persistently repressed? I suspect part of the answer is to be found in a remark made by E.F. Schumacher: “The people who now control our destiny almost universally have a city orientation.”¹² Over 90 percent of the U.S. population is urban (living in cities of 50,000 or more), and most urbanites have had an urban upbringing. In the nature of things, urban people have most of the political power, and their interests determine the flavor of the rhetoric of most newspapers and magazines. People who are brought up on farms or ranches have a gut-level understanding of carrying capacity, whether they know the technical term or not; but it is difficult to bring their rural insights to bear on the problems of managing animals. As fewer and fewer

¹¹UPI, *Santa Barbara News-Press*, March 11, 1981, p. C-13.

¹²E.F. Schumacher, “Interview,” *Mother Earth News*, November 1976, p. 15.

decision makers come from a rural background, the situation will get worse. We have a frightening education problem on our hands.

Managing Wild Herds

It is against this background that I want to consider the dispute between stockmen and so-called animal lovers over the burgeoning populations of burros and horses. At the risk of making enemies of both groups, one criticism can be leveled against both—not against every member but against many in each camp.

The “animal lovers” accuse the stockmen of being greedy when they seek to increase their domestic herds at the expense of the wild ones. No doubt the charge of greed is sometimes justified; but wild-life advocates can be equally greedy, although in a different way. Propagation by nature is over-abundant, necessarily so because reproduction must allow for deaths by accidents, disease, and predation. When man does not intervene and mitigate the corrective feedback of the forces of mortality, the exuberance of reproduction causes no problems. But the more sentimental of our wildlife advocates would eliminate all mortality if they could, because “all life is sacred” or because they feel a “reverence for life.” To repeat, the biologist must point out that it is quite possible to defend the life of every species without preserving the lives of all its members. The “animal lover” does not like to have this truth pointed out. Extending John Locke’s emphasis on the primacy of the individual to the non-human realm, the “animal lover” points out that every wild organism is genetically unique, and he is horrified at the thought of giving up the life of even one individual. His unwillingness is an expression of greed. The moralistic language of such advocates may fool us for a while, but in the end we see that the wildlife enthusiast who wants to save every wild life is as greedy as the stockman who wants to eliminate every living wild thing. The public interest here, as always, lies in a balancing of competing goods, in pursuing the Greek goal of moderation, and in resisting the call of greed, coming from whatever quarter.

This analysis may be viewed by some as an *ad hominem* argument. Transcending this level we can usefully divide the problem of managing the herds of wild horses and burros into a scientific part and a policy part. On the scientific side, we need to determine the carrying capacity of each piece of land. This means not only the carrying capacity for horses and burros but also for whatever other animals might be placed there alternatively or additionally, such as sheep, cattle, and deer. Their comparative demands on the environment can

be stated in AUs, animal units, though the AUs may vary with different environments. Interactions between the species—e.g., the spoilage or augmentation of the environment for one species by another—must also be considered. Such questions may be difficult in detail, but they are scientific in principle. Given enough time, money, and study, the answers can be found. With these answers, we can then take up the second kind of question.

Policy is involved the moment we try to agree on the mix of grazers and browsers to strive for. Of course, we might take an exclusively homocentric position and opt for the maximum efficiency, which might mean the maximum number of pounds of beef produced per acre. Such a narrow definition would have been readily accepted a century ago, but not now. The 1976 Federal Land Policy and Management Act mirrors widespread public sentiment when it defines multiple use as “the management of various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and *not necessarily to the combination of uses that will give the greatest economic return or greatest unit output*” (emphasis added).¹³

Rejecting the pure efficiency solution makes the political problem much more difficult, of course. But if you believe, as countless millions of Americans do, that quality of life is to be measured by more than mere economic efficiency in the narrow sense and that a modicum of variety and wildlife is required for human happiness (even if it means that the carrying capacity of our land for human beings is thereby reduced), then the political problem of battling over alternative value systems cannot be evaded. He who prefers quality to quantity has a fight on his hands.

Under every value system the problem of eliminating excess animals arises—either once only in the case of an efficiency solution or periodically if we opt for a steady state or balance of competing herbivores. Keeping herds of domestic animals within their assigned limits requires solving the problem of managing the ranchers; that is, persuading ranchers that it is in their long-term interest to cooperate with other elements in society. The experience of the last half century in the management of the common lands under the jurisdiction of the Forest Service and the Bureau of Land Management has shown that this is no small political problem.

Keeping herds of wild animals within their assigned limits requires, first of all, that these herds be managed using various means, for

¹³Jay D. Hair, “Sagebrush Rebellion,” *BioScience* 31 (1981): 556.

example: treating them as game animals and managing the assignment of hunting rights; cropping the herds for either human or animal food; poisoning animals as a simple means of getting rid of them; exporting some animals to other areas, which is only a temporary solution; introducing natural predators, which probably will not be approved of; or, as a bit of science fiction, forcing animals to practice birth control. Given the goal, the comparative costs and benefits of these methods can be evaluated scientifically.

Guilt vs. Rationality in Policy Espousal

Beyond the problem of managing the animals, there is the problem of managing the city folk who object to the management. This may be the most difficult control problem of all. A large literature has been built up around the ideas of compassion, sanctity of life, reverence for life, pro-life, and other verbalizations, the implication of which is that people who support so-called pro-life positions are somehow nobler than those who would match population size to carrying capacity. We must not underestimate the bias in favor of the pro-life position. The problem of minimizing the suffering of the world will be made immensely easier if we can build backfires against this position. This will not be easy, but I have a suggestion.

Returning to Schweitzer, I quote: "The ethic of reverence for life . . . inspires us to join in a search for opportunities to afford help of some kind or other to the animals, to make up for the great amount of misery which they endure at our hands, and thus to escape for a moment from the inconceivable horrors of existence."¹⁴ I speak certainly for myself, and I think for millions of others, when I say that I really do not know what Schweitzer is talking about when he speaks of the "inconceivable horrors of existence." All biologists are certain that no one ever "promised us a rose garden"—but what's new? Death and tragedy are ubiquitous, but not universal. We cannot make the world wholly as we would like it to be, but we can bias it in our favor. We have the best chance of succeeding in this endeavor if our actions are guided by rationality.

I am afraid that it is rationality itself that is most feared by many of those in the pro-life camp. Guilt-mongering is an all too common hobby. The attraction of this occupation has, I think, been revealed by psychiatrist Leslie Farber: "Guilt is welcomed simply as a meaning, one of the handiest of familiar meanings, to get us out of chaos."¹⁵ By contrast, biologists find meaning in such rationally understanda-

¹⁴Regan and Singer, p. 138.

¹⁵Leslie H. Farber, "The Therapeutic Despair," *Psychiatry* 21 (1958): 7–20.

ble concepts as exponential growth, the finiteness of resources, negative feedbacks, predation, mathematical maxima, safety factors, competition, and carrying capacity. The biologically minded ethicist insists that time and numbers must enter into ethical calculations. Consequences are important; hence, Promethean ethics. Rational calculations may be difficult to carry out, but in principle they are possible. In time, our answers should improve.

Those who reject rationality and yet who seek meaning as avidly as rationalists do are likely to fall back on guilt as a philosopher's stone for solving ethical problems. After two millenia of intermittent guilt addiction, it should be obvious that guilt is a poor explainer of the phenomena of the world. We cannot, to use Schweitzer's words, "make up for the great amount of misery which animals endure at our hands" by regarding the life of every animal as sacred, if such sanctifying action results in increasing still further the misery of wild animals under our control. Only rational policies can minimize suffering in the future.

PROPERTY, FREEDOM, AND THE SURVIVAL OF WILD HERDS

John W. Sommer

Carrying Capacity and Survival

In his paper, "Sentiment, Guilt, and Reason in the Management of Wild Herds," Garrett Hardin warns us to beware of "a group of untrained but enthusiastic 'ecologists'" who seek to canonize Albert Schweitzer's pro-life message as applied to wildlife, while ignoring nature's carrying capacity.¹ Disregarding rational game-management principles, these pseudo-ecologists would enlist the power of government to force their pro-animal life views on the public.

Hardin tells us that in the early 1940s, Aldo Leopold made the mistake of destroying the predators of wild deer in Wisconsin. Later he was compelled to kill thousands of deer in the "infamous massacre of '43." The public reacted with anger, but failed to recognize the reason for the massacre: disregard for the "primacy of carrying capacity" by "pro-life" naturalist groups.² This same naiveté regarding carrying capacity and survival of wildlife dominates public opinion today. Witness, for example, the public's anger in Florida and Maine when wildlife biologists recommended increased hunting of deer and moose, even though the purpose of this recommendation was to preserve the stocks of these animals *in the long run*.³ The same experience applies to the management of wild herds of horses and burros, where groups such as the Friends of Animals, Defenders of

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¹Garrett Hardin, "Sentiment, Guilt and Reason in the Management of Wild Herds," *Cato Journal* 2 (Winter 1982): 826.

²*Ibid.*, pp. 824-826.

³"Drive Underway to Block Deer Season in Everglades," *New York Times*, July 13, 1982, and "2nd Moose Hunt in Maine Prompts Efforts for Ban," *New York Times*, April 4, 1982.

Wildlife, and the Natural Resource Defense Council have refused to advocate sound game-management principles. Instead, they simply call for *universal* non-injury of animals.

Unlike the *pro-animal life groups*, serious biologists like Hardin recognize that the survival of a species, not the loss of individual animal life, is what is important. Thus, Hardin advocates a Promethean ethic that views actions in terms of their consequences, rather than a Jainist-type ethic that views animal life as good in and of itself.⁴ The fact that nature is niggardly cannot be denied without serious consequences. Moreover, rationality requires that we view animals as resources to be used for the satisfaction of human wants, including enjoyment of animals as pets. Outright cruelty to animals, of course, can never be condoned, and certain laws may be necessary to protect animals from inhumane treatment. But we should not forget that in a free society, organizations like the SPCA will emerge to protect animals from inhumane treatment, without the intervention of the state. Such voluntary action, however, contrasts sharply with the desire of wildlife groups to impose their Jainist-type ethic on the public via extensive government regulation of land use.⁵

In the next section we shall consider the ways in which animals, including wild horses and burros, can be regarded as resources, and the implications for land use and development. We shall then discuss how privatization of animal resources will provide owners with a strong incentive to maintain and improve their stocks of wildlife vis-à-vis common ownership and public management.

Animals as Resources

If we are to think of animals as resources and if we are to blunt the arguments of animal-rights enthusiasts, we need an argument of greater logical merit than provided in Genesis 1:26 concerning God's grant to man of dominion over animals. I have not constructed the needed arguments yet, but Robert Nozick has raised enough questions about the utilitarian position to make me look elsewhere. Nozick urges us to think our way through the animal-resource-use question when he asks: "Are there any limits to what we may do to animals? . . . Do some purposes fail to entitle us to impose great costs on animals? What entitles us to use them at all?"⁶ Even with these questions in mind, the dominant ethic with respect to animals is largely utilitarian, although it is a tempered form of utilitarianism.

⁴Hardin, pp. 826–827.

⁵See John W. Sommer, "A Beastly Geography," *Ontario Geography* 9 (1975).

⁶Robert Nozick, *Anarchy, State and Utopia* (New York: Basic Books, 1968), p. 35.

We agree that animals may be used for certain purposes, but we are reluctant to allow an open-ended choice. Perhaps this is so because we realize that the malicious treatment of animals would be a step backward for civilized people: Outright cruelty to animals may spill over into less respect for *human* life. In addition, deep down we may have an affinity with animals, so that we may believe with William Morton Wheeler that animals are "our only companions in an infinite and unsympathetic" universe.⁷

If animals are regarded as resources, two questions come to mind: In what way are wild horses and burros, as well as other forms of wildlife, resources? And, under what institutional arrangement may we be most likely to maximize their value to us?

Before 1959, wild horses and burros were sought chiefly for mounts, hides, animal food, and animal products like glue; they were also used occasionally for human food. These animals were not protected by the states because they were not game animals. However, in 1959, a federal law was passed making it illegal to hunt or harass these animals on public lands, or to pollute their watering holes "for the purposes of trapping, killing, wounding or maiming."⁸ According to Michael Bean, this law was largely ineffective and it was not until 1967 that the Bureau of Land Management effected a "wild horse policy," which hardly had time to be tested before Congress enacted the Wild Free-Roaming Horses and Burros Act in 1971.⁹ This law dictated that wild horses and burros be designated as "living symbols of the historic pioneer spirit of the West," and treated "as an integral part of the natural system of the public lands."¹⁰

The spirit of the law is illustrated by the following passage from the Senate report that accompanied the bill:

They [wild horses and burros] have been cruelly captured and slain and their carcasses used in the production of pet food and fertilizer. They have been used for target practice and harassed for "sport" and profit. In spite of public outrage, this bloody traffic continues unabated, and it is the firm belief of the committee that this senseless slaughter must be brought to an end.¹¹

⁷Joseph Wood Krutch cites Wheeler in the preface to James Fisher, Noel Simon, and Jack Vincent, *Wildlife in Danger* (New York: The Viking Press, 1969), p. 11. Also, see C. G. Jung, *Memories, Dreams, Reflections*, Aniela Jaffé, ed. (New York: Vintage Books, 1963), p. 101.

⁸18 U.S.C. sec. 47 (1970), cited in Michael J. Bean, *The Evolution of National Wildlife Law* (Prepared for the Council on Environmental Quality by the Environmental Law Institute, 1977), p. 105.

⁹Bean, p. 104.

¹⁰16 U.S.C. sec. 1331, suppl. IV (1974), cited in Bean, p. 104.

¹¹S. Rep. No. 242, 92nd Cong., 1st sess. 1 (1971), cited in Bean, p. 104.

Such a statement is ironic when one considers how important game hunting is to the economies of a number of Western states. It can hardly be argued that game animals are less subject to "cruel capture," harassment, or death than wild horses and burros. These latter animals apparently have become more important than other animals in the eyes of the law. The 1971 Act also had the curious effect of elevating the status of wild horses and burros over that of their domestic counterparts: They receive the full protection of the law if they venture onto private lands and may only be removed by federal personnel, which, given the checkerboard pattern of public and private ownership in the West, can keep the authorities very busy. Finally, the federal government protects all unbranded horses and burros on public lands, including those who have strayed from private lands.

These outcomes of public management aside, the interesting matter of definition remains. The Act may, in fact, get at what most of us regard as the *raison d'être* for these animals: *to exist as wild, free-roaming creatures*. It may be precisely because the great majority of Americans are urban dwellers that there is an urge to have "living symbols" of the Wild West.¹² Nevertheless, government exhortations to preserve wild herds and regulations to impose the will of conservationist groups on the general public are poor substitutes for private ownership and management. If individuals really want to have "living symbols" of the wilderness, the market will provide them much more efficiently than the state.

According to Hardin, what we must do to preserve our wildlife is "to replace the unmanaged commons with a responsible system."¹³ Having said this, however, he seems to retreat to a system of scientific management by biologists, instead of a system of private ownership. It seems Hardin would have biologist-planners determine the carrying capacity of land in "animal units," and then use cost-benefit analysis to determine the optimal land-use pattern for preserving wild herds.¹⁴ In this regard, it is interesting to note that for over 20 years Hardin has flirted with the free market, only to back away at the last instant in favor of fine-tuning the economy via some form of planning. He hesitates to adopt a truly free-market perspective because

¹²Steven Kellert at Yale University's School of Forestry has been assessing American attitudes toward wildlife and may shed light on this issue.

¹³Hardin, p. 824.

¹⁴*Ibid.*, pp. 830-832.

he does not want to “add to the double battery of polemic literature.”¹⁵

Even though Hardin’s research points toward the benefits of private ownership and a competitive price system to guide resources to their highest-valued uses, his biologist instincts direct him away from the spontaneous order of the market toward a scientific rationality—a type of rationality Hayek has referred to as “constructivism.”¹⁶

Private Ownership, Freedom, and Survival

Private ownership protects individual freedom of choice, and this enables a diverse pattern of wants to be satisfied. However, only those wants that are most urgent and that can be satisfied at least cost will survive in the competitive market process. There is no reason to doubt that this same competitive market process if applied to wild herds would generate a socially desirable outcome. Under the discipline of profit and loss, wild herds would not disappear, provided the public was willing to pay for their use, whether it be for their use as “living symbols” of the wilderness or for other uses. The important point is that individual consumers would be voting their preferences in the marketplace, instead of government officials and wildlife groups dictating what is “good” for consumers. Those individuals who would canonize the pro-animal life message or replace a free-market system with scientific planning should at least look at the private alternatives to government regulation of wildlife.

In a democracy, majority rule enables the “winners” to impose substantial costs on the “losers” via the tax system. Wildlife groups can form effective coalitions to enact their special interest legislation even though they form only a small part of the voting public. Under such a system, politicians have an incentive to heed minority interests even though they may be extremist. The benefits from the legislation will be concentrated on the wildlife groups, while the costs will be widely dispersed, making the support of such legislation politically feasible. Therefore, the rational among us will always seek majority coalitions to establish rules that directly benefit us *at the expense of other taxpayers*; yet we will pretend to lobby in the “public interest.”

¹⁵Hardin, “The Cybernetics of Competition: A Biologist’s View of Society,” in Paul Shepard and Daniel McKinley, *The Subversive Science* (Boston: Houghton-Mifflin, 1969), p. 294.

¹⁶F. A. Hayek, “Kinds of Rationalism,” in *Studies in Philosophy, Politics, and Economics*, Midway reprint ed. (Chicago: University of Chicago Press, 1980), pp. 84–85.

As Hardin has shown, men of conscience make little headway in a common property environment.¹⁷ It is no secret that as individuals are made less responsible for their actions, their behavior will become more reckless. Consequently, further government regulation will be called for, and the market coordination system will be further eroded. In the process, resources will be wasted by those groups seeking privileged positions. Instead of government rules and regulations governing the use of common resources, we need to establish private property rights and a rule of law approach to government.¹⁸ By limiting government action to the protection of person and property, we can allow the market price mechanism to effectively coordinate human action, and maximize individual freedom.¹⁹

How do wild horses and burros fit into this analysis? The responsible and optimal arrangement for wildlife is private ownership. Under such an arrangement, wild herds have the best chance of long-run survival. Moreover, such an arrangement satisfies Hardin's requirements for survival of a *species* and for emphasizing carrying capacity.²⁰

Evidence is mounting concerning the efficacy of private property in conserving wildlife. John Baden, Richard Stroup, and Walter Thurman have cited the historical evidence surrounding the Montagnais Indians and the beaver pelt trade;²¹ R.J. Smith has examined the case of private turtle farms in the Cayman Islands;²² and Clifford May has studied game cropping in East Africa.²³ In Texas, where there is little federal land, hunting is permitted through private contract lease arrangements, and game-management practices are widely employed, since the owner can capture the profits from his efficient investment decisions. Exotic game ranches have also been created to appeal to hunters worldwide. These ranches have helped to preserve species (Grebe's zebra, for example) and to restock territories where animals had been virtually eliminated (the oryx in southern Arabia).

¹⁷Hardin, "Living on a Lifeboat" (1974). Reprinted in Garrett Hardin and John Baden, eds., *Managing the Commons* (San Francisco: W. H. Freeman, 1977), pp. 264-265.

¹⁸On the rule of law, see Hayek, *The Constitution of Liberty*, Gateway ed. (Chicago: Henry Regnery Co., 1972).

¹⁹See Ludwig von Mises, *Human Action* (Chicago: Henry Regnery Co., 1966).

²⁰See Hardin, "Sentiment," p. 830

²¹John Baden, Richard L. Stroup, and Walter Thurman, "Good Intentions and Self-Interest: Lessons from the American Indian," in *Earth Day Reconsidered*, John Baden, ed. (Washington, D.C.: The Heritage Foundation, 1980), pp. 9-11.

²²R. J. Smith, "Resolving the Tragedy of the Commons Through Property Rights," *Cato Journal* 1 (Fall 1981): 439-468.

²³Clifford D. May, "Preservation for Profit: New Strategies to Save Africa's Wildlife," *New York Times Magazine*, September 12, 1982.

There is no question that these private arrangements would fail the ethical test of the animal-rights extremists, because individual animals are sacrificed to save the species. However, under private ownership, those individuals who wanted to protect individual wildlife could do so at their own expense. For example, Cleveland Amory, an animal-loving philanthropist, had wild burros air-lifted by helicopter from the Grand Canyon National Park, at his expense, when Federal Parks officials were prepared to annihilate them. In a more ambitious, if less spectacular effort, the Noble Foundation transformed St. Catherine's Island into a wildlife refuge in the early 1970s. Still grander in scale is the Nature Conservancy's acquisition of nearly two million acres of land, chiefly in North America, for preserving wildlife and environmentally sensitive areas. These examples—and there are many others—offer strong evidence that market solutions can emerge to preserve wilderness values.

Conclusion

If we disregard scarcity and the carrying capacity of land, human survival will ultimately be impaired. Reason must predominate over emotion if animal as well as human life is to be preserved. In these respects, we can agree with Hardin. But we must go further and call for the establishment of private property rights in wildlife. Such an alternative is necessary if individual freedom is to be preserved, and if animal life is to serve man's wants in an efficient and acceptable manner. Under private ownership, wild herds will find their highest-valued uses to individual consumers. Private owners will behave in a socially responsible way, because it pays them to do so. This is in contrast to the system of public ownership and control that encourages the ultimate destruction of wild herds, because no one can be held accountable for such destruction. Surely Hardin would not disagree with this assessment.