The Federal Role in Regulating Alternative Livestock Operations

Jose R. Diez
US Department of Agriculture
Fort Collins, Colorado

Mike Gilsdorf
US Department of Agriculture
Riverdale, Maryland

Robert Werge
US Department of Agriculture
Fort Collins, Colorado

Introduction

This paper discusses one aspect of federal regulation for alternative livestock, namely that concerned with the health status of animal agriculture. Federal responsibility for animal health programs rests with Veterinary Services (VS), a unit of the Animal and Plant Health Inspection Service (APHIS), an agency of the United States Department of Agriculture (USDA). The objective of this paper is to briefly describe three aspects of VS' policy that have a potential to impact alternative livestock as well as free ranging wildlife. These are (1) using cooperative state-federal programs to eliminate diseases in alternative livestock, (2) collaborating on health issues with a variety of federal and state agencies, and (3) reducing the risk of disease transmission between traditional or alternative livestock and free ranging wildlife.[1]

The Changing Context of Animal Disease Management

Historically, VS primarily has focused on the health of traditional domesticated livestock, such as cattle, sheep, swine and horses. Over the past several decades, this focus has broadened. This expanded focus is the result of many factors. In the context of this symposium on game farming, two of these factors are worth noting.

Published in TRANSACTIONS OF THE SIXTY-SEVENTH NORTH AMERICAN WILDLIFE AND NATURAL RESOURCES CONFERENCE, 2002, ed. Jennifer Rahm (Washington, DC, 2002)

This article is a U.S. government work, and is not subject to copyright in the United States.

The first is a rapid expansion of alternative livestock farming. The American bison industry is continuing to experience rapid growth after growing from 30,000 head, in 1972, to 250,000 head, in 1997. Exotic hoofstock in Texas has grown in 30 years from 37,500 to 198,000 animals. Elk and deer farms have expanded, along with farms raising llamas, alpacas and other nonnative species (Kopral et al. 2000). Much of this growth has been fueled by the desire of small and medium scale producers to move toward higher value animals to fill new niche markets.

While some alternative livestock producers experienced classic boom and bust cycles, others have experienced steady growth and have established organizations representing their interests at local and national levels. Such organizations, like the North American Elk Breeders Association, the North American Deer Farmers Association and the National Bison Association are essential for the management of animal health programs. Cooperation by producers in the execution of disease regulations is an essential element in their success.

The growth of the alternative livestock industry is itself part of the second factor for change; the evolving role that animals play in the American economy and society. At one time, there were clear distinctions in popular culture between domestic livestock, free-ranging wildlife and household pets. Species could be neatly assigned to each category. Each category, in turn, had its own management systems that were usually reinforced by the authority of public agencies. Thus, free-ranging wildlife species were regulated by states to maximize hunter yield; livestock owners were regulated by federal and state agencies for health and marketing concerns; pet owners were regulated by health and welfare codes.

These cultural boundaries now are blurred more. The phrase, alternative livestock, is an indication of that blurred line. Another indication is the transformation of exotic free-ranging wildlife into pets. The American Pet Products Manufacturers Association notes there are 9 million pet reptiles in 3.6 million American homes (Derr 2002). There are thousands of wild mammals, including lions, wolves and primates, in private hands or collections. It is estimated there are 10,000 privately owned tigers in the United States, dwarfing the 200 or so kept by zoos (Peterson 2002).

Another change is the industrialization of livestock production, probably most advanced at this point in the poultry and swine industries. These

food animals are raised in climate-controlled, mechanized surroundings that are indeed factories in every sense of the word. At the other extreme, some farms that continue to have small numbers of traditional barnyard animals have become bed and breakfast destinations so that paying urban visitors can experience the presence of these animals in their natural setting. Also building upon the motif of selling experiences rather than products, hunt farms sell the adventure of hunting animals within an enclosed private setting.

These changes produce conflicts between individuals and groups that respect animals, often particular species and the manner in which they should be managed. The title of this symposium, *Game Farms: Boon or Bane?*, assumes that the question can be answered, again utilizing values and statistics. This paper does not answer that question, but rather seeks to shed some light on the manner in which VS in APHIS attempts to address disease issues in this changing environment.

Using Cooperative State/Federal Programs to Eliminate or Control Diseases in Alternative Livestock

VS' responsibility for the health of animal agriculture includes those animals, such as elk, deer, bison, etc., that are held under ranching or farming management regimes for the purpose of commercial agricultural marketing. VS is particularly concerned with high risk diseases shared with other livestock species. For any disease control effort to be successful, however, state agencies must take a primary role and stable organizations of producers must be willing to take action.

It should be noted that federal statutory authorities for animal health issues are extremely broad and include all animals. However, federal authorities are primarily confined to regulating animals that are involved in interstate movement. State agencies generally have much broader authority to regulate practices on the farm. Thus, national animal health regulatory programs, such as for pseudorabies, brucellosis, tuberculosis, etc., are always cooperative state and federal endeavors.

In these programs, VS provides a mechanism, along with funding, for linking disease control efforts in the states to a set of federal standards. Attainment of a health status level by a state within those standards permits that state to move animals in or out of states at an equivalent level. The development

of these cooperative state-federal programs, in close partnership with involved industries, is the key mechanism for federal regulation of animal health issues.

Results of cooperative programs that have dealt with alternative livestock include:

- elimination of brucellosis from most farmed bison herds in the 1960s,
- inclusion of captive Cervidae in the tuberculosis eradication program in the 1990s,
- inclusion of reindeer in the brucellosis program, as a response to the reintroduction of disease through contact of Alaskan reindeer herds with free-ranging caribou, and
- elimination of tuberculosis from farmed bison herds in the 1980s.

Currently VS, state departments of agriculture, departments of fish and game and other groups have developed a proposed cooperative program for chronic wasting disease (CWD) in farmed elk. To date, this program has received limited funding from Congress and has just passed the federal regulatory process. USDA has been able to provide indemnity for all known positive herds through emergency funding.

Collaborating on Health Issues with Other Federal and State Agencies

National animal health programs are inherently cooperative federal and state efforts. This cooperation has a long history of close, if sometimes stormy, relations. Extending these ties of collaboration on diseases to other state agencies having jurisdiction over alternative livestock or free-ranging wildlife is an essential part of VS' strategy.

In the past, such collaboration has been inhibited by a number of factors. The first, as related to alternative livestock, is the variety of state jurisdictional patterns that exist. In almost all states, farmed bison are classified as livestock and are subject to the same regulations as cattle. One exception is Hawaii where bison are classified as exotic. Work with farmed bison, subsequently, has proven to be relatively easy to accomplish.

In the case of farmed cervids (elk, deer), however, 25 State departments of agriculture have jurisdiction, 19 state departments of fish and game have jurisdiction, and six states have shared responsibility. Many state departments

of agriculture have some regulations for importing cervids, but most do not continue to regulate the animals after they have entered the state. Relations between state departments of agriculture and departments of natural resources are often at odds. Producer groups may be poorly organized or in denial of disease issues. The difficulty of developing the correct collaborative linkages, one state at a time, can cause slow progress, when addressing cervid health issues.

In terms of diseases shared with free ranging animals, a second factor limiting collaboration is the lack of a consistent ideology guiding their management. A 1999 collection of articles on wildlife management highlighted deep divisions over policies, such as natural process management and management for population size, among adjacent public land agencies (Huff 1999, Porter 1999). These differences extend into disease, which can be seen as a part of the natural process and as something to be controlled. Such deep ideological differences are evident in the case of brucellosis in Yellowstone National Park over the past decade.

A third factor lies in the divergent value systems of constituent groups whose economic and political interests are involved with free ranging wildlife or traditional or alternative livestock. In some cases, these interests are very concrete. Free ranging wildlife, in terms of hunting or viewing, may represent a higher economic value to a local community than raising traditional or alternative livestock. These interests may lead to conflicting approaches for solving animal disease problems affecting animals under different management regimes.

VS has taken a number of steps to strengthen its connections for cooperative action across this ideological and jurisdictional spectrum. Participating in symposia and forums like this is one aspect of that approach. Others include:

- Ongoing collaboration with the Southeastern Cooperative Wildlife Disease Study (SCWDS) for their disease expertise on free-ranging wildlife and livestock.
- Creating closer ties to Wildlife Services, another program unit within APHIS that is currently conducting large scale wildlife rabies-control programs in several regions of the United States.
- Developing wildlife liaison positions to work with wildlife agencies on disease issues affecting both livestock and wildlife.

- Collaborating with wildlife agencies on CWD diagnosis and surveillance of free-ranging cervid populations inside and outside of the endemic area in Colorado, Wyoming and Nebraska.

Collaboration between VS and various State jurisdictions is currently most apparent in work on bovine tuberculosis in Michigan, where the disease has been found in cattle, free-ranging deer, deer on hunt farms and other free-ranging species. A joint strategy is evolving to deal with that situation involving APHIS' VS, the Michigan Department of Agriculture, the Michigan Department of Natural Resources, Michigan State University, APHIS' Wildlife Services and other agencies. While relations between these groups have, at times, been tense and conflictive, cooperation has resulted because it is clear that any solution to this disease problem will only come from a joint, coordinated effort.

Reducing the Risk of Disease Transmission between Traditional and Alternative Livestock and Free-ranging Wildlife

Through cooperation, VS policy aims to reduce the risk of disease transmission from free-ranging wildlife to animal agriculture. Several factors are currently combining to raise the significance of this approach and, at the same time, to shift the manner in which it may be implemented. One factor is the United States' success of, largely, eradicating significant diseases from its livestock, including alternative livestock populations. These include diseases, such as brucellosis, pseudorabies and tuberculosis. As livestock populations have become free of these diseases, the risk of disease transmission back to them through reservoirs in free-ranging wildlife has increased. This is apparently the case in Michigan with tuberculosis, and it is the concern that drives the controversy surrounding brucellosis in the greater Yellowstone area.

A second factor comes from an international animal trade principle–compartmentalization–which is growing in importance. A country may be considered to be free of a disease if it has been eliminated from its livestock population. But in that country, the disease may remain in a reservoir in its free ranging wildlife. In this case, the country's free status is conditional upon its taking steps to compartmentalize the disease and reduce the risk of its transmission back into livestock. The nature of those steps is not specified, only that their result should reduce or prevent the risk of reintroduction.

There is an irony in this situation, which should not be lost. Many of these diseases are in free-ranging wildlife because they were originally transmitted to them from livestock. Irony aside, the fact remains that in a rapidly changing global environment, health status across species is increasingly intertwined. Probably the most graphic example of this is the emergence of zoonotic diseases, like West Nile Virus that interacts across bird, horse and human populations in new and complex ways.

When researching diseases across species and management regimes, VS and other cooperators have carried out a number of activities that aim to understand the types of disease transmission that occur and how the incidence of transmission can be reduced. Some examples include the following:

- VS has worked with SCWDS, since 1978, to survey disease relationships between animal agriculture and free-ranging wildlife, especially regarding outbreaks of foreign animal diseases. These have included Exotic Newcastle Disease, Heartwater and African Swine Fever, and other diseases.
- APHIS' Wildlife Services and state agencies are studying the ecology of bovine tuberculosis in free-ranging wildlife species in Michigan.
- Surveillance efforts have been conducted on migratory birds, since the 1980s, for avian diseases that have the potential for transmission to poultry. That work is currently being expanded.
- Pilot projects on feral swine have been conducted, since the 1990s, in Florida, Texas, Georgia and California, with state agencies and the help of SCWDS and Wildlife Services. The focus of these projects has been on intervention strategies for pseudorabies and brucellosis.

Because transmission is a two-way street, VS is looking for additional partners in the wildlife community to study disease interactions and patterns. Emerging diseases, such as CWD, potentially have a tremendous impact upon both livestock and free-ranging wildlife populations, as well as upon those who depend upon these populations for livelihood and recreation. There is a great need to both understand and provide solutions that safeguard the health status of all.

Conclusion

This paper has presented a brief overview of three aspects of VS' role in developing regulatory programs to safeguard the health status of animals.

These programs and related activities occur in a rapidly changing environment, altering patterns of animal management, disease and cooperative activity. This paper described three aspects of VS' approach to alternative livestock and free-ranging wildlife: development of cooperative state and federal programs, collaboration with natural resource agencies, and reduction of the risk of disease transmission between free-ranging and farmed populations. These aspects lay the foundation for a broader cooperative effort to improve the health status of animals in this country.

References

Derr, Mark. 2002. Lure of the exotic stirs trouble in the animal kingdom. Page 5 *in* New York Times. February 12, Section D.

Huff, Dan E. and John D. Varley. 1999. Natural regulation in Yellowstone National Park's northern range. Pages 17-29 *in* Louis R. Pitelka, ed., Ecological applications, 9(1). Ecolog. Soc. of Amer., Washington, DC 738 pp.

Kopral, Christine and Katherine Marshall. 2000. The wildlife industry trends and new challenges for animal health agencies. Centers for Epidemiology and Animal Health, APHIS, USDA. Fort Collins, Colorado. 24 pp.

Peterson, Iver. 2002. Cute pet to some, untamed killer to others. Page 20 *in* New York Times, February 1, Section A.

Porter, William F. and Brian Underwood. 1999. Of elephants and blink men: Deer management in the US National Parks. Pages 3-9 *in* Louis R. Pitelka, ed., Ecological applications, 9(1). Ecolog. Soc. of Amer., Washington, DC 738 pp.

Endnotes

1. In this paper, free-ranging is always used in connection with wildlife to denote animals that are managed under natural conditions without the confines of a fence, usually by public entities.