Special Issue:
The Feral Horse

FERAL HORSES: THE BASIC PROBLEMS

Jay F. Kirkpatrick, PhD

In opening this symposium I extend, on behalf of the participants and the University of California at Davis, a warm welcome. At the outset I would like to draw your attention to Dr. Craig London, the U.C. Davis Extension Coordinator who organized this symposium. We all appreciate Dr. London's work and his interest in feral horses and we are certain that the fruits of his labors will be valuable.

I have been asked to set the stage for this symposium— which examines both biological and management problems associated with feral horses— by briefly discussing the basic ecological issue of overpopulation.

It is most appropriate and also somewhat ironic that this symposium, with its primary theme of overpopulation of feral horses should be held here in Bishop. Just to the east, across Montogomery Pass, are the feral horse ranges of Nevada, and just to the north is Reno, the home of Velma Johnston, or Wild Horse Annie as most knew her. Mrs. Johnston, more than anyone, was the force behind the passage of the Wild Horse and Burro Act of the early 1970's. The motives of those who worked for this legislation were pure, and humane treatment of these feral beasts, worthy of civilized people was the driving force. Those who believe that animals, and horses in particular are for no other reason than their existence deserving of humane treatment owe a great debt to Mrs. Johnston. That is why it is appropriate that we meet so close to her home.

The irony however, is that this same legislation, which eliminated the business of mustanging, may have caused some equally distressing problems for the horses. No one knows for sure how many feral horses we had when the law was passed, and no one knows for sure how many we have today— 16 years later. But, it is reasonably certain that we have more horses now than then.

If we say feral horses have overpopulated, what exactly do we mean? We can use a wildlife biologist's definition and say that they are overpopulated if they have overused their ranges and can't support themselves in a healthy manner. Or, since most of these horses must share their range with domestic livestock, which represents an important industry, we can define overpopulation as too many horses using grass and water that sheep or cattle might just as well use. From the limited viewpoint of a reproductive physiologist I might view the horses as overpopulated if their density caused decreased reproductive rates, and a pathologist might declare the horses to be overpopulated if density-induced stress caused mortal or debilitating diseases. And, perhaps the behavioral biologist would declare the horses to be over-populated if high densities caused significant behavioral changes among the animals.

Now, I apologize for complicating what we all had originally perceived as a simple problem— too many horses. But before we can go much further, someone needs to ask, "too many for what?"

Beauty is in the eyes of the beholder, and the precise definition of what constitutes overpopulation is also in the eyes of the beholder. Thus, the very first ecological problem—over-population— is in reality a policy problem. How are we going to define overpopulation to satisfy the needs of horse enthusiasts, range biologists, wildlife biologists, stockmen, sportsmen, and humane organizations? This whole issue would be considerably easier if we were dealing with skunks, deer, or even coyotes, but there are few animals which evoke the deep emotions for which the horse is responsible.

The fundamental bone of contention between the various public groups which are concerned about the horses and the governmental agencies which must manage the horses, is the horse census. In preparing this overview I examined a great deal of current literature and I came up with the figures 80,000, 70,000, 65,000, 50,400, and 45,000. Now just how many horses do we really have? Census methods have improved greatly over the past ten years and I, at least, am growing more comfortable with the estimates given by

Author's address: Department of Biological Sciences, Eastern Montana College, Billings, MT 59101

horse managers for particular ranges. What I am not comfortable with are the total estimates for all ranges reached by extrapolation from the counts on a few ranges. Reproductive rates are dissimilar on different ranges, as are mortality rates. A model based on data from Wyoming's Red Desert is useless for calculating increases in the Pryor Mountain herd, as Pryor Mountain data would be useless for describing demography in the Challis herd. Despite these reservations, the weight of evidence is coming down in favor of the estimates given to us by the federal agencies managing the feral horse herds. The correlation between counts given by federal agencies and those given by independent researchers is high.

A third major biological problem involves the genetics of our feral horses, but like basic overpopulation this problem is intimately related to management policies also. To begin with, we know practically nothing about genetic diversity of our feral horse herds. We know very little about the origin of our present herds or the genetic relationship of these animals to other breeds of horses. We do not know what the minimum herd size should be to insure adequate genetic diversity. There has been concern voiced about inbreeding, particularly among horses from smaller herds, but until this past winter not one study has examined the issue from a sound scientific perspective. As horses are removed, what criteria have been used to leave behind a genetically healthy and diverse population? As we learn more about the genetic make-up of this population, what criteria will be used? What is it we want to leave behind in the feral state?

A fourth ecological problem, which is related perhaps to the genetics of feral horses, is the comparative biology of these animals. John Turner and I will reflect on some comparative aspects of reproductive biology in a later paper. What we see across the continent is a remarkable diversity of social structure and behavior, and it behooves us to poke into the source of this diversity. It is a topic which at first might strike many as relatively unimportant, but when the issue of management rears its head again, this biological diversity becomes extremely important. Shall we adopt a management policy for all horses based on the social organization, behavior and reproductive performance of one herd? Should we attempt to identify the components of this biological diversity, understand it, and mold individual management plans to individual herds?

There are a great many other biological phenomena in feral horses which deserve investigation and which may make the feral horse worthy of additional serious investigation. We have found endocrine phenomena which are strikingly different from those of domestic horses, and certain nutritional aspects of these horses bear little resemblance to their domestic counterparts. Are feral horses more immunologically competent than domestics? Can the feral horse tell us anything important about reproductive biology that can be of some benefit to the horse breeding industry? A day, even a week is too short a time to address all these issues, but we need to think about them after this symposium is completed.

Finally, let me try to place the entire problem of understanding the ecology and biology of the feral horse, and managing these animals in a more familiar light. When the Wild Horse and Burro Act was passed, it cast the government in the role of the country's largest horse breeding operation. The Bureau of Land Management, and the Forest Service, and the Park Service did not ask for this job, but they got it anyway. The problems of horse breeders are smaller but not really very different than those faced by our government agencies, and it seems only reasonable that basic biology must be understood if sound management is to take place. Central to the effective management of any horse breeding operation is a realistic link to research, and effective management of our feral horse herds must be linked to necessary research and the answers it provides. Above all, we must not let emotions replace data. If there is controversy, let it be resolved on the basis of what we know about the horses rather than what we think might be true.