

## Managing Wild Horses Through Fertility Control

*By Jay F. Kirkpatrick, Ph.D., Director, The Science and Conservation Center (Billings, MT)*

Traditional management of wild horse populations, over the past 100 years, has included everything from simply shooting animals, to sending them off to slaughter plants for dog food, to gathers and adoptions, through the Bureau of Land Management's (BLM) Adopt-A-Horse program. None has been successful in stabilizing populations over the long haul and management by removal ignores two biological imperatives. Removal of animals, by any means, lethal or otherwise, presents two problems, aside from the immense costs. First, as the density of horses is reduced, the remaining animals breed at younger ages, have less time between foals and in general speed up reproduction through a process known as compensatory reproduction.

The second problem is that the removal of animals, and particularly the younger animals targeted in the Adopt-A-Horse program also removes genes from the herd at an alarming rate. These young horses have never had the opportunity to breed and therefore their genetic contributions to the herd are lost forever. About 75% of BLM's wild horse management areas have 200 or fewer animals in each, and the continual removal of genes from the herd may have significant consequences.

The primary flaw in management by removal is that this approach treats only the symptom of the problem – overpopulation – instead of the true problem, reproduction. Consequently, with a limited market for the removed horses, there is no way to stay ahead of the wild horses' extraordinary reproductive potential, which can sometimes exceed 20% growth in a single year.

The alternative, which has already proven effective, is fertility control. Beginning in 1988, an immunological approach to fertility control was applied to the wild horses of Assateague Island National Seashore (ASIS), in Maryland. The contraceptive vaccine, known commonly as PZP, was applied remotely, via small darts, and horses were never handled. The vaccine's contraceptive affects were reversible; pregnancies in progress were not affected nor was the health or later fertility of the foals born to treated mares. The highly social complex of wild horses was unaffected, and there were no long-term deleterious health side effects.

The results have been remarkable. On ASIS, the population has dropped from 173 animals to 164 over the ten-year period during the time the vaccine has been used at the management level. Body condition scores of the mares have improved significantly, mortality rates have dropped and longevity has increased by ten years and more, in some cases. The annual cost of the entire program is barely more than the cost of removing four horses through the Adopt-A-Horse program.

The application of the vaccine has expanded to the wild horses of the National Park Service's Cape Lookout National Seashore and the Rachel Carson National Estuarine Reserve's Carrot Island Population both in North Carolina, Little Cumberland Island (GA), Return-to-Freedom Wild Horse Sanctuary (CA), Little Book Cliffs (CO) and the Pryor Mountain (MT) National Wild Horse Ranges, and a number of small herds throughout Nevada, Idaho and Utah. In every case, growth rates have been reduced to manageable levels. Most encouraging, recent events suggest that the government will begin applying this humane and effective technology to more herds throughout the west.