

*Management Model for Wild Horses and Burros on Public Lands and why this will work best for the long-term preservation of the animals; while reducing the costs of the program; allowing the Bureau of Land Management (BLM) and Forest Service (FS) to optimize funding for monitoring the health of the ecosystem, protecting it for future generations to sustain life upon and enjoy the landscape.*

# **A MODEL for MANAGING**



# **AMERICA'S WILD HORSES**

*By*

*International Society for the Protection of Mustangs and Burros*

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## GOAL

ISPMB would like to share our management plan with the BLM, FS and Congress so the future of wild horses will be preserved in a manner that promotes healthy behaviors; reduces fertility rates without intrusive management such as sterilizations, birth control or altering sex ratios; reduces the need to warehouse thousands of wild horses off the range because of constant removals; protects their habitat; saves taxpayers millions of dollars; and most importantly, protects and preserves these unique equids for their long-term survival.

## OVERVIEW

In 1999, the International Society for the Protection of Mustangs and Burros (ISPMB) undertook a daunting task, developing a “model” for managing wild horses in the United States based on daily observations of wild horse herds and band behaviors. ISPMB is the only organization in the U.S. to have such data on wild horse behaviors observed on a *daily basis* for more than twenty years.

ISPMB’s observations and data show that constant disruptions of band structures of wild horses with roundups nearly every four years is altering the animals highly evolved social systems which leads to untoward behaviors, **increase in populations**, and could lead to their eventual downfall if the destabilization of band structures continues through current management.

Stable populations, without constant roundups, actually create stable ‘minimal’ growth or self-regulation, as shown by ISPMB’s herds. ISPMB’s herd growth remained below 10% annually with the best of feed conditions and they survived winters conditions well with temperatures, at times, well below zero. Gila herd averaged 9.73% annual growth while the White Sands herd averaged 8.33% annual growth. These herds remained stable without roundups for more than fifteen years.

Following is a brief history about ISPMB’s herds. Fortunately, the first herd acquired in 1999 by ISPMB came from the White Sands Missile Range where the horses lived for decades without any major manipulations until they were gathered and permanently removed into the hands of ISPMB.

ISPMB acquired a second herd, known as the Gila horses from the BLM in 2000. This herd was not recognized as a wild free-roaming herd until the Secretary of the Interior, Bruce Babbitt, declared the herd to be protected. The Arizona BLM placed the horses under the Painted Rock Herd Management Area (HMA) for burros in 1996. This declaration by the Secretary came after ISPMB submitted evidence following our three-month investigation that the herd existed on public lands since the advent of the Spanish missions in Arizona in the 1600s. This temporarily stopped the removal of these animals, which would have been sold at auction by the BLM and

now they were to be protected under the law. When the removal was halted, a local rancher wrote a nuisance complaint against the horses to have the BLM remove those animals. At that time, ranchers stated there were at least 75 animals roaming on 50,000 acres of land.

No census was done prior to the removal of thirty-one animals in 1999 and adopted by the ISPMB in an attempt to conserve this rare Spanish herd. The BLM completed a census afterward and it showed there were no more horses, eliminating a rare and endangered Spanish herd from public lands. According to research by ISPMB, the last removal of the Gila horses in this area prior to their adoption by the ISPMB was by the local mustanger whose career ended in 1936. At one time, there were more than 20,000 wild horses in that area. The mustanger rounded up the horses on a motorcycle.

In 2004, ISPMB acquired its third herd, known as the Catnip Herd from the Sheldon Wildlife Refuge in northern Nevada. This herd was eventually zeroed out by U.S. Fish and Wildlife Service. The agency did multiple removals of these horses well before ISPMB adopted them creating multiple disruptions of their band structures.

In 2007, a fourth herd was acquired from the Cheyenne River Sioux Tribe when they could no longer care for them. These horses were gifted to the tribe in 2001 by ISPMB and the state of Nevada. The horses originated near Virginia City, Nevada and were under the control of the state of Nevada. They were the descendants of horses that Wild Horse Annie initiated the first protections for in 1952 and 1955 in Storey County, Nevada. However, when the Wild Horse Annie Act of 1959 passed and the 1971 Wild Free-Roaming Horses and Burros Act passed, both federal laws, these horses were no longer protected because they were not on public lands.

The baseline data received from our first two herds proved to be extremely valuable since the horses had almost no management by humankind and exhibited very healthy social behaviors. The third herd that had been overly managed and threatened with elimination *showed much different and untoward behaviors which resulted in a dramatic increase in their population.*

In 2010, ISPMB completed eleven years of behavioral studies on the four herds aforementioned. With this data in hand, ISPMB *began* to prepare the first “model for managing” America’s wild equids in a manner that is conducive with their survival and compatible with maintaining their natural healthy behaviors. Yet, another seven years ensued in analyzing observations and adding to ISPMB’s management model the deleterious effects of the birth control drug, Porcine Zona Pellucida (PZP), which was administered to the Catnip and Virginia Range herds.



*White Sands Bachelors ISPMB Photo*

## **HISTORY OF THE WILD HORSE AND BURRO PROGRAM**

At one time, it is believed, 2 million wild horses roamed in the western states at the turn of the twentieth century. The horse, native to the North American continent, is thought to have died out in the pre-Columbian period 8,000 years ago, which is “but a wink of the eye in geological time.” Reintroduced by the Spaniards in the 1500s, the horses have returned to fill the same niche in the many areas they once inhabited. With mitochondrial-DNA testing, *Equus lambei*, the most recent *Equus* species in North America prior to its disappearance at the end of the Ice Age, has the same molecular biology as *Equus caballus*, our present-day horse. DNA testing provides undisputable evidence that horses are “native” to our continent. Recently horse bones have been found that now dispute the theory that horses died out in the pre-Columbian period. Native beliefs agree that horses were always on this continent as noted in their songs through their oral histories. Recently, with the permafrost thawing in the Yukon, horse DNA has been obtained showing they were present 5,000 years prior to the arrival of the Spanish and in our current Holocene epoch.

According to Dr. Gus Cothran (Texas A & M University), wild horses contain the most genetic diversity compared to any breed of domestic horse in our country. This diversity comes from the large numbers of animals and the animals’ ability to be in command of their own breeding program.

Although the numbers of wild horses and burros were estimated at 17,000 in 1971, this was purely a guess as there were no official records showing this count as accurate. The first visual count from the ground was done in 1974 showing an approximate total of 59,863 wild horses and burros on Forest Service (FS) and BLM lands. Visual counts notoriously undercount animals. Some studies show the undercount could be as high as 50%. A 1982 study by the National Academy of Sciences concluded that the population rate of wild horses was 7% further proving that the count of 17,000 was simply an arbitrary number. Today, we have fewer wild

horses and burros than when the Act passed and stated that “wild horses and burros were fast disappearing from the American scene.”

The BLM’s Wild Horse and Burro Program has been mired in controversy since the inception of the program. Yet it has the potential to be one of their greatest public relation’s program that the BLM manages. In the 1990s the program was termed the “White Hat” program because the BLM could receive positive recognition from Americans in every part of our country. Adopted wild horses and burros were now found in every state on the mainland. Support for wild horses and burros includes approximately 88% of our population and can be found on all divides including social, political, religious, cultural and economic factions. Statistics show that the wild horses and burros were their own best marketing tool with evidence of repeat adopters who realized the splendor of these American icons.

Now in the 57th year of BLM’s management of wild horses and burros, we must ask why the program never gained the ground needed to make it the top-notch program it deserves. There are many reasons for this but *none that implicates the horses or burros themselves*. General philosophies of the BLM show that management was more concerned about numbers and removals rather than understanding the wild horses and burros as wildlife species and managing them on their rightful lands.

The Public Rangelands Improvement Act of 1978 known as PRIA required the Agencies to understand the population dynamics of wild horses.<sup>1</sup> The National Academy of Sciences (NAS) specifically through its working arm, the National Research Council (NRC), was directly mandated by PRIA to develop as much information about wild horses and burros so they could be understood and managed properly. There were 18 research projects, some of which would require 7 to 10 years of study. Project #6 would have been extremely vital in understanding these newly protected wild horses and burros as the wildlife species that they are.

Phase I recommended 18 research projects, some of which would require 7 to 10 years of study for valid results. Phase II was published in October, 1982 and synthesized the results of completed research on wild horses and burros. With the final report to Congress due on

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<sup>1</sup> “For the purpose of furthering knowledge of wild horse and burro population dynamics and their interrelationship with wildlife, forage and water resources, and assisting him in making his determination in what constitutes excess animals with such individuals independent of Federal and State government as may be recommended by the National Academy of Sciences for having scientific expertise and special knowledge of wild horse and burro protection, wildlife management and animal husbandry as related to rangeland management. The terms and outline of such research study shall be determined by a research design panel to be appointed by the President of the National Academy of Sciences. Such study shall be completed and submitted by the Secretary to the Senate and House of Representatives on or before January 1, 1983.”

January 1, 1983, the NAS committee identified five of the eighteen projects as having priority for immediate study.

Further, the NAS final report called for a “long-term equid research program” and an “expanded in-house scientific staff” to provide a solid foundation of scientific data on which to base management decisions. However, the agencies felt that no further research would be needed partly due to financial constraints. Quoting the *Report to Congress June 1984*, “*The most pressing question concerning further research for the Agencies is whether the benefits of increased knowledge and efficiency will justify the costs.*”

Had the above study been completed, management of wild horses and burros would have been at the “*minimal feasible level*” as required by the Act. There would be no wild horses in holding pastures today; habitat monitoring to determine excess wild horses and burros would have created a healthier ecosystem; and finally, the actual costs to complete these studies in 1983 would have been millions upon millions of dollars cheaper than the costs incurred by the Agencies’ managing wild horses as domestic livestock instead of the wildlife species they are.

***“Congress finds and declares that wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the West; that they contribute to the diversity of life forms within the Nation and enrich the lives of the American people.”***

It is the goal of the ISPMB that this management plan will give the Agencies the necessary tools to effectively manage wild horses and burros in a manner that protects and sustains their survival over the long-term; reduces the fertility and recruitment rates and the need for ever increasing removals; and restores the trust and credibility of the agency with the American people.



*A Band of the Catnip Herd  
ISPMB photo*

## **WILD HORSE BEHAVIOR AND SOCIAL STRUCTURES**

Understanding wild horse behaviors comes from constant observation and interpretation of data over time. Since each herd exhibits its own culture, it is important to understand how cultures affect behaviors and vice versa.

Since the passage of the Act, understanding behaviors of the wild horses and gearing BLM management practices and strategies toward this understanding has been sorely missing. Yet in managing any species, fully understanding every aspect of that species is of utmost importance in the species preservation and in creating the best management practices.

The first understanding of importance is that domestic horses are different than wild horses. The analogy can be made of the wolf and dog. They look alike but are different in many aspects. The dog is a domestic animal and the wolf is a wild animal and they cannot be managed in the same way.

The following behavioral observations are from eighteen years of observing two herds whose social structures had not been disturbed in decades of time with the exception to be removed into ISPMB's management. (Gila and White Sands herds.) These observations must be complimented by all the studies of leading ecologists in the United States and the world to bring to the BLM the best management plan based on sound science. It would be wise to convene a panel of leading ecology scientists and experts to assist the BLM and FS in the development of a sound management prescription.

Wild horses exhibit strong social bonds with each other. If band structures are not disturbed, stallions retain their mares for a lifetime unless the stallion becomes infirmed from old age or is injured and unable to protect his mares.

Decision making is an important component of the herd. The horses experience every myriad of emotions as humans. One of the important aspects of wild horse behavior is their ability to express their emotions honestly. They understand and often accept help when injured. They are quite adaptable to human company within the herd and treat humans with great respect. Bands work together for the good of the entire herd as observed in eliminating potential predators by stampeding the predator. When the predator returned the entire herd again stampeded the animal. Also observed was a one-year-old filly in estrus approaching a young bachelor band whose interests were aroused by her behavior. Another family band stallion observing the filly's action came out of his band to discipline the filly and sent her down the hill toward her natal band. She still refused to go to her band and another family band stallion nearby chased her right back to her natal band. She never became pregnant until four years of age. The greatest understanding of this observation of "working together for the good of the whole" is how critical this behavior is to their future sustainability. This observation has not



been seen in other equid populations around the world according to other scientists who have so stated.

There is a dominance or hierarchy of bands within the herd. There is also a dominance of mature animals over younger animals. It has also been noted that family bands have hierarchy over bachelor bands. There is a greater foal survival with more dominant family bands than least dominant bands.

Mothers are very attentive to their new born foals for two weeks, never resting when the foal leaves the safety of the natal band. Thereafter, the mares allow the foals more independence and become less stressed about the foals cavorting within the herd.

A family band stallion was observed taking the role of a mother by bringing back a one-day-old foal into the natal band. The foal's mother had died a few hours earlier from complications of delivery. The foal was very playful running in and out of his band. The family band stallion exhibited very protective and nurturing behavior over the foal. When the foal encountered another family band, the stallion challenged the other family band stallion and then returned the foal to his natal band with extreme gentleness. The foal was safely removed by our team when the family band stallion was fighting with another stallion and not observing the foal. The foal would not have survived unless there was a surrogate mare from which he could nurse. This behavior has also been observed in our herds where one foal nursed off of two mares due to one mare losing her foal. This was not a common occurrence but did occur in the herd that worked together for the good of the entire herd.

Generally, fillies do not foal until they are four years or older. When colts show any sexual prowess, they are asked to leave the band by the family band stallion. However, it has been noted that one colt remained in his natal band for over five years. This behavior could be due to the fact the colt was blind in one eye. Generally, bachelors do not become family band stallions until they reach maturity at the age of ten. However, there have been rare circumstances where younger stallions have exhibited great leadership skills and have commanded a family band at a younger age. The youngest noted was six years of age. He turned out to be an extraordinary stallion whose family had many of the older and wiser mares.

The stallion plays a major role in protecting his family and offspring. The wisdom of the stallion and mares creates good mentorship which is passed on to the offspring. The stallions appear to have a greater role in the stability of the band structures. The mares are content to be with wise, protective, nurturing, dominant stallions.

Observations of behaviors in ISPMB's third herd that had multiple gathers and removals showed untoward behaviors such as loose band structures, changing band structures and at times no band structures. According to the Sheldon Wildlife Preserve, there were very few horses over the age of ten years when we acquired this herd. (Catnip Herd)

Other behaviors noted in the Sheldon horses were: rogue stallions breeding fillies at the age of one-year.; young mothers under the age of four who walked away from their foals after birth; mothers who nursed their foals for up to three to six months and then abandoned them; mares who were chased by several stallions with a week to ten-day foal at her side, during her breed back time, while she had no family band stallion to protect her; increase in foal mortality.

However, our greatest observation among all the herds is the recruitment rate. In the first two years of observing the Sheldon horses, the recruitment rate for the first year was 31 foals from a herd of 82 horses. There were 32 stallions and 49 females with one unknown. Of the mix, there were 15 foals 4-8 months of age, 8 yearlings, and 59 animals were 2 years and older. The following year, the recruitment rate was 36 foals. At this time, we instituted a PZP program for all original mature mares with foals at their sides.

What ISPMB has determined after managing wild horses now for twenty-six years is the understanding of the above increase in fertility rates was actually due to the disruption of the family band structures during roundups. In hindsight, we wish we would not have given this herd birth control. It would have been better to determine how long it would take for the animals to “normalize” with their birth rates and to study behaviors of this disrupted herd. Since, ISPMB has noted deleterious effects of birth control on our two herds that received birth control, we are adamantly against its use. Over time, we also noticed an increase in foal mortality of this herd which will be discussed under “Deleterious Effect of PZP.”

Observations of recruitment rates in ISPMB’s other herds mimic the National Academy of Sciences’ data showing an average recruitment rate is under 10%. The White Sands herd had 72 original horses and eleven years later were at 165 animals and eighteen years later there were 273. The Gila herd had 31 original animals and ten years later, we had 88 horses and sixteen years later there were only 137 horses.

The importance of stable band structures leads to a stable growth rate. Vegetation is plentiful for the herds and does not play a major factor in growth rates here. Weather conditions do play a factor in foal mortality. However, our observations maintain that the greatest factor in keeping low recruitment rates are based on the wisdom and stability of the bands.

Our assumption is that over the past twenty years of Selective Removals by the Agencies, older stallions have been displaced by younger stallions who are opportunists breeding any age mares. With younger and younger stallions commanding family bands, there is a breakdown in the herd’s social system. The best analogy is the university professors (old and wise family band stallions) have been replaced with high school children (6-10-year-old stallions) who are now trying to raise families without good parental mentoring. This has led to the increase in fertility rates among wild horses and an ever-increasing pregnancy rate of younger fillies under the age of four. *This however, does not mean the foals survive with younger fillies as mothers.*

The elder animals must never be captured and must be allowed to live out their lives with their band members. This leads to the greatest stability in band structures. There is a peaceful transfer of leadership when this is allowed as ISPMB noted in 2015 when instituting that policy. The eldest and most dominant stallion had the command of the largest number of mares in the White Sands herd. Knowing that this dominant stallion was aging, another stallion moved into the family band one year prior to the dominant stallion's death and together cared for the mares in a cooperative relationship. When the dominant stallion passed, the other stallion took over his mares in the most peaceful transfer with no stress on the mares.

With ISPMB's final change in management practices, allowing the horses to die within their own bands rather than rescuing them, another phenomenon occurred which cemented this practice to never remove horses from their family bands or bachelor bands. An older White Sands bachelor stallion was captured four to five years prior and placed on special feed as he was unable to keep weight on and no diagnosis was made as to why by the vet who attended to him. With special feed, he gained all his weight back and more. This stallion watched his herd daily from his corral for those many years. Captured on video is his release back into his herd in 2015 where he cavorted, bucked, whinnied, and joined his previous bachelor band and was extremely happy over the next year. To see him so happy was such a rewarding experience. He died within that year surrounded by his friends.

The findings from above shows the extreme importance in preserving and maintaining stable band structures.



*White Sands Bachelors in a Mock Fight - ISPMB Photo*

## HERD CULTURES

Although herd behaviors have similarities from herd to herd, we have noted that each herd has its own culture. We believe that these cultures are based on learned behaviors from generation to generation and were necessary in adaptation to their environments. Further exploration of herd cultures would prove interesting in the overall collection of behavioral data.

It would be important to preserve these cultures and the historical nature of the herds by not exchanging horses from one culture to another such as has been ongoing in the Little Book Cliffs, Pryor Mountains, and other herd areas mainly to add “color” to the herds such as pintos and palominos. BLM’s belief was “colored horses are more easily adopted,” thus *not* managing for adaptability but adoptability.

In observation of four herds, we have noted the following differences in cultures: one herd exhibits a pugnacious attitude by stallions biting the hindquarters of the mares; it has been noted on another herd that stallions bite themselves first when they are angry before going after the aggressor; another herd demonstrates the stallions’ peaceful approach to the management of their mares. It is important to sustain the different cultures and make sure that each herd has sufficient numbers to create a genetically viable herd.



## AGE-SEX RATIOS

There is sufficient data available that shows that the majority of herds have more mares than stallions. This is also the case with ISPMB's herds. There is a reason that nature intended the ratios to be skewed in favor of the mares.

We know of one area in the Bordo Atravesado HMA in New Mexico, in the 1990s, the sex ratio was skewed well in favor of the stallions. What happened over time is the herd nearly was eradicated. No doubt many of the mares were injured and killed by the abundance of stallions.

Understanding wild horse behaviors should be sufficient in stopping the skewing of sex ratios in favor of stallions over mares. For the following reasons, this should never be done.

1. First and foremost, the BLM should manage for the most natural behaviors exhibited by behaviorally healthy herds. Mainly, mares outnumber stallions 60% to 40%.
2. Greater numbers of stallions put tremendous pressure on the family band stallion to protect his mares:
  - This results in loss of weight of the family band stallion from having to defend his family band against rogue stallions.
  - This increases pressure on the mares with their band stallion constantly moving them away from other stallions.
  - This inability to escape pressures could result in potentially unhealthy behaviors.
  - This could lead to the inability to provide good mentorship behaviors to the family band's offspring.
  - This does result in increasing space between the bands resulting in the inability of the herd to act as a whole unit.
  - This will result in more injuries to both mares and band stallions.
  - This will result in the death of young foals.
3. Greater numbers of stallions put tremendous pressure on the mares.
  - If the family band stallion is unable to protect his mare while she is in estrus, there will be a push by the bachelors to breed her. This also happens with the use of PZP when mares are not impregnated and continue to cycle. In fact, family band stallions can be killed.
  - Observing bachelors in a herd with normal sex ratios when a family band stallion is not present, one can best describe bachelors like piranhas on a gold fish.



- It is likely that any offspring to the mares will be threatened when the mare is due to be bred back in ten days. More fighting to breed the mare not only could injure the foal but also the mare.
  - Constant moving of the mares and foals by the stallion reduces the time that mares and foals can quietly graze. This could lead to loss of weight and potential death in older animals.
4. In non-disrupted herds, the bands act together for the good of the herd. Skewing the ratio could alter this behavior by increasing the distance between the bands so a family band stallion can protect his mares from rogue stallions. This reduces the herd's ability to act as whole unit. Cohesion of the herd is extremely important in fighting off predators.



*Gila Wild Stallions Chase Bachelor stallions while Mares Graze in the Background  
ISPMB photo*

## SELECTIVE REMOVALS v GATE CUT REMOVALS

Selective removal was a removal method was preferred over gate cuts which took whatever animals were captured regardless of age, thus removing large gaps in the gene pool. Selective removals were the concept of the 1990 Advisory Board and were implemented through the 1992 Strategic Plan. Although the BLM and Advisory Board differed on the goals of Selective Removals, ultimately each goal was achieved. BLM's goal was to bring only younger animals into the adoption program. The Board's goal was to leave the older and wiser animals within the gene pool to protect herd wisdom and integrity defined as unique genetic characteristics and collective herd behavioral wisdom that contributes to the herd's adaptability.

**What was not understood at that time** was *the importance in maintaining the integrity of the band structures by not separating the family band stallion from his band of mares*. Helicopter removals brought in large numbers of wild horses over the actual number of the animals to be removed to fulfill the age categories of removals. (*Bringing in more animals than those that are actually causing damage to their habitat is illegal.*) Stallions were separated from their mares which absolutely destroyed their band structures. After age determinations were made, BLM released the older stallions and mares back to their home ranges in the Pryor Mountains

The greatest opportunity for young stallions to take mares is in the release of mares and stallions in selective removals. In the Pryor Herd from Montana, it has been noted that family band stallions had fewer mares within their family bands once returned to their home ranges after a roundup. The mares were stolen by young bachelors.

It was reported to ISPMB shortly after this program began by BLM's contractor, Dave Cattoor, that stallions were raping mares and that there was great chaos among the horses as they were released. After years of managing our own wild herds, this is completely understandable.

ISPMB has observed the same phenomenon when a family band stallion was removed along with his band of mares. During capture one mare did not enter the capture corral right away. Bachelor stallions vied for the mare resulting in bachelor stallion battles which could have created injuries to the mare. When the family band stallion was released to protect his mare, peace ensued and the bachelors returned to their docile behaviors and maintained respect for the family band stallion.

Understanding how important it is to keep family bands intact and only removing those animals that are causing damage to the habitat, ISPMB favors gate cuts over selective removals. For the most part, selective removals for the implementation of birth control destroys herd integrity and there are many reasons that birth control should not be used at all.

ISPMB's observations show that the average age of stallions commanding new family bands is ten to twelve years of age although there are many other factors in determining leadership. It

appears that males mature emotionally at the age of ten while mares have to mature much quicker due to their responsibilities of motherhood at the age of four and five years.

It may be wise to take stallions into the adoption program under the age of ten reducing their ability to command family bands while emotionally immature. Again, it should be stressed that leadership capabilities are not solely based on age and more science is necessary to understand leadership qualities. This would prevent emotionally immature males from becoming family band leaders.

If selective removals are used at all, family bands must be kept intact throughout the capture. This can be done through bait or water trapping family bands. There should be no removals of animals that are at one year of age or younger. Yearlings will continue to nurse until the new foal is born. Allowing yearlings to continue to nurse may have some effect on the mother's hormones and reduce her ability to become pregnant every year.

A sufficient number of young animals should be maintained in the herd to offset mortality. These young animals should come from top hierarchies of bands.



*Family Band of the Gila Wild Horse Herd ISPMB  
photo*



## **MANAGEMENT PRESCRIPTIONS**

To effectively manage America's wild horses, BLM must understand the behavior of these species and accept their wild nature. The adoption program must not drive the management of wild horses. The best management practices must be forward-thinking to the survival of their species on public lands over the next 500 years.

BLM should know the following about the herds:

- Band structures (family, natal, and bachelor bands)
- Identification of all horses within the band structures (photo ID)
- Movement of horses within the band structures
- Number of foals born each year
- Number of horses recruited into the herd
- Age of family band stallions
- Mortality
- Identify reasons for mortality
- Identify dominance or hierarchy order of the bands
- Age at which a mare becomes pregnant
- Note the number of pregnant mares within the family bands
- Note the ages of the fillies and colts when they leave their natal band
- Note behaviors of the bands that benefit the entire herd – working in concert with each other for the good of the whole
- Note all interesting behaviors

When removals are necessary: if the horses are deemed excess according to the law:

- Only younger animals should be removed
- Removals should only be done by keeping the family bands intact through bait or water trapping
- Less dominant animals should be removed (they are more likely candidates for the adoption program because they will be more adaptable to domestication)
- Animals who are still nursing from their mothers should not be removed regardless of age
- Younger less dominant stallions should be preferred over females to keep ratios with the norm

## **WHY MANAGEMENT SHOULD HAVE OPTIMUM NUMBERS OF HORSES AND BURROS**

The definition of “optimum” is “the most favorable condition for the growth and reproduction of an organism.” Meaning, the most favorable condition for the growth and reproduction of wild horses and burros.

The future survival of wild horses and burros requires optimum numbers to protect these animals in many situations to come. For one, it is critical that they maintain their rich genetic diversity. The Agencies should not manage for “minimum” diversity or minimum populations. Based on blood samples of the animals, the Agencies determined how low populations can be driven before inbreeding becomes prevalent. This practice should not drive management.

With weather changes experienced recently in South Dakota, it is critical that we manage for optimum levels of wild horses and burros as the law so states. In 2013, South Dakota experienced the “Atlas” storm dropping temperatures in October 80 degrees. The animals experienced no transition in gradual cooling of temperatures which would signal to them to start to develop their winter coats in preparation for winter. Over 42,000 animals died during this storm due to hypothermia because they did not have their winter coats. Animals can withstand temperatures as low as -60 degrees with proper insulation from their long, hairy coats. The warming of temperatures through September and October of 90 degrees gave these animals no forewarning. Animals prepare for winter not by the shortening of daylight but by the gradual dropping of temperatures.

We can expect more of these climate changes and extremes which threaten all populations.

## **OBSERVATIONS OF DELETERIOUS EFFECTS OF PZP BY ISPMB**

ISPMB instituted the use of PZP on two of its four herds. According to the registration of PZP with the EPA, permanent sterility was not to commence until seven years of repeated use. However, our mares in our Catnip herd were infertile after just five years of consecutive use. Therefore, we immediately stopped the use of PZP on our Virginia Range herd at under four years of consecutive use.

It took an additional four years for nine Virginia Range mares out of approximately 36 mares to cycle again and have foals. Out of the nine Virginia Range mares, seven lost their foals. The six foals died within the first day of birth while the seventh foal died at age six months. He appeared to be a “failure to thrive” foal; thin, retaining a heavy thick coat in the heat of the summer, and suffered from malaise.

We also witnessed an accidental darting of a young filly coming two years of age, who was observed over the next several years. She never became pregnant, while her cohorts that were not given PZP, were able to get pregnant. All the conditions were the same regarding hay, water, and space. The only exception was her inoculation with PZP. Substantiating this effect of PZP on young mares, we have been told by a volunteer at the Little Bookcliffs herd that young fillies receiving PZP were not getting pregnant either.

We also noted repeated breeding of one of our mares, multiple times during the day. Because she did not get pregnant, she was ostracized from her band. When she was able to get pregnant after only one year of PZP, she lost her foal within the first day of birth.

One of the most devastating effects of permanent infertility from PZP were the mares, that for many years previously had foals, began stealing foals from first-time mothers. The desire to have foals was so great that one mare stole five foals in one year.

Stealing foals happened consistently with at least six mares from both herds. There is no doubt that this happens on public lands but there is no one there who monitors herds like ISPMB has been able to do on a daily basis. Foals are unable to live without the first 24 hours of their mother's milk known as colostrum which contains antibodies that protect the foals from developing sepsis which is lethal.

***Sterilizations of any kind do not create "optimum" populations.***



*Gila Filly*  
*Photo- ISPMB*

# Planning, Monitoring and Inventorying Populations and Habitat

**(This document was written by Karen Sussman and approved by the National Wild Horse and Burro Advisory Board upon which she served on 1990. This was submitted to the Secretaries of Agriculture and Interior.)**

## BACKGROUND

The Board reviewed current program guidance and procedures to determine if they are effective for the implementing program policy. In order for the program to succeed, a focus must be placed on management on the range that includes a monitoring and inventorying of both the populations and habitat

## RECOMMENDATION

We recommend to the Secretaries of Agriculture and Interior that the BLM and Forest Service implement consistent inventorying and monitoring procedures that will provide information to determine wild horse and burro populations and herbivore impacts to achieve habitat objectives and desired plant communities as described in the following guidelines.

### Planning and Monitoring Populations

That wild horses and burros are an integral part of public lands and must be managed under the principal of multiple-use with integrated, coordinated decision making.

That multiple-use, sustained yield management objective must be stated in Resource Management Plans (RMPs) and focus on achieving, maintaining or restoring a thriving range condition that contributes to species diversity.

Objectives must be based on public input, existing resource conditions and issues, and must be measurable, attainable, and realistic.

That population and habitat are so intertwined that planning and monitoring must include the following:

- a. Behavioral observation of wild horses, burros and other herbivores.
- b. Map spatial overlap information for the purpose of showing where competition occurs in juxtaposition to damaged areas; map 1 to include seasonal movement and distribution of wild horses and burros; map 2 to include distribution of livestock;

map 3 to include the use pattern map of vegetation; map 4 to include seasonal movements and distribution of major wildlife species.

- c. Collection of consistent census data on a regular basis using the most appropriate wildlife censusing method for the habitat and situation.
- d. Determination of minimum population levels to serve as a threshold (based on viable gene pools, herd integrity, and population dynamics information) below which the population in a given area cannot be removed.
- e. Age structure and sex ratio information which would assist in making determinations for population adjustments. The information should not only determine what to take off but, more importantly, what should be left behind.
- f. Update land-use plans as needed based on current monitoring data.

#### Monitoring and Inventorying Habitat

That the purpose of monitoring is to measure the impacts of wild horses and burros and other grazers on rangelands in order to provide information that allows sound management decisions.

That habitat must be managed as an ecosystem which takes into account all components, and the vegetation is to be managed not only for its forage value but its values as watershed protection and fish-and-wildlife habitat.

That BLM field manuals and program guidance's be reviewed for compliance with actions set forth by the Interior Board of Land Appeals.

That habitat monitoring must include the following:

- a. Assess utilization by each herbivore species in terms of area of use and seasons of use.
- b. Collect quantifiable data which will determine where and when competition occurs.



- c. Collect technical data which will identify range conflicts and areas of actual competition and initiate a coordinated, integrated management approach.
- d. Establish timeframes for evaluating monitoring data that results in multiple-use decision making, planning, and management.
- e. Categorize objectives, moving from broad objectives (goals) to quantifiable objectives. Monitoring requires sound objectives and management constraints, which must be expressed in the Range Management Plan (RMP), quantified objectives in the Allotment Management Plan (AMP), and all management practices in the field manual.
- f. Develop species-specific habitat evaluation standards and practices handbook agency-wide.

#### RATIONALE

We recognize that the Bureau of Land Management and the Forest Service can manage the range ecosystem with all its unique and diverse forms of plants, animals, terrain, and climate, given proper methodology and adequate qualified staff. With that recognition comes the need for improved and formative management of wild horses and burros and its resulting contribution to the animal diversity of the public lands within the established Wild Horse and Burro Management Areas.

Proper management plans for a given area require a strong information base. Monitoring should focus on the overall impact of grazing pressures on the many components of the watershed. The utilization levels obtained should be used as one of the tools to achieve established goals and objectives in the agencies' desired plant community. There is a need for the Bureau of Land Management and the Forest Service to apply established methods with a consistency that can be recognized, understood, and defended.

It is assumed that the increased expenditure for on-the-ground data and information will reduce the verbal and legal conflicts.

## **THE SIGNIFICANCE OF REINSTITUTING SUITABILITY CRITERIA IN MONITORING DATA**

This form of monitoring actually supports more wild horses and burros on the land and was used widely but in the 80s but in later years was dropped from BLMs monitoring scheme.

By applying suitability criteria to the carrying capacity calculations.... that included distance from water, steepness of slope, type of terrain, and elevation.... BLM calculated how much forage was *actually* available to livestock. When doing this calculation, BLM determined that the amount of forage allocated on the existing grazing permits needed to be reduced 60-70% and in some cases up to 90%. When the 1980 National Academy of Sciences field studies for wild horses presented their Phase I Report, one of the finds was that HOW and WHERE wild horses graze in relation to available forage was the key to wild horse management. Wild horses and burros graze further from water, on steeper slopes, and higher elevations, and on more rugged terrain than pregnant or lactating cows. The high mobility of wild horses and burros and the immobility of cow/calf herds make a crucial difference with regard to the impact of each on the range condition. Wild horses live in bands spaced from each other. Cows congregate within a mile of water chewing their cud.

Suitability criteria showed that the amount of forage actually available to wild horses and burros is far greater than that available to cows. This criterion must be reinstituted in habitat monitoring.

## **FUTURE RESEARCH**

The destiny of America's wild horses and burros now lies in understanding these animals as wildlife including their behaviors, biotic needs, social habits and habitat needs.

To make this section brief, we propose that selected scientists study a herd that has not been captured or disrupted in a long period of years (10-20 years) in juxtaposition to a herd that has been constantly disrupted through removals (every 4 years).

**DISRUPTION OF THE GILA HERD WITH INITIAL RESULTS- 2025**  
**APPLYING IT TO THE WINEQUUS DATA PROGRAM**  
**SHOWING THE EFFECTS OF DISRUPTION ON GROWTH RATES AND MORE**

*By Karen A. Sussman, president, ISPMB*

Since 2017, when ISPMB's intact wild Gila herd of 137 was disbanded, ISPMB began its conservation program, again, with 21 remaining Gila horses. There were 17 mares and 4 stallions. Selection was made with genetic diversity as the upper most priority in mind, looking at long-term survival. Consequently, one mare from every band was selected to maintain the gene pool. When the Gila herd was initially tested for blood typing and diversity by Dr. E. Gus Cothran at the University of Kentucky in 2000, he noted this initial herd of 31 animals were closely related and of pure Spanish origin with the exception of one mare. He stated that this mare still was very closely related to the rest of the herd. He advised ISPMB never to castrate any stallion including bachelor bands to maintain a healthy genetic diversity.

In obtaining the history of this herd, ISPMB did three-months of research interviewing the mustanger's son, museum personnel in Gila Bend and ranchers in surrounding areas from where these horses were captured. The oldest living rancher stated these horses were in this area as early as the beginning of the 1900. All of these interviews were recorded with permission. The Gila herd, because of its isolation in southern Arizona, and because it was never recognized under the 1971 Act, lived a very wild free-roaming life for approximately 50 years following the end of roundups in the area by the local mustanger in the thirties. In 1996, ISPMB requested from the Secretary of the Interior, Bruce Babbitt, that this herd should be recognized as wild and free-roaming under the 1971 Act. Within 24 hours of receiving our months' long research, Secretary Babbitt declared them to be protected under the 1971 Wild Free-Roaming Horses and Burros Act (P.L. 92- 195).

What was not understood at that time by ISPMB and is very evident now, the behaviors of wild horses that are not constantly disrupted by roundups every four years as done on public lands, exhibit very natural and healthy behaviors as did our Gila herd. ISPMB was extremely fortunate to observe those behaviors. *One behavior, extremely important, is the herd working together for the good of the entire herd.* It was a team approach by all the band stallions in protecting young fillies. A noted observation was a yearling filly in her first estrus approaching a band of bachelors atop a hill. The bachelors were very interested in her and were excited. A family band stallion on top of the hill, observing these interactions, immediately left his family to discipline this filly. She galloped down the hill and stopped, not going to her natal band. At the bottom of the hill another band stallion left his band and chased the filly back to her family band where she stayed. This filly never became pregnant until she was four years old. Consequently, in this herd, the fillies did not foal until they were four and five years of age. Five being a fully physically mature horse. This is no longer seen in public lands horses with fillies becoming pregnant now at two-years of age. The wisdom of the elder Gila band stallions protected not only fillies but also protected their mares from any bachelors. Also noted was the extreme respect for the band stallions exhibited by the

bachelors.

Fred Wyatt, who was the head of BLM's Palomino facility for preparing wild horses for adoption noted these early age pregnancies in 1992 and brought it to the attention of ISPMB's president, Karen Sussman, and Mary Ann Simonds, both serving on the BLM's National Wild Horse and Burro Advisory Board at that time. He was raising the red flag back then telling us that this was a relatively new observation he was seeing in wild herds being rounded up which was very disturbing.

From a physical standpoint, horses are not fully mature until the age of five. It makes perfect sense that young fillies should not be stressing their young growing bone structures by early pregnancy. This was nature's way.

The early studies in the 1980 National Academy of Sciences report also relate that *only one filly* out of the 6 herds studied throughout the world and the U.S was pregnant at age two. This filly was in the New Forest ponies in Britain observed by Tyler (1972) out of 107 two-year old mares for three years. She was the only one pregnant.

Currently with the massive disruption of the herds every four years by the BLM and the FS, it is not uncommon to see fillies pregnant at two years of age, a time when they should be protected so their bone structures can mature and not be stressed by early pregnancies. In a healthy herd, an older mare models to her offspring how to be an effective and nurturing mother as noted in ISPMB's Gila herd. These fillies are prepared for motherhood by the time they are four and five years of age.

Stallions play an extremely important role in band structures. ISPMB's youngest band stallion was eight years of age in our original Gila herd. It should be noted that stallions are usually over the age of ten before becoming band stallions in undisturbed populations. ISPMB contends that mares are emotionally mature by the age of five while stallions emotional maturity comes around the age of ten.

In the Red Desert study by Dr. Denniston in the early seventies, the youngest band stallion was thirteen years of age. In disrupted herds, band stallions are often juveniles of the ages of six through nine. This age group is the most likely to evade captures on public lands; thus, allowing them to pick up any mares released.

ISPMB is currently working on determining how long it takes for a disrupted herd to develop stability as once experienced by their predecessors noting the following: behaviors, band structures, ages of band stallions, birth rates, death rates, ages of mares or fillies with their first birth, respectful behaviors by members of the band, ability to work together for the good of the entire herd.

After eight years of data, ISPMB has noted that the growth rate of this disturbed herd is averaged 14.38% yearly for the past eight years. We are also noting that as of 2023, for the first time, several two-year old mares were pregnant delivering foals at age three.

In 2023, all family bands had band stallions under the age of ten. The ranges were juvenile stallions aged five through six.

Out of the four older original band stallions only one stallion remains with one mare who has never become pregnant. Two of the band stallions were removed as early as 2022 due to their injuries sustained by younger stallions. Colt to filly births range yearly, nearly 50/50.

#### CHART #1

##### ISPMB GROWTH CHART OF DISTURBED GILA HERD

###### YEAR HERD NUMBER PERCENTAGE GROWTH

|      |    |                |
|------|----|----------------|
| 2017 | 20 | Starting point |
| 2018 | 24 | 20%            |
| 2019 | 30 | 25%            |
| 2020 | 33 | 10%            |
| 2021 | 39 | 18.89%         |
| 2022 | 44 | 12.82%         |
| 2023 | 48 | 9.09%          |
| 2024 | 51 | 6.25%          |
| 2025 | 58 | 13,73%         |

Average yearly growth rate- 14.38%

#### CHART #2

##### ISPMB COMPARISON TO WINEQUUS CHARTS IN DISTURBED HERD GROWTH

###### ACTUAL NUMBER WINEQUUES PROPOSED NUMBER DOUBLING EVERY FOUR YEARS

|      |    |     |
|------|----|-----|
| 2017 | 20 | 0   |
| 2021 | 39 | 40  |
| 2025 | 58 | 80  |
| 2029 |    | 160 |
| 2033 |    | 320 |
|      |    |     |
|      |    |     |
|      |    |     |
|      |    |     |

If we were to look at the first four years of growth with ISPMB's disturbed Gla herd, we could agree with WinEquus that growth rates are 20% and they double every four years. However, the

significant fact noted by ISPMB attributes these rates to the constant disruption of stable family bands in the herd every four years due to roundups by the BLM and FS (Agencies). The Agencies never studied wild horse herds in 1980 when advised to do so by the NAS. Instead, they have been managing wild horses like domestic cattle or horses. ISPMB may be the first and only organization to have studied two herds that had not been disrupted in 25 years for one and 50 years for another. The information we received from these herds may possibly never be seen again as public lands herds are rounded up every four years on an average, never having time to stabilize.

It should also be noted that current Gila herd has been stabilizing and free from roundups since 2017. Their stabilization shows in the chart that they are no longer doubling every four years. We are not sure whether these stallions will mature enough to no longer breed fillies under the age of four. We also note that the mares do not get pregnant yearly but generally every other year. Data will be presented at a future date.

Looking at ISPMB's Gila herd before disruption, it is noted that their annual growth rate, under the best of conditions (unlike public lands wild horses), averaged an annual rate of 9.73% (31 horses in 2000 and 137 horses in 2016). This rate coincides with the two NAS scientists who believed that birth rates would be well under 10%. ISPMB would expect the growth percentage, noted above, in wild herds on public lands to be much lower because they are not protected from the elements and not fed during the winter months as ISPMB's herds were.



***ISPMB's Gila Wild Horses***



## SUMMARY:

Not understanding the wild horses as the wildlife species they are and managed accordingly, has led to intrusive management with roundups and the unnecessary use of birth control which leads to permanent infertility in a few consecutive years of use. Both situations which will lead to the eventual extermination of wild horses on public lands.

The WinEquus program instituted by the Agencies in 1996 projects growth of wild horses at a nearly 20% growth rate yearly. They also state that herds double every four years. ISPMB notes that these projections came at a time when there were few if any wild herds left on public lands that were not disrupted from multiple roundups. Thus 20% is a feasible number for herds that have consistently been disrupted, never given a chance to recover over time; instead, rounded up nearly every four years or so. The Agencies contend that by year 2040, the population of wild horses will be 2.8 million based on this program.

However, those figures are ***not accurate*** when attributed to intact wild herds untouched by roundups over years of time. The 1971 Wild Free-Roaming Horses and Burros is specific when they indicated in 1971, that "All management activities shall be at the minimal feasible level." The Agencies have not, if ever, followed this very important section of the Act which is mandated by the word SHALL.

ISPMB contends that disruption through roundups of wild horses actually increases horse numbers due the instability of the family bands which leads to fillies impregnated as early as age two. Destabilized herd growth rates were at 20% yearly which was noted in ISPMB's disrupted Gila herd. However, with stabilization and freedom from roundup disruptions, the herds can again recover over time and begin to self-limit their populations as is happening with ISPMB's current Gila herd.

Under stable populations, as in ISPMB's Gila original herd, fillies were not pregnant until they were four and five years of age. Stallions were ten years and older and in command of family bands. The horses gained and retained their herd wisdom through learning over time. ISPMB will continue to monitor when ISPMB's destabilized herd will normalize again.