

**Position of The Cloud Foundation on the Use of  
Porcine Zona Pellucida (PZP)**  
*For the control of Wild Horse Herd Populations*



**By Ginger Kathrens**  
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## **Position of the Cloud Foundation on the Use of PZP**

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The Cloud Foundation (TCF) advocates the use of the Porcine Zona Pellucida Vaccine (PZP) in order to balance wild horse reproduction and mortality. TCF believes that PZP is the best vaccine available to do this. It is safe, and reversible and can be remotely delivered via a dart gun.

However, we do not consider PZP a “silver bullet”. The true silver bullet is nature—a natural environment in which predators like mountain lions are protected to create a natural predator-prey balance. We only mimic nature as best we can with the PZP vaccine, artificially creating this dynamic equilibrium in which predator and prey balance each other out.

PZP was suspended on the Pryors for a few years after the heavy predation in the mid-2000s. Previous managers encouraged the hunting of mountain lions and the adult female lioness with kittens thought to be responsible for most of the foal predation was killed. I estimate at least 100 foals had been killed in the years 2001-2006. I accepted this as nature creating a natural predator-prey balance. When the BLM encouraged hunters to kill the mother lion who had killed Cloud’s little buckskin son, Dusty in the fall of 2006, it was one of the single saddest experiences of my life. Dusty and all those wonderful foals had died for absolutely nothing.

When predation never picked back up and I watched the 2009 helicopter roundup in horror as BLM ran horses off the mountaintop in 100 degree temperatures, I decided to try to look beyond my own personal heartbreak. I vowed that this would never happen again. And it hasn’t.

TCF also vigorously advocates for the reallocation of forage from welfare livestock to wild horses and the expansion of wild horse ranges. Fewer cattle and sheep, will allow for larger, truly genetically viable herds. I have been speaking and writing about genetic viability since the late 1990s. Most herds are not large enough to be considered viable, based on the research of E. Gus Cothran, the foremost equine geneticist in the U.S. It is a critical issue in many herds. Even in the Pryors, where there are no livestock, the range is not currently large enough to support a safely viable herd of at least 200-300 adult horses. This is why we have waged legal battles for years to allow the horses to roam in areas of historic use both on top of their mountain home and in the low, desert country.

Massive removals of wild horse families from their homes by the Bureau of Land Management (BLM) and the U.S. Forest Service (FS) has stimulated higher reproduction rates (compensatory reproduction) according the 2013 National Academies of Science report. Roundups shatter the lives of these freedom loving, highly evolved, social animals.

TCF hopes to demonstrate that wild horse herd numbers can be controlled without roundups and removals. This will allow for the essential “breathing room” to focus on issues like decreasing livestock and raising *Appropriate Management Levels (AMLs)*, expanding and restoring ranges, fence removal, and range improvements. Right now, TCF spends the vast majority of our time responding to the next roundup plan and trying to get adequate shelter for wild horses in holding—animals that should never have been removed in the first place.

In an ideal world, (and I believe that an ideal world is possible by the way), there would be no need for roundups and removals or PZP. But we have not reached this point yet. The goal is a dynamic equilibrium in which mortality and reproduction are equal over time—all natural without human interference. PZP is a substitute for predation. It does not kill foals but it prevents their birth. We believe that it is better not to be born than to go through the terror of removal and incarceration, in some cases for life.

**The following are answers to Q and A in which I participated in early 2014 with some updates:**

**1. Q. How much time (days) occurred between the primary PZP dose and the booster dose when you darted wild horses with PZP in the Pryors?**

**A.** It is advisable to wait at least two weeks between the primer dose and the booster. The primer dose need only be given once. It is good for the life of the mare, but does not render her infertile, either permanently or temporarily without the subsequent booster. The booster will render the mare infertile for one year. However, individual horses, just like individual humans, react differently to vaccines. Done properly, PZP is effective about 95% of the time.

**2. Q. Is the Cloud Foundation receiving grant money or donations contingent on the use of PZP for wild horses?**

**A.** TCF receives nothing for our volunteer efforts with the BLM in the Pryors. Our reward comes in the belief that every foal we see born there will have a chance to live out its life in freedom, whether that life is a few days or many years.

**3. Q. Why is it that despite the availability of PZP, the Secretary of Interior, Sally Jewell, is calling for effective population control**

***measures to be developed for wild horses and burros?***

**A.** It is possible that Secretary of Interior Jewell is not aware of the success record of PZP use on Wild Horses. The Secretary is likely being told that a permanent sterilant—i.e. gelding/spaying in the field—is the answer and that PZP is not practical. It is true that the effective use of PZP will require a budget paradigm shift as field darting and bait trapping require spending time on the range, learning the habits of the bands and their makeup. Excellent record keeping is essential. Also, PZP must be administered every year to render one year of infertility and likely most herds will require bait trapping in order to get close enough to accomplish the darting.

Yet, only 2-3% of the current BLM budget focuses on range monitoring and inventorying. That is why we advocate turning the budget upside down and making on the range management the priority line item.

You are correct that a mare given the vaccine for 5-7 years will likely become sterile. Currently, mares in the Pryors in the 5-10 year old category do not receive PZP. Most mares over 10 years of age receive the vaccine in consecutive years (there are a few mares that are nearly impossible to field dart and field darting is the tactic used in the Pryor Herd) and a few older females are non-responders and have foaled despite repeated dartings. The vaccine works about 95% of the time, so even if all mares received PZP, there would still be some foals.

**4. Q. *Where are the long-term studies that prove without a doubt that PZP is 100% safe for wild horse?***

**A.** Dr. Jay Kirkpatrick, Science and Conservation Center in Billings, MT has numerous studies going back for 28 years on Assateague Island. Please reference the following studies:

[Immunocontraceptive Reproductive Control Utilizing Porcine Zona Pellucida \(PZP\) in Federal Wild Horse Populations](#)

[Journal of Reproductive Immunology, The Practical Side of Immunocontraception J.F. Kirkpatrick](#)

[Achieving Population Goals in Long-Lived Wildlife Species with Contraception, Wildlife Research, by Kirkpatrick and Turner, 2008.](#)

**5. Q. *Where are the long term studies that show the drug is safe especially in yearling fillies and upward during the development of the reproductive system and their bodies in general?***

- A. I know of no yearling studies. The studies on Assateague include 2 year-olds I believe. Currently, no yearlings are darted in the Pryors.
6. **Q. *Where are the long-term studies that show the offspring of the PZP'd yearling fillies, when given PZP themselves, are able to have foals? And after how many applications are they still able to reproduce?***
- A. We have records on each horse in the Pryors since 1995. PZPed yearling fillies have had daughters and those daughters have reproduced. Yearlings are not currently PZPed in the Pryors.
7. **Q. *When would the use of PZP end?***
- A. PZP would be curtailed if there is a natural balance in which mortality and reproduction are roughly equal over time.
8. **Q. *When using PZP on small herds such as Spring Creek Basin and possibly the Pryors to control inbreeding, wouldn't more horses and more of their own land solve this?***
- A. The goal of PZP is not to prevent inbreeding. The goal, at least the TCF goal, is to equalize mortality and reproduction until natural factors are in place to do this without human interference. PZP is a way to substitute for predation. The vaccine prevents births. The predators, if they were present, would kill the foals.
9. **Q. *For the sake of transparency, should all the toxicology data (published and unpublished) be posted publicly on the websites of the organizations who support the use of this hormone for wild horses and burros on the range?***
- A. First of all, PZP is NOT a "hormone." It is a protein. I don't know of any toxicology data. This would be a question for Dr. Kirkpatrick.
10. **Q. *For the record, we know sanctuaries might choose to use a drug such as PZP and we understand that their situation is their business. In contrast, America's wild horses and burros--on public land--are the public's business.***
- A. I could not agree with you more on this. Wild horses and burros on public lands belong to the American Public.
11. **Q. *How does the Assateague Island exhibit differs from rangeland herd management areas and why do you continue to use the island exhibit when the conditions and acreage is different to most HMAs in the West.***
- A. Assateague is the longest running example of PZP on a wild herd and so it is used as an example. There has not been a roundup on the island for many years. PZP also appears to work well in the Little Book Cliffs,

McCullough Peaks and on the Pryors, which are small to mid-sized ranges. What I have noticed in the Pryors is a rise in infidelity with mares switching bands more frequently. That is one reason I say that PZP is not a silver bullet. The true silver bullet is nature, working naturally to create a dynamic equilibrium.

**12.Q. What is your connection to the Onaqui herd and why do you feel you and the BLM should go in and PZP the herd?**

**A.** Lisa Friday and I visited the Onaqui herd for the first time in January 2014. Many mares in the herd received PZP-22 several years ago during a roundup. This makes the herd a “one shot” herd. By that I mean that the herd can be more easily managed on the range with the dartable PZP as mares will not need a primer, only the booster shot to render infertility for one year. Our goal in Onaqui is the same for all the herds—no roundups or removals. A foal born free will die free.

**13.Q. If PZP is as safe as you claim it to be, then why wasn't it approved by the FDA, why isn't it safe for domestic horses and why was it only approved as a "restricted use pesticide" after several decades of experiments?**

**A.** This is another question best answered by Dr. Kirkpatrick. I will say that PZP has been used on over 112 species, many of which are captive zoo animals.

We use PZP on our Freedom Family mares and, although they are not domestic, we do supplement them with hay throughout the winter. And we give them oats and horse candy when we visit, which they love. If we believed the vaccine was dangerous we certainly would not support its use on any horse, wild or domestic, or, any species for that matter.

**14.Q. Why do you support a drug that is labeled a "pesticide" and that categorizes wild horses as "pests" in federal documents?**

**A.** The labeling of PZP as a pesticide was unfortunate. I was shocked that the EPA placed it inappropriately in the pesticide category. I think of a pesticide as something that kills unwanted pests. That is certainly not the reason PZP is used and it is not intended to kill any of the animals upon which it is used.

**15.Q. Why didn't you advocate to change the "pest" label?**

**A.** Our focus is on keeping wild horses on the range, not on changing labeling descriptions or titles.

**16.Q. Do you believe wild horses are overpopulated now and therefore do you believe PZP is justified on the range?**

**A.** I believe that massive removals have resulted in compensatory reproduction by wild mares, which is what the [National Academies of](#)

[Science](#) concluded. Wild horses have responded with a higher birth rate to avoid going extinct. On most western ranges they are under populated and they are “trying to fill their niches” by reproducing more frequently. Raising the AMLs in order to allow the population to expand is essential and that will require allocating far more forage to wild horses than to privately-owned, welfare livestock. Currently, wild horses live on only 11% of BLM lands, and on those lands they are allocated only 18% of the forage, in comparison with livestock that receive 82% of the forage.

The Pryors case is different in that there are no livestock on their range. But, the range is less than 40,000 acres, and much of it is rocky and very dry in the low elevations so the range cannot accommodate a large herd. The roughly 160 adult wild horses living there are close to the carrying capacity of their range. That is why range expansion is the key to the long-term survival of the herd.

Historic areas were taken away from the Pryor wild horses by the Park Service and the Forest Service. We are in litigation against the BLM and Forest Service in the Pryors over the loss of wonderful high elevation grazing. I am happy to report that the Range Management Plan to be released soon (late 2014), will return some of the lowland acreage to the herd.

Despite the use of PZP, I believe that there may be a bait-trapping removal in the future as the mares in the 5 to 10 year-old category are having foals nearly every year. We will work to try to avoid this of course. Again, our goal is this: every foal born in the wild will have the privilege of living in freedom for life, whether that be a day or many years.

**17.Q. Do you believe that the BLM is "unable" to adopt out the wild horses they capture? Not the 50,000 leftover from failed adoptions and gluttonous roundups but the ones they roundup periodically.**

**A.** I believe that mixed messages sent out by BLM have dissuaded many from even considering adopting a “feral broomtail.” The “buy one, get one free” marketing approach has been an abject failure and has attracted, in some cases, people who should never own a mustang.

There are many ways to improve adoptions, including consistent messaging. BLM often gives the impression that the mustang is an inferior product. I have often said, it is hard to sell a product you don't believe in. It is a shame, but we work on highlighting how wonderful wild horses are as partners. I am a multiple adopter. Swasey, my youngest was born in 2012, a little bay roan from the Swasey Wild Horse Herd in Utah.

**18.Q. Do you believe wild horses are a native or "returned-native"**

***species?***

**A.** The wild horse is native to North America. You can read articles on this on the TCF website under [Education then Wild Horses as a Returned Native Species.](#)

Ross MacPhee, at the American Museum of Natural History, poses the rhetorical question: *If wild horses are not native to North America, where are they native?* The answer is, they are native here and nowhere else. *Without the journey of the horse into Asia over the Bering Land Bridge at various times in its evolutionary history, there would be no horses in the world,* so says the Curator of Anthropology, Carnegie Museum of Natural History, Sandra Olsen.

In my presentation to the NAS Committee at their San Diego meeting in 2013, I told the Committee of my journey to the Yukon where I was privileged to walk in the very canyon where the Yukon Horse (*Equus lambei*) was discovered in the 1993. This discovery was the first of a modern horse (caballoid horse) in which the pelt and stomach contents were present. The horse had solid hooves and a flop-over mane. It had a flaxen mane and tail and was brown in color with light guard hairs.

The Yukon Horse *likely* died out as recently as 7,600 years ago and lived in North America for over 100,000 years. The important part of this is that the modern horses co-evolved with a landscape, not so much different than the one which they returned with the Spanish Conquistadors. I say “*likely*” because there is evidence that the horse never completely died out on the continent.

**19.Q. How does PZP take out the weaker of the species as predation would? In what ways does PZP not mimic predation?**

**A.** PZP does not take out the “weaker.” It prevents the weakest from being born, the weakest being the young. As in every species, the young are the most vulnerable. The major predator of wild horse foals is the mountain lion.

I witnessed the loss of all but one foal in 2004 on the Pryors, due to hunting by the cats. But, I also saw wild horse families modifying their behavior in response to this threat to their survival. In 2005 more foals survived, and 2006 only two were killed before the BLM called in hunters from Idaho to destroy the cats. It was, as I said earlier, a tragedy. The foals died to create equilibrium, but the previous managers of the herd destroyed what nature was creating. All those foals died ultimately for nothing, including Cloud and Velvet’s beautiful buckskin son, Dusty. This is documented in my most recent Cloud film, *Challenge of the Stallions*, and the book by the same title.



**20.Q. Besides casual reference from the anti-wild horse faction, have there been any other legal government documents that have established wild horses and burros to be pests?**

**A.** Not to my knowledge.

**21.Q. If PZP didn't exist, then what would you support?**

**A.** I would support protecting predators, which is what we currently support. Nature is the silver bullet as I stated earlier. We support the reallocation of forage from welfare livestock to wild horses. Fewer cattle and sheep, will allow for larger, truly genetically viable herds of wild horses. I have been speaking and writing about genetic viability since the late 1990s. Most herds are not large enough to be considered viable, based on the research of E. Gus Cothran, the foremost equine geneticist in the U.S. It is a critical issue in many herds. Even in the Pryors it is a problem but there are no livestock to reduce in the Pryors so the only way to have a viable herd of say 200-300 adult wild horses is to expand the Pryor Wild Horse Range.

**22.Q. Are you familiar with the studies stating wild horse herds with functional social structures contribute to low herd growth compared to BLM managed herds? If so why aren't you supporting that method of management in lieu of drugging America's wild herds?**

**A.** In the wild, lower growth rates will occur naturally if the herds are allowed to fill their niche. Clearly, BLM has stimulated higher rates of reproduction by leaving only token numbers of wild horses on their ranges.

**23.Q. How can wild horse herds be "free" if their social structure, breeding habits, family dynamics, purpose within the herd, unborn foals, etc. is controlled and limited by humans instead of nature? Can humans control nature or will they mess it up? Please explain how PZP herds allegedly live in freedom--when they are managed in large zoo-like exhibits?**

**A.** I do not consider herds where reproduction is managed (without touching a hair on the head of a horse) to be a zoo. Obviously, TCF supports as much of a hands-off approach as possible, but when no opportunity exists for a natural predator-prey dynamic because the cats are regularly hunted and killed, then an alternative is PZP.

In an ideal world, (and I believe that an ideal world is possible by the way), there would be no need for roundups and removals or PZP. But we have not reached this point yet.

Doing nothing allows BLM to point to high reproduction rates (which they have created with massive removals) and the need to roundup up and

shatter the lives of these family loving, freedom loving, highly evolved, social animals. If we can demonstrate that the numbers in the herd can be controlled at a certain level, then they have no reason to rely on roundups and removals. We then give ourselves some breathing room to focus on issues like decreasing livestock and raising AMLs, range expansion, fence removal, range improvements, etc. etc. Right now, we spend the vast majority of our time on responding to the next roundup plan and trying to get adequate shelter for wild horses in holding—animals that should never have been removed in the first place. And our ideal world slips farther and farther away.

**24.Q. At one time The Cloud Foundation for two years we were requesting a moratorium on roundups. Why not renew that request for a 10-year moratorium for recovery and good scientific studies to guide management?**

**A.** We have campaigned for a moratorium on roundups. But the rise in the reproduction rate “deep sixes” our argument. The herds are growing beyond the Appropriate Management Level (AMLs). We have to create a situation in which we control the numbers, and in so doing, we can “grow the numbers” if that makes sense. If we prove that on the range management works, the BLM has no ammunition to knee jerk into helicopter roundup mode.

I hate roundups. I hate the sound of a helicopter. I hate seeing the fear in the eyes of wild horses, some of which I have known for their entire lives. I hate seeing them lose what they value above all else, their families and their freedom. I will not watch the lives of my wild friends be shattered and so I work to create a situation in which roundups can no longer be justified because there is no need for them.

PZP has given us a reprieve in the Pryors and in other herds. I pray that Cloud’s daughter, Encore, will never endure what her wonderful father has endured, not once, but three times in his life. Do you think that Cloud can endure another run down 5,000 feet of rugged terrain in 100 degree temperatures? Do you think that any wild horse should endure this? I know you join me in saying “No.” TCF is working toward this end.

In my mind, the most important issue will always be the ongoing preservation and protection of wild horses and burros “on the range,” a goal that we are all committed to. While groups and individuals may differ on how to achieve that end goal, it is imperative that we focus on a win-win situation for the horses.