



RETHINKING THE ROUNDUPS

Removing horses from the wild has failed to rein in overpopulation.
The HSUS is helping implement a humane alternative.

BY KAREN E. LANGE // WITH REPORTING BY RUTHANNE JOHNSON



GUS WARR KNEW the wild horses under his charge were in trouble. It was the summer of 2002 in northwestern Utah, the fourth year of drought. Even the meager 6 to 8 inches of rain that usually fall in the parched Cedar Mountains hadn't come. There was not enough water for the 900 horses Warr managed for the Bureau of Land Management. He watched as weak, thirsty animals stood by troughs, listlessly waiting for the trucks that delivered 12,000 gallons of water three to four times a week. Normally skittish, likely to bolt if a person approached within 50 yards, the Cedar Mountains horses did not even budge when the trucks pulled up. And Warr knew it was only going to get worse: The emergency water supply was starting to falter. Enough vehicles had passed over the dirt roads leading to the troughs that the fragile alkali soil was breaking down. Instead of delivering their cargo, four-wheel-drive trucks were sinking into patches of powdery quicksand. Warr, wild horse and burro specialist with the BLM, had little time left to save the herd.

"If a horse goes more than three or four days without water, they

get very dehydrated; their kidneys start shutting down. ... They're just not going to survive."

So Warr called for a roundup. Using helicopters, the BLM gathered 500 of the horses and took them to a holding facility, removing the animals permanently from the wild. The alternative was allowing potentially hundreds to die.


Wild horse populations double quickly—in as little as four years—and there are few places left out West where the animals are still free to live. Most of the range is leased to ranchers and used to graze their livestock. Ever since the 1971 passage of the Wild Free-Roaming Horses and Burros Act, the BLM has dealt with the unforgiving math of soaring horse numbers and limited space by rounding up animals in the

179 herd management areas it administers across 10 Western states. Usually the gathers are not emergency measures, as happened at Cedar Mountains, but roundups the agency believes necessary to prevent such crises (though critics often say the land could support many more horses). The BLM policy, doggedly followed over the past four decades, has been to remove horses from areas where they or

A NEW FRONTIER

Wildlife contraception is transforming the way humans manage animal populations. In the second story of this three-part series, *All Animals* looks at what the pioneering method of the PZP vaccine means for wild horses. The first story examined the implications for white-tailed deer (go to humansociety.org/allanimals to read it), and a future installment will look at African elephants.




Alerted to the presence of humans, a band of wild horses in Sand Wash Basin, Colorado, looks up from grazing on land the Bureau of Land Management hopes to protect by darting mares with a new, longer-lasting contraceptive called PZP-22.

the land seem most in jeopardy—or where ranchers complain that horses compete with cattle—and place the animals up for adoption.

There is another solution: slowing population growth by vaccinating horses with a contraceptive known as PZP. But researchers and advocates who've argued in favor of using this method on a large scale haven't gotten far.

And so year after year, BLM contractors have driven groups of horses into corrals, separating stallions from mares and mares from foals, breaking the strong bonds horses in a band form with each other. "You can see the longing of the stallions for the mares. They'll never see each other again," says Stephanie Boyles Griffin, HSUS senior director of innovative wildlife management and services. "It's really painful to watch. You can see in their eyes, they're in agony."

A confluence of circumstances may soon change all that. Just as the BLM's roundup strategy has reached a dead end, leaving the agency desperate for another approach, HSUS researchers have documented that a new version of the contraceptive, known as PZP-22, can keep mares from foaling for two or more years with each repeated application—twice as long as the original version (the name signifies the number of months it's designed to be effective). A long-awaited shift from roundups to contraception could finally take place.

AFTER A ROUNDUP, the horses left on the land keep reproducing—often at a faster pace than before, since competition for food and water is reduced. Soon the number of animals is once again over what the BLM considers an "appropriate management level," leading to another roundup. During the 1980s and 1990s, the agency managed to find places for most of the horses it removed, but then this never-ending cycle began to create a crisis. As the economy faltered in the first decade of the 2000s and drought caused the price of hay to rise, there wasn't as much demand for horses. Between 2002 and 2012, the number of horses adopted each year fell by two thirds, from almost 6,000 to about 2,000, but the agency continued to gather between 5,000 and 10,000 horses a year. BLM holding facilities filled with horses no one wanted—animals who would never be returned to the wild and would cost \$45,000 each to care for over a 30-year life span (versus \$1,000 at most to gather, treat and release a mare with PZP-22, preventing two births over two years). By 2013 there were 47,000 horses in BLM holding areas—more than the estimated 40,000 animals still in the wild. The agency was spending about half its wild horse budget to care for them. And Congress was refusing to provide more money to set up new holding facilities.

Meanwhile, the outlook for the land and the horses left on the range was not good. In places with rainfall amounts as low as Cedars, high numbers can put animals at risk during dry years—and with climate change, there are more and more of those. In other places, the land, much of it semi-desert, suffers. Horses eat the higher-nutrient native grasses and lower quality invasive species can take root in their

place. To a visitor, it may look as though there's enough vegetation on the land. But horses don't eat juniper or sagebrush or greasewood.

Guy Palmer, a Washington State University professor, explains it in a video for the National Academy of Sciences. "If the horses just continue to grow ... in the end, two things are assured to happen—the rangeland loses its quality; it's actually destroyed," says Palmer, who chaired a National Academy of Sciences committee that urged the BLM to adopt PZP. "[And] eventually the horses themselves will become ill."

The strategy of roundup and removal has brought the BLM to a dead end, says Boyles Griffin. "It's simple arithmetic; it's not sustainable," she says. "We have a solution: You have to gather only as many as you can adopt, and then you have to contract like crazy." Such an approach, she argues, pointing to a report in the *Journal of Zoo and Wildlife Medicine*, could potentially save taxpayers tens of millions over a decade.

As fewer people adopt horses, the BLM has been forced to slow the pace of roundups. And soon-to-be-published HSUS research may help persuade the agency to start relying

more on PZP-22. The vaccine, designed to be administered every other year, is being used on a trial basis at two BLM herd management areas, Sand Wash Basin in Colorado and Cedar Mountains in Utah. At Cedar Mountains, where 600 horses now roam an area the BLM believes can support 200 to 400, PZP-22 held foaling rates below 5 percent in 2013, and preliminary data shows it is expected to significantly reduce reproduction this year from the 60 percent observed in untreated mares. (Results from Sand Wash won't be available until 2015.)

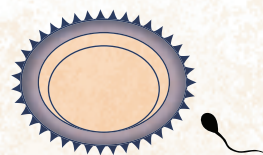
The Cedars data bolsters a 2013 recommendation by the National Academy of Sciences that the agency start using contraception immediately, beginning with the best option available—PZP. The Cedars results, due to be published in 2015, form the strongest argument so far that the BLM should be using contraception in the majority of its herd management areas, expanding from the seven BLM sites where PZP or PZP-22 is currently employed.

"Cedars is the big one"—the evidence wild horse managers have been waiting to see, says Allen Rutberg, a Tufts University professor and PZP researcher working with The HSUS on the trials.

Joan Guilfoyle, chief of the BLM's wild horse and burro division, won't commit to vastly increasing use of PZP but says the agency is looking for a way to follow the NAS recommendations and provide proven contraceptives to all its horse management areas. "PZP and PZP-22 are so far the most effective tools we have. We know they do reduce reproduction," says Guilfoyle. "We are asking our people to look at where PZP can be used."

"You can see the longing of the stallions for the mares. ... They'll never see each other again."

—STEPHANIE BOYLES GRIFFIN, THE HSUS



HOW PZP-22 WORKS

Mares injected with the vaccine produce antibodies that block sperm from fertilizing eggs. Time-release capsules dissolve at various intervals, boosting the effectiveness from 12 to 22 months.

Whether PZP-22 is widely adopted, says Guilfoyle, will depend on the decisions of individual managers, such as Warr and Jerome Fox. Fox, the wild horse and burro specialist at Sand Wash Basin, says he knows his BLM colleagues are closely following the trials. "There's a lot of attention being paid to what's happening at Sand Wash and Cedar Mountains," he says. "Favorable results or negative results are going to have a huge impact on the horse program."

PZP HAS BEEN AROUND for a long time—since 1988, when it was first used on wild horses at Assateague Island National Seashore, off the coast of Maryland. Jay Kirkpatrick, of the Science and Conservation Center in Billings, Montana, spent season after season wading through the marshes and walking the barrier beaches, struggling to get within 40 yards of the island's horses so he could dart them with the vaccine. After just two years, PZP had stabilized the Assateague population—foals were no longer being born. But the vaccine had an unintended consequence. The mares who received it became health-



ier, heavier and better able to survive the winter. Where they used to die at the age of about 7, they began to live 21 years or more. Because of this, it took many more years for the populations to decline significantly. By 2013, however, the number of wild horses on Assateague was down by 40 percent, to 100 from 175. PZP had been proven effective.

"The management plan on Assateague is pure genius," says Kirkpatrick, praising the openness of the National Park Service toward PZP. "And slowly but surely various horse herds are moving toward it." Those herds include horses on the lands of the Navajo tribe, which has turned to Kirkpatrick for help.

The BLM, however, much to Kirkpatrick's frustration, has hesitated to adopt the original form of PZP. To work, the drug has to be administered to mares twice the first year—with an initial vaccination and then a booster—and once every year after that. The agency didn't see this as practical. It also wanted proof the contraceptive would work out West, on larger herds that might not be approachable, and on land that was millions of acres, not a small island.



LIMITED RESOURCES

Horses pick out the edible grasses in Sand Wash, a basin that may look huge but contains little for them to eat. If horses aren't either removed from the basin or treated with contraception, there won't be enough for the growing herd to eat.



PZP-22 promised to address the first concern because it was a longer-acting version of the drug—boosters suspended in the initial vaccine in time-release capsules are delivered after one, three and 12 months. To address the second concern, The HSUS used a \$1.7 million grant from the Annenberg Foundation to try out PZP-22 at Cedar Mountains and Sand Wash Basin starting in 2008. The trials are aiming to replicate results of a 2007 study in the BLM’s Clan Alpine, Nevada, management area that found that PZP-22 lowered the foaling rate of individual wild horses to 5 percent the first year after it was administered and 15 percent the second year (untreated horses in that area had foaling rates of 54 percent and 59 percent during those years).

If PZP-22 can keep annual population growth to 10 percent—which Rutberg, the professor and PZP researcher, believes it can—the contraceptive will be worthwhile to use at Sand Wash, Fox says. He’d only have to dart every two to three years and he could stop large roundups, selectively gathering only younger animals likely to be adopted. At Cedars, Warr says that even if the results are not quite that good, he would propose removing 200 horses and then, with the herd down to 400, try to treat all the mares.

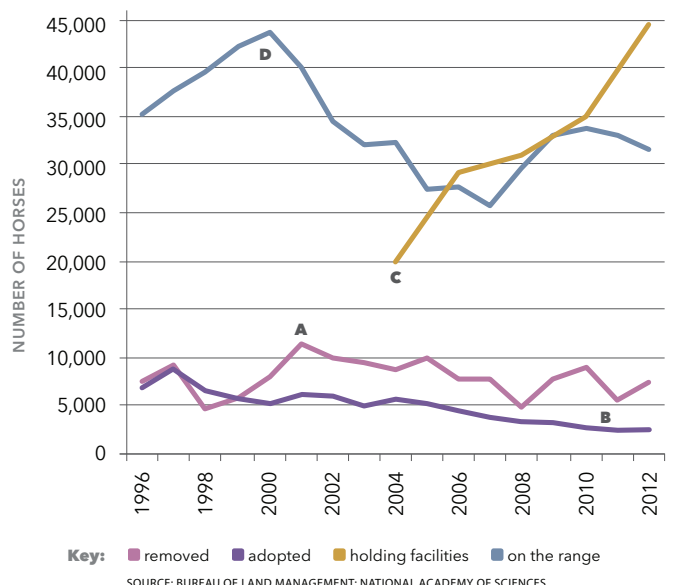
EXCEPT WHEN THEY’RE THIRSTY, the Cedars horses aren’t easy to reach. Finding the herd requires long hikes or horseback rides. Kayla Grams, HSUS head field technician, says she spends a lot of her time sneaking up on horses, but the closest she’s ever been able to get to these animals, who’ve been shot at, is 50 yards. The horses can hear well and are alert to smells and to alarm signals given by other wildlife, like pronghorns, and by each other. “It’s sort of like hunting. I usually want to be downwind. I use vegetation to hide. I’ll sneak down a gully; I’ll crouch really low; sometimes I crawl on the ground.”

So darting at Cedars is impossible. Administering PZP-22 there requires rounding up the horses and hand-injecting the drug. Helicopter gathers in 2008 and 2012 allowed Grams to treat 75 percent of the mares.

Sand Wash Basin is a much easier place to contracept horses. To reach the herd all you need to do is drive up along a road, park your truck and take a hike. This means many local horse lovers know the

OFF THE RANGE

The Bureau of Land Management used to adopt out most of the horses it removed from the range (A). But with adoptions falling (B), the number of horses in holding facilities has risen (C). Now there are more horses in these facilities than in the wild (D).





herd and tourists visit, so the animals are used to people. Even with wide open vistas and little opportunity to hide as she stalks the herd, Grams says she can get within 10 yards.

On a typical day at Sand Wash, Grams finds the horses in a band grazing, heads down. Once in a while, one looks up. The lead mare and the stallion are watching. Gradually, if a human approaches, the herd, taking a few steps here, a few there, will move off. So Grams walks nonchalantly toward the band, acting as though she really isn't headed that way at all. She passes them and waits with no movement, like she is a tree rather than a person. Patiently, she sticks with the band, dogging the group of horses the way "bachelor" stallions do when they are hoping to steal a mare from a stallion's harem. Sometimes, she hides behind brush or rocks. After a long time, she can get within 40 or 50 yards, close enough to take a shot—but only if the wind isn't blowing.

Grams targets subordinate mares first, waiting to dart the lead mare last because that horse will alert the others. As the horse she's targeting moves within range, she creeps closer, stops, then creeps closer again, while the horses in turn adjust their positions, ambling always a little farther out of reach. Finally, she takes her shot. The dart hits the mare in the hindquarters, delivering the vaccine. The mare's only reaction is to kick up her legs. But all at once, the other horses move subtly, putting their bodies between Grams and the lead mare or another horse she is targeting. Usually, she does not get another clear shot.

Last fall, Josh Irving, the HSUS field technician assigned to Sand Wash, was able to dart 69 percent of targeted mares there, with help from Fox and Grams. That's within the range The HSUS hoped to treat. It's a slow process, not half as dramatic as a gather and remov-

al, with results a year or more off, but Irving is convinced it's the answer for Sand Wash. "You do have to put in the time and you have to be patient, but at day's end, it's cheaper and it works."

Fox, Sand Wash's wild horse and burro specialist, hopes he's right. More than 400 horses live in the basin, an area the BLM estimates can support at most 362.

With the herd increasing in size by 20 to 25 percent annually, it could triple within six years. Already, some parts of the area have little vegetation and others have lost their native grasses to cheatgrass, which has a lower percentage of digestible protein and a shorter growing season. "We're looking at anything to slow down recruitment," Fox says.

THE BLM IS INVESTING \$2.8 MILLION into researching contraception and sterilization methods. What the agency would ideally like to find, Guilfoyle says, is a contraceptive that can be administered just once every five years—otherwise she can't see contraception being used in the majority of the 179 areas BLM manages. Studies of a PZP vaccine that could be administered once every three to four years are under way, says John Turner of Ohio's University of Toledo, who is doing the research for the BLM. The agency also plans to use private money to establish a prize challenge encouraging research into wild horse contraceptives, including easier methods of administering the drugs than darting or gathering.

HORSE BY HORSE

Treating horses with PZP-22 by darting requires patience and perseverance (starting on left, opposite page): HSUS field technician Kayla Grams searches for horses at Sand Wash; she gets her gun (top) and a vaccine vial (lower left) from her truck and loads the drug into a dart; she moves within range of a band (left, this page); she waits motionless by the horse she's targeting (top); finally, that horse darted, she records the details.

The BLM, though, needn't wait for further research to use PZP-22, the best contraception that exists, says Boyles Griffin. "We don't have a perfect tool," she says. "But we have a tool that works really well."

Turner agrees. If the agency had begun using PZP and PZP-22 on a large scale 15 years ago, the current crises of too many horses in management and holding areas could have been avoided or at least delayed, he says. Instead, the BLM is in a tough situation: Horse numbers in management areas are rising fast and in many areas exceed legal limits. In those places the agency cannot gather horses, treat them with PZP-22 and put them back. According to the law, it must gather and remove them. So more removals will probably have to take place before the BLM shifts to contraception.

Holly Hazard, HSUS senior vice president for programs and innovations, says the switch from roundups to contraception represents a fundamental change in the culture of the BLM. "The agency is set up for large number, shorter-term, aggressive gathers—that's the skill set they have in place. I'm hopeful within the next two to three years they will have a significant minority of their populations for which they are trying some new technology."

When Boyles Griffin looks toward the future, she sees all the ways in which PZP-22, available now, could improve the lives of wild horses: With contraception, there will be fewer roundups in which horses in a herd are separated from each other, fewer gathers overall long-term, fewer horses in captivity and more opportunities for strategic



Shania, a Sand Wash horse who languished in a holding facility after a government roundup, now serves as an ambassador at the Great Escape Mustang Sanctuary—gentle enough for a 12-year-old to ride. PZP-22 may allow other horses to stay free.

removal of the youngest horses, who can be trained and stand a good chance of being adopted. With fewer roundups, there will be fewer chances for horses to be accidentally killed or injured, as happened most recently during September in Wyoming, when 10 horses died. Boyles Griffin says it's possible that if next year's results at Sand Wash are good and if the mares continue to receive the vaccine every other year, that herd will never need to be gathered again.

The last time the Sand Wash horses were rounded up was 2008,



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when 263 of them were removed from the range. Those who weren't immediately adopted after the gather were taken to a crowded, dusty holding area in Canon City, Colorado, where 2,500 horses live on the grounds of a prison. With the help of inmates, horses are readied for adoption. They have their hooves trimmed and are branded, vaccinated, dewormed and tested for disease. However, only about 125 each year find homes. So in 2012, there were still 10 Sand Wash mares waiting in pens with floors of trampled earth, able to see but not enjoy the shade of nearby cottonwood trees. They had arrived as 1-year-olds. They were now 5, passed over by adopters looking for younger horses.

Seeing them, says Michelle Sander, founder of the Great Escape Mustang Sanctuary in Colorado, broke her heart. The sanctuary, east of Denver, took the mares in and let them out on pasture. Sander says she watched as the 10 became horses again. "Just being in a holding facility, it's traumatic. Some of them used to be pretty pushy. Others were really shy, really afraid."

Today the Sand Wash mares graze on 800 fenced acres along with a Sand Wash stallion picked up on a rancher's land. The sanctuary is a bit like Sand Wash—rabbitbrush, yucca and greasewood—but there's more to eat: native grasses like buffalo and Indian ricegrass. The pasture has year-round creeks, with willows growing by the waterside. When food gets sparse in winter, animals receive hay.

It's a fine ending for the 11 horses, reunited in a beautiful place.

One of them, trained at the sanctuary, has become an ambassador for the group—confident and friendly. Two others, prepared for riding there, have been adopted, including the stallion, who arrived at Great Escape a miserable shell of a horse and has since had the life return to his eyes. More of the horses will be trained. However, Sander says this isn't enough. "Our ultimate goal is to keep the horses on the range. ... That's where they belong."

In an ideal world, Sand Wash roundups will end, and the remaining horses in the basin will be left wild, Sander says. That's why volunteers from her group are working with the BLM to continue darting the Sand Wash herd with PZP. With the new contraceptive, she says, that dream just might be possible. "PZP has been shown to be the only thing that works," Sander says.

The Sand Wash landscape is a harder one than the sanctuary's—all those acres without year-round water, the land that ranchers don't want. But it's enough for the horses. And that's what draws the tourists who come to glimpse the "Old West." And that's what feeds the fierce attachment of Sand Wash advocates like Sander: an ache for something that still belongs to these animals alone; the wonder of a band disappearing down a slope or running along a ridge, of horses choosing their own way, independent of people, surviving or not on their own; the sight of a stallion looking back across that great divide between wild horse and human, secure in the fullness of freedom—with alert and calculating eyes, but no fear.

OPPOSITE PAGE: MICHELLE SANDER/GREAT ESCAPE MUSTANG SANCTUARY



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