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Line of descent: How poor management left Mexican wolves dangerously inbred

Missteps and conflict between the state and the feds have hounded the recovery of Arizona and New Mexico's remaining wolf packs.

Cally Carswell Aug. 8, 2016 From the print edition

On a breezy January day, in a double-wide outside Alpine, Arizona, a wolf lay on a large wooden conference table. He was tranquilized but very much alive. His ribs rose and fell, and his body twitched. He was blindfolded and muzzled, and compulsively licked his dark nose. His white, black and cinnamon-colored fur was long and coarse, except around the ears, where it was soft. Veterinarian Susan Dicks massaged his belly. It felt mushy, like raw meat. It felt like he'd had a meal.

The people in the room spoke in whispers and worked quickly. Hands gloved in black latex, a few of them jockeyed around the table, drawing blood, administering vaccines, measuring the wolf's long, pearly canines, and swabbing the dart wound on his rump.

The U.S. Fish and Wildlife Service had captured him during its annual winter census, when agency biologists try to count every endangered Mexican wolf in the forested mountains of western New Mexico and eastern Arizona. His "name" was M1296, "M" for male, and biologists caught him in order to replace his radio collar.

It was remarkable that he was here at all. In April 2013, he stepped in a trap set for coyotes on private land in New Mexico, and it took biologists three hours to reach him. "He had abrasions, broken teeth. He just looked terrible," recalled Julia Smith, who works out of this field office for the Arizona Game and Fish Department. "I thought, 'He's not going to make it.' "

He did make it, though, and even found a mate. Then another setback: In 2014, an unknown gunman shot her. Eventually, M1296 wooed another female, F1439. They
established a territory, and earned a name, the Mangas Pack. At 74 pounds, M1296 was healthy and well-fed. On a scale of 1 to 5, Dicks rated his body condition a 4.

On the surface, things seemed to be looking up for the entire Mexican wolf population. In 1998, after Mexican wolves were poisoned and shot out of existence here, the Fish and Wildlife Service reintroduced 11 wolves, with the initial goal of growing their numbers to 100. After years of struggle, the population crossed that threshold for the first time in 2015. Biologists counted 110 animals, a 25 percent increase over the previous year. M1296 was among 97 wolves counted in this year's census.

Yet trouble lurks even in these historic numbers. As the population expands, it's also edging toward a genetic crisis, and the larger the population gets, the harder it will be to avert. M1296 is descended from a fantastically successful matriarch called AF521, "A" for alpha. His mate is, too. Their story is typical. In fact, biologists know of only one breeding female in the wild that *isn't* related to AF521. Wolves shouldn't sleep with their relatives for the same reason people shouldn't. Inbreeding can cause dangerous disorders, depress fertility, and even make small populations more vulnerable to extinction. But right now, the Southwest's Mexican wolves don't have much choice. On average, they share about as much genetic material as siblings do. They need new blood, and quick.

This situation arose partly as a matter of legacy: Our conversion from killing Mexican wolves to trying to save them has been fraught and incomplete. Some people idolize *los lobos* and some people resent them, and the Fish and Wildlife Service answers to both. Officials have released wolves to the wild, then yanked them back out, a push-and-pull that is now forcing a sort of reckoning. Can the agency finally surmount the Southwest's complicated politics and ensure a future for the animals?

"The window of opportunity for this species is closing," says Mike Phillips, executive director of the Turner Endangered Species Fund, a longtime partner in Mexican wolf recovery. "The clock is not the Mexican wolf's friend."

Biologists often say that restoring wolves to their former territory is less about wolves than about people. Wolves are easy. At one time, they flourished from the frozen Arctic plain to the perpetual summer of Mexico's Sierra Madre. So long as there are animals to eat — moose, elk, deer, javelina, antelope, salmon — and water to drink, wolves will do just fine. Unless people see them as a threat.

Mexican wolves were an exception to this rule in one sense: The animals weren't actually easy. When Fish and Wildlife reintroduced their larger cousins in the Northern Rockies, the agency was able to draw on robust, wild Canadian populations. But by the time the Southwestern subspecies landed on the endangered list in 1976, they were extinct in the U.S., with perhaps 50 still roaming the Sierra Madre. Before they could even consider returning Mexican wolves to the wild, federal biologists had to prevent the animal's total disappearance. To do that, they needed to nab Mexico's last stragglers, and breed them in captivity.

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There was one person who knew where to find them: A rangy trapper from Texas named Roy McBride, whom ranchers hired to protect their livestock. "McBride," wrote Rick Bass in *The Ninemile Wolves,* "is such a legend in the Southwest that on both sides of the border a motto developed, 'Let McBride do it.' " McBride hunted cougars in Texas and wolves in Mexico, where they devoured cattle after humans clobbered wild ungulate populations. He once spent over a year chasing the legendary wolf *Las Margaritas,* blamed for killing 96 cows on a single ranch. McBride finally outwitted him by building a fire over a trap, letting it burn out, and placing a scrap of dried skunk in the ashes.

In the late '70s, the Fish and Wildlife Service asked McBride to return to Mexico, this time to capture wolves alive. It was a tough assignment: The country was big and rough, and the wolves were few. He caught just five, and only one female, dubbed Nina. Initially, Nina's reproductive prospects looked poor. For two years, she failed to conceive. Then, in 1981, something clicked. The new litter gave Mexican wolves a chance, if a slim one. Biologists had given up on finding more wild wolves, so they coupled Nina and her descendants as best they could. One pair, Francisco and Sheila, both Nina's grandchildren, reproduced so readily that wolf advocates nicknamed them Adam and Eve.

Then came another lucky break. In the early 1990s, genetic tests showed that wolves at a Mexico City zoo and at Tucson's Arizona-Sonora Desert Museum, once suspected of being wolf-dog hybrids, were in fact pure Mexican wolf. They were also highly inbred, but by crossing the Aragon and Ghost Ranch lines with McBride wolves, biologists could stir the gene pool, and delay the perilous effects of inbreeding, perhaps for decades.

The captive population would now have seven founders, not a lot, but a jackpot under the circumstances. "Other populations have recovered from small numbers," says Phil Hedrick, an Arizona State University geneticist, who recommended crossing the three lineages. "We were somewhat optimistic."

Aragon-McBride and Ghost Ranch-McBride parents gave birth to 47 pups between 1997 and 2002. Geneticists call the offspring F-1s, because they came from the crossing of two distinct family lines. And they had an advantage no subsequent generation would enjoy: They weren't inbred at all.

“The F-1s were super wolves,” says Rich Fredrickson, an independent population geneticist, who is evaluating effects of inbreeding in the captive Mexican wolves for Fish and Wildlife. AF521 — the female whose genes are so ubiquitous in the wild today — was an F-1 wolf. She was born on May 3, 1997, at a Colorado Springs zoo, where her keepers named her Estrella, Spanish for “star.”

As the captive population grew, wild recovery seemed increasingly possible, and Fish and Wildlife turned its attention to the human side of the equation. The agency’s unwritten policy was that it wouldn’t release wolves against states’ wishes. And while Arizona cautiously supported reintroduction over some ranchers’ objections, New Mexico Gov. Gary Johnson refused to allow wolf releases into his state. So Fish and Wildlife developed a politically palatable plan. It classified the wolves as a “non-essential experimental” population, providing latitude to remove problem animals, and agreed to free new wolves only on a small swatch of national forest in Arizona. If they wandered into New Mexico, however, they could stay. The so-called Blue Range Recovery Area encompassed 7,000 square miles straddling the states’ shared border. If any wolves strayed beyond it, the feds would capture and relocate them, or return them to captivity.

The F-1s offered the best opportunity to re-establish a genetically viable population on the Blue Range. But for the first few years, they were too young and too valuable to release. Even the best breeding isn’t insurance against venomous rattlesnakes, speeding vehicles, or humans willing to risk a $100,000 fine to shoot a wolf. So the first wolves to run free in 1998 had pure McBride pedigrees.

Meanwhile, biologists bred the F-1 wolves with each other, with McBride wolves, and with the offspring of F-1 pairs. Once the animals reproduced — depositing their genetic legacies, so to speak, in the bank — they could be released if similar wolves existed in captivity. In theory, it was important to get valuable animals on the ground sooner than later, while they were in their prime, and the population still tiny and easy to mold. Because of the limited gene pool, genetic variation would inevitably decrease with each generation. Parents pass on only half of their genes to each pup, and due to random chance, rare genes can disappear quickly from small populations. Over time, more common genes can be lost, too. But if biologists used the F-1s and their offspring to grow the wild population quickly, they could slow the rate of loss, increasing its chances of long-term survival.

On June 11, 2002, federal biologists released AF521, her mate and seven offspring into a pen in the Apache-Sitgreaves- National Forest. Made of nylon mesh, the pen was no match for the -anxious wolves’ strong jaws, and, as intended, they chewed their way out the same day. Biologists called the new pack Bluestem, after the slender native bunchgrasses growing in the wolves’ new home turf.

In the wild, AF521 became “the ultimate super wolf,” Fredrickson says. She had pups in 2003, 2004, 2005, 2006 and 2007, successfully raising the 2006 litter even after the death of her first mate. Her offspring grew up to head their own packs — Dark Canyon, Paradise, Hawk’s Nest, and to this day, the Bluestem Pack.

Several more genetically valuable packs gained freedom around the same time. “If they were allowed to just be wolves,” Fredrickson imagines, the population “might have succeeded in an extraordinary way.” But unlike the vast roadless core of Idaho and Yellowstone National Park, where Northern Rockies gray wolves were reintroduced, this was a landscape worked by people, and grazed by cows. It wasn’t easy to just let wolves be wolves.

A graphic sign in Reserve, New Mexico. Many residents of the town, in the heart of wolf country, oppose the wolf recovery program.
Christina Selby

On April 4, 2005**,** Barbara and Bill Marks sat down to dinner after dark. The couple lives beside the Blue River in eastern Arizona, on a ranch that's been in Bill's family for 125 years. The Markses keep a garden, eat their own beef, and feel as much a part of their remote canyon as the cottonwoods, willows, alders and pines. They had just hosted a friend's wedding reception, and with the guests now gone, they remarked on how silent the canyon felt.

Then the dogs in an outdoor pen started to bark, and their indoor dogs began agitating to go out. Barbara figured raccoons were getting into a feed bin, so she let the dogs out and sat back down.

"All of a sudden, the barking kicked up an octave," and moved closer to the house, she says. "I opened the door, and the dogs almost knocked me down. Then we saw the wound" — four tooth-sized punctures on the hip of Rocky, a large hound mix — "and it was like, 'Oh, my gosh, the wolves are out there.' "

It wasn't the couple's first run-in with the Aspen Pack, released the previous summer and headed by an F-1 male and a female with genes from all three lineages. After a series of incidents on their grazing allotments — cows missing tails, one falling off a bluff, cows bunching together as they do when wolves are around — the Markses moved their pregnant heifers and cow-calf pairs to their home pasture. Feeding them hay was more expensive, but minimized the risk of loss. After the dogs tumbled in the door, though, Bill went out and found a calf with a minor leg injury. Even here, their livestock didn't seem safe. Since the previous September, neighbors had reported the wolves for harassing pets or cattle on several occasions. "None of us slept very well while the Aspen Pack was in here," Barbara recalls.

After growing up in captivity, Mexican wolves had to learn how to be wild, and some seemed too comfortable around people. Such incidents weren't the norm, but they tried people's patience and put locals on edge, says Chris Bagnoli, who led the Arizona Game and Fish Department's Mexican wolf field team from 2008 to 2013. They also fed deep, widespread suspicion of the federal government.

Early on, the state of Arizona pushed for a stronger hand in management, believing the project lacked effective leadership, Bagnoli says. In 2003, Fish and Wildlife agreed to establish a collaborative committee led by Arizona, and including representatives from state, federal and tribal agencies. It assumed the lead in managing the wild wolves. Bagnoli says the goal was to increase tolerance for wolves by improving communication and giving people clear expectations for how management decisions would be made. The Markses appreciated the change. They had never supported the wolf program, but now they at least felt as if their concerns were being heard. Environmentalists, on the other hand, thought the committee catered too much to ranchers.

Whatever the case, when combined with the ban on new releases in New Mexico, the committee frayed the wolves' fragile genetic prospects. In 2005, it adopted a list of so-called "standard operating procedures" for field operations. The 13th item on the list — SOP 13 — outlined how the agencies would deal with problem

wolves. It said that any wolf known or believed to have killed three cows in a 365-day period “shall be permanently removed from the wild as expeditiously as possible.”

“The sentiment is kind of correct,” says Maggie Dwire, Fish and Wildlife’s assistant Mexican wolf recovery coordinator. “You want to remove wolves who are repeat offenders.” And the protocol was effective, she says, at stopping killings in certain areas plagued by clear predation patterns. But it was also inflexible at a time when the population needed to grow. “It wasn’t like it was just removing wolves that killed three cows in two weeks,” she says. Wolves implicated in killings months apart — one in January, one in April, one in December — were also targeted, and whole packs were removed, even if only one or two animals in the bunch were at fault.

From 2005 to 2008, federal officials captured 55 wolves, and shot nine. Poachers killed 13 more. The wild population had grown steadily until 2003, but under SOP13, the line stopped climbing and started to zigzag, dropping to 35 animals, spiking to 59. The number of breeding pairs fell from six in 2006, to three in 2007, to two in 2008. “We were removing too many wolves,” Dwire says bluntly. And the removals didn’t seem to cut ranchers’ total losses. In fact, wolves killed cows at a substantially *higher* rate during this period than in previous years.

It wasn’t only the numbers that mattered — it was the individual wolves. The Aspen Pack was captured after the Marks ranch incident and moved to New Mexico, where it killed a number of cows. It was yanked for good in 2007. So was the genetically valuable Saddle Pack, which had already lost its original F-1 alpha male — shot in 2004 for killing cows. Adults with three strikes got life sentences. Their pups were eligible for parole, but while many were freed, few survived long back in the wild.

Bagnoli says the removals were necessary. “You can’t just say, ‘Well, we’re going to leave them out there because they’re genetically important, too bad for the people who live there.’ ” Recovery won’t work, he says, if humans remain hostile. Since 1998, more wolves have died from poachers’ bullets than any other cause.

Still, the genetic consequences of SOP 13 are real. “They removed all the most successful, competitive packs except for one,” Fredrickson says. “And that was the Bluestem Pack.” Meanwhile, without New Mexico release options, the postage-stamp-sized Arizona recovery zone filled up fast. Unleashing more wolves there was likely to cause strife between packs, or prompt animals to wander outside the zone, forcing the agency to catch them. So while biologists pulled wolf after wolf from the wild, they released just five more new animals from captivity.

The result: As of early 2016, 19 of 21 pairs in the Blue Range contained at least one descendant of the Bluestem Pack. In 11 of those, both wolves were part of the family. Something had to give.

Pups of the Prieto Pack in June, at just over a month old. When a U.S. Fish and Wildlife biologist approached for a quick hands-off assessment and photograph, the pups scurried inside to huddle together for safety at the back of the den. U.S. Fish and Wildlife Service Interagency Field Team

About an hour south of Albuquerque**,** Maggie Dwire parked a government SUV at the mouth of a gentle, crumbling canyon in the Sevilleta National Wildlife Refuge. Dwire started working with Mexican wolves as an intern in 2000. She was just out of college, in what she now calls a "wolves-are-amazing phase." She'd heard tidy stories from Yellowstone, about wolves keeping elk on the move, supposedly allowing overgrazed riparian corridors to explode with new life. The reality, it turns out, is more complicated, and Dwire's views have evolved, too. "I went from believing 'Wolves change rivers,' to 'Actually, they're just wolves,' " she said. "Sometimes, I really hate them." Chronic cow-killers frustrate biologists, too.

It was a bright, warm April day, and in the distance, the Rio Grande painted a ribbon of green through the brown, brittle landscape. Dwire and another biologist filled buckets with sawed-off frozen elk legs and five-pound logs of chopped horsemeat, which resembled giant hotdogs. They loaded them into an ATV and drove east, into the canyon, to a halfway house for wolves. In tall chainlink pens, just under an acre in size, were two pairs, the females in each possibly pregnant.

Both the pairs had genes from the wolves found at the Mexico City zoo — the rarest in the wild — as well as Ghost Ranch and McBride heritage. In a couple of months, the feds planned to deploy one of these small captive-born families on yet another genetic improvement mission. This one, though, was unusual: For the first time, the Fish and Wildlife Service intended to openly defy New Mexico officials and release the wolves directly into their state.

It was to be the boldest move yet in the agency's growing effort to get the recovery back on track and avert a genetic crisis. In 2009, after environmentalists brought a lawsuit over the rash of removals, the feds disbanded the state-led committee and abandoned SOP 13. They'd since removed far fewer wolves, and implemented new measures to reduce conflict with livestock.

When a genetically important pack called Middle Fork killed 10 cows within two months during SOP13's phase-out, for example, biologists got creative. Hazing didn't work because the wolves had pups to feed, and therefore couldn't move far, and cows were plentiful in the area. "We literally had a cow trip in their den," Dwire recalled. "That's when we started to come up with, 'Well, what if we feed them? What if we move the cows?' It sort of was part of our turning point in managing for wolves instead of managing for cows." The agency now frequently caches roadkill and logs of horsemeat during denning season to make cattle less tempting, and works with the U.S. Forest Service and ranchers to try to rotate pastures to create distance between denning wolves and livestock.

In 2015, Fish and Wildlife also rewrote its old ground rules, finally allowing new releases in New Mexico, and giving wolves more room to roam. But it still tries to honor the states' wishes whenever possible. So officials asked New Mexico for permits to free the Sevilleta wolves in the Gila or Aldo Leopold wilderness areas.

It was a long shot: While former Democratic Gov. Bill Richardson supported wolf recovery, Republican Susana Martinez has fought hard against environmental agendas since taking office in 2011. That year, her politically appointed Game Commission voted to stop cooperating with wolf recovery altogether.

The same commission declined to issue permits for the wolves' release. In a June 2015 letter, Alexandra Sandoval, the director of the New Mexico Game and Fish Department, pointed out that the feds still lack clear criteria for a successful recovery. Their official plan dates to 1982, before anyone knew if reintroduction would even be possible. And until they clearly state just how many wolves they envision on the landscape, the state won't endorse releases.

Fish and Wildlife's national director, Dan Ashe, was forced to break the impasse. In October 2015, he sent Sandoval a letter of his own. The agency was taking a stand: It could not fulfill its legal obligation to recover wolves without bucking the state and moving forward with the release.

David Parsons, who headed the Mexican wolf project in the '90s, and is now a wolf advocate, says the move was unprecedented. "We haven't seen anything like it since I first took the job in 1990." Until now, he notes, "Virtually every advance in the history of the Mexican wolf program has been spurred by lawsuits that force the Fish and Wildlife Service to do the right thing."

This spring, the state fired back, declaring its intention to sue. Even so, just days later, Fish and Wildlife moved forward with a different, and more unusual, genetic infusion.

On the morning of April 23**,** Regina Mossotti, director of animal care and conservation at the Endangered Wolf Center near St. Louis, Missouri, caught a flight to Albuquerque. Her carry-on was a soft-shell dog carrier, which she slid under the seat. Two 9-day-old wolf pups lay inside, so new to the world they had yet to open their eyes. They could squirm, but not yet walk, and resembled tiny Ewoks, with helmet-shaped heads, short snouts and thumbprint-sized ears. They slept most of the flight.

She was delivering the pups to federal biologists in New Mexico's Gila National Forest, who would insert them into the den of the Sheepherders Baseball Park Pack, or SBP, for short. The pack had five new pups exactly the same age, but the two from Missouri had valuable DNA. The hope was that the SBP pack would raise the foster pups as their own, and in a couple years, that they would go on to breed.

While Mossotti was en route, biologists Allison Greenleaf and Janess Vartanian staked out the den, squinting through binoculars at the wolves. They stayed quiet, being sneaky, not wanting to spook the parents and risk them moving the litter. When their radio crackled and a voice announced that the Missouri pups were near, they headed for the den, talking in normal voices. The frightened female popped out, and took off.

A vet and another biologist arrived with the pups, and Greenleaf — a petite 5-foot-2 — wedged into a small nook in a rocky outcrop, and grabbed five fur balls from the den. Wearing gloves and long sleeves, her hair covered by a blue bandanna to minimize her scent traces, she handed the pups to Vartanian, who placed them in a burlap sack.

On a nearby tarp, the pups got a quick exam, and then Greenleaf and Vartanian rubbed fur, dirt and duff from the den on the transplants. One by one, they held each pup above the rest and touched their genitals with a wet cotton ball, stimulating them to pee on their siblings, old and new. Wolves can't count, but have an excellent sense of smell, and covering the pups with the same scents would prevent their mom from rejecting the interlopers. The pups went back in the sack and Greenleaf went back in the den, placing them in a tidy pile. Later, signals sent to their computers by the SBP adults' GPS collars indicated that they had moved the pups to a new den.

Biologists also cross-fostered pups in two Arizona dens this spring, with that state's support. Officials there say pups raised by wild wolves will cause fewer problems than captive adults and packs, whose release they now oppose. Jim Heffelfinger, wildlife science coordinator for Arizona Game and Fish, even believes cross-fostering is sufficient to address the genetic issues. "There's no detrimental effect of inbreeding right now," he says. And anyway, adults that are set free aren't guaranteed to survive to breed and enhance the population's genetic makeup, he adds. Indeed, wolves have often been shot or recaptured for bad behavior shortly after release from captivity. "The population is soaring without releases. It's not an emergency."

Fredrickson disagrees. Cross-fostering on its own is "not going to be enough," he argues. For one, the odds are stacked against cross-fostering efforts from the get-go. To even attempt one, Mossotti says, the "stars, moon and planets" have to align. Captive and wild packs have to give birth in sync, so the foster pups are the same age and can blend in convincingly. Biologists have to intensively monitor wild packs to know when mothers den. And pups have just a 50 percent chance of surviving to one year of age.

On top of that, the jury's still out on whether negative impacts from inbreeding are already evident. Fredrickson and others suspect that the feeding of denning wolves could be artificially boosting wild pups' survival, potentially masking inbreeding's effects — and contributing to the population increase that Heffelfinger touts as proof of success. A real strategy, Fredrickson argues, will require not only ramping up releases of captive-born animals, but removing the most related ones from the wild, who will worsen the situation if they keep breeding. In his opinion, the feds should have started yesterday.

But for the time being, they still can't do anything in New Mexico. On June 10, a federal judge stopped Fish and Wildlife in its tracks when it granted New Mexico a preliminary injunction barring the agency from releasing the packs being held at the Sevilleta unless it gets state permits. It's not yet clear whether the federal government will appeal.

How big a blow this is to the wild wolves depends on how long it takes to break the logjam. But further delays will only make things worse, Fredrickson says: The population's resiliency could decrease, even as its numbers grow. Then, an overall decline may be inevitable — and it may happen quickly, as it did with one population of wolves in Michigan.

Zana, a 4-year-old Mexican gray wolf, tends to her 1-month-old puppies at Chicago's Brookfield Zoo. Two pups from the same litter were removed in April to be "cross-fostered" with the Elk Horn Pack in Arizona. Chicago Zoological Society

Brooke, aka F1472, a 5-day-old Mexican wolf pup born at Brookfield Zoo in Chicago in April, gets a neonatal exam before being tucked into a carry-on bag and flown to Arizona, where she and her brother, Blaze, will be "cross-fostered" with the Elk Horn Pack.
Chicago Zoological Society

Wolves arrived in Michigan's Isle Royale National Park in the late 1940s, after crossing an ice bridge in Lake Superior. The bridge formed only some years, isolating the population, which became extremely inbred. For years, it fluctuated between 50 and 20 animals, and packs were still producing healthy litters. Some scientists even thought the Isle Royale wolves might be an exception to the rule of small populations, which assumes that inbreeding heightens extinction risk.

Then, in 2009, biologists discovered that the wolves had deformed backbones. That same year, the population started to crash. Some of the wolves stopped reproducing, they killed moose at lower rates, a few died after falling in a mine shaft. Last year, the population was down to three: a male and his daughter, who was also his half-sister, and a younger wolf, likely their pup. That wolf had a hunched back and a short tail. This year, it was gone.

There is another lesson from Isle Royale, though. As it turned out, the wolves were never as isolated as scientists thought. A male crossed the ice bridge in the '90s and dramatically reduced the level of inbreeding. The story didn't end well. Like AF521, he turned out to be a little *too* successful. Still, it doesn't take many new animals to make a difference, and help stave off genetic disaster for a few more generations.

For Mexican wolves, help could some day come from the North: Eventually, a few influential migrants from the Northern Rockies or Great Lakes could make their way down, or be brought by biologists. The Northern wolves are a different subspecies, but even scientists disagree on how important the distinction is.

"I proposed a few years ago, 'Why not introduce that new blood now?' " says Mike Phillips, of the Turner Endangered Species Fund, which maintains a Mexican wolf facility like the Sevilleta, on Ted Turner's Ladder Ranch. Phillips suggested establishing a new captive population, and "salting the Mexican wolf genome" with just a hint of Northern genes. The idea hasn't gone anywhere — yet. But the populations mixed naturally in the past, and it's exactly how Fish and Wildlife saved the Florida panther, once things got bad enough that males' testicles stopped descending. In fact, when wildlife officials decided to introduce a subspecies from Texas to mate with the inbred local cats, they called Roy McBride to catch them.

Biologist Maggie Dwire releases a Mexican gray wolf that had been living at the Endangered Wolf Center in St. Louis into the wild in the Apache-Sitgreaves National Forest.
USFWS

Maggie Dwire was back at the Sevilleta pens at sunrise in early July. Morning light glowed behind the canyon wall as she reached into a plywood box and grabbed a pup cowering in the corner. “You’re just a little thing,” Dwire said in a squeaky voice. The pup stiffened its spine, its eyes bulging, then, as if in protest, unleashed a stream of urine on Dwire’s arm. The pup was six weeks old, with a coat that resembled peach fuzz more than fur. She was the sole survivor of her mom’s first litter.

Fish and Wildlife had planned to turn this pup and her parents loose this month. Right now, they might have been roaming unfettered across New Mexico’s forested hills. Instead, they had joined dozens of other captive wolves in a long and indefinite wait.

Dwire draped a white hand towel over the pup’s head and took her to another enclosure, to be vaccinated and tagged. Usually, young pups submit readily, but this one flopped and writhed like a fish out of water. She weighed only five pounds, but Dwire, a fit former college athlete, needed another biologist to help her hold the animal down. Even then, she put up a struggle. “She’s a singleton, so she might be pretty feisty,” Dwire observed. “Who knows why the other ones died and she survived?”

A single wolf pup nurses in a pen at the Sevilleta National Wildlife Refuge in New Mexico. Video courtesy of U.S. Fish and Wildlife Service.

Contributing editor Cally Carswell writes from Santa Fe, New Mexico.

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