



# COLORADO WOLF & WILDLIFE CENTER

JANUARY 2026 · CONSERVATION · EDUCATION · PRESERVATION



REST IN PEACE  
"Tiny but Mighty"  
**TALA**

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## | SOCIAL MEDIA HAPPENINGS |

Stay up to date with the animals at CWWC, wolves and wildlife in the news, and advocacy opportunities.



Subscribe to our YouTube Channel: [ColoradoWolf&WildlifeCenter](https://www.youtube.com/cowolfcenter) We post videos of the training and enrichment we are providing for our animals, and educational vlogs about wolves.



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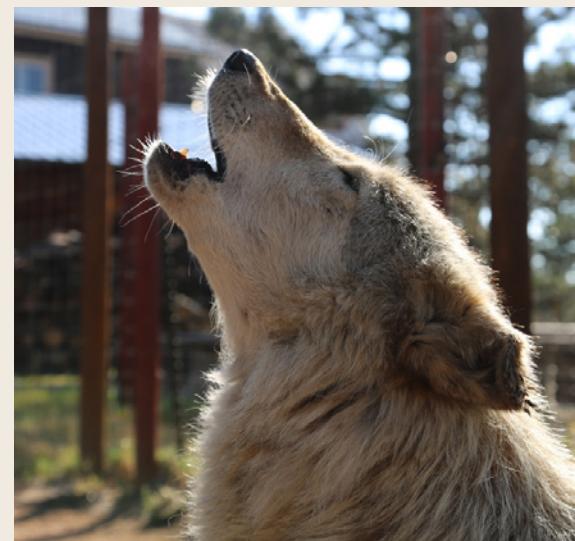
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*We hope to give you something to look forward to every day!*

## Rest Easy, Sweet Tala

"With immense sadness, we lost a true icon at our center on January 10th. Tala was 3 months shy of reaching her seventeenth birthday. Until her final days on this Earth, she was a spitfire. Tala has always been our "Tiny but Mighty" sweetheart. She was one of the few animals that has ever been born at the center. Her mother, Koda went into an early heat cycle before she was a year old and had a playdate with our late Kekoa who was a week away from being neutered. She did not have the instinct to care for her pups as she was one herself. Darlene hand-raised and bottle fed Tala since she was 2 days old, giving her all of the love and support that a human can provide. She was always on the smaller side for females, but that never stopped her from dragging us to our knees on walks around the center with two staff members holding the leashes. She loved her "choose your own adventure" walks and eventually allowed Na'Vi to attend alongside her.

Tala found love very early in life with her beau, Na'Vi. They were the equivalent of human childhood sweethearts and were inseparable until her final moments. On every walk she went on independently, he would follow her as far as his eyes would allow and howl in sadness that she was out of reach. He'd greet her by pouncing on her and showering her with kisses when she returned. Their love was pure and one for the ages. We could only hope to be so lucky as humans to ever experience devotion the way they did. Tala brought so much joy to everyone over the years — from her big paddle paws down to her beautiful howl and enthusiasm for life. Her caretakers, human mom, and one-and-only love, Na'vi will mourn her loss and carry her memory with us, always. Although we grieve her absence, we celebrate her life and legacy knowing that "tiny but mighty" has become an embodiment of our center and our lifelong mission to fight for wolves and all creatures misunderstood."



After 33 years of working with wolves, coyotes, foxes, and my own dogs, I've witnessed many beloved souls cross over. Every one of them is special, an individual with their own personality, their own spark. Some I've known their entire lives, caring for them from the moment they were pups, like Tala.

Tala was my miracle kid. She and her brother, Nakai, were born to Koda in what was an entirely unexpected pregnancy. Koda was only eight months old, far too young, as wolves don't typically enter their first breeding season until around two years of age. Both surviving pups were born with metabolic bone disease, Nakai suffering the most. I cared for them both, feeding them a nourishing diet of raw meat, crushed eggshells, goat's milk, plain yogurt, and supplements. They pulled through, however Nakai had a deformed front leg, but full of joy and deeply loved; and Tala, small but fierce, who grew into her strength with a spirit that never dimmed.

Tala was tiny but mighty her whole life. A spitfire. Independent. Regal. I called her Tala T, and every morning I was grateful to see her running the fenceline, bouncing like a pup even as age crept in. Eventually, her little body gave out. When she could no longer walk, we all understood that her time with us in this world was coming to an end.

She crossed over surrounded by love.  
And she will remain with me—always—in memory and in spirit.  
With love, her mama,  
-Darlene

# Double Surgeries: Na'Vi & Zara



Dr. Volz and veterinarian technician Julia came out to remove a cyst from Navi's lip. It was a short, successful procedure, and Navi is doing well and back to his usual self. Unfortunately, he does have a few health issues that we can no longer treat because of their location and his age.

Navi has a large spindle-cell tumor on his shoulder that has already been surgically removed three times in the past. It's very aggressive, and removing it again would require amputating his leg up to the shoulder. At 15 years old, that simply isn't a humane option for him. As long as his appetite stays strong and he continues to enjoy life, he'll spend the rest of his time doing what he loves, living comfortably and going on walks to explore new things. He also has an enlarged spleen, but surgery at his age could be life-threatening. Doc advised us that the kindest

approach is to let him enjoy his days until his quality of life declines.

Navi also lost his beloved companion, Tala, just last week. She passed away from old age and would have been 17 in only three months. He misses her deeply, and we're doing our best to give him extra love and special time.

The second surgery was for Zarah, our beautiful 2-year-old girl. February is breeding season, and she's currently with her companion, Walker, who is still unaltered. We typically neuter the males, but Walker isn't social enough yet for us to safely catch him, so the best option was to spay Zarah instead.

The surgery went very well, and aside from her shaved belly, you'd never know she had anything done. Dr. Volz did an outstanding job.

## HELP ELEMINATE DANGEROUS POISONS

*We are ready to push hard to ensure Colorado's children, pets, and wildlife are protected from unnecessary exposure to toxic rodenticides and inhumane glue traps.*

**Bill introduction deadline: January 23rd**

### Immediate Priorities:

If you or your organization need more information to support the bill, please reach out to Mark to discuss.

**Personal stories needed:** We have the science demonstrating the harm poisons and glue traps can cause. We know that poisons and glue traps are only Band-Aid solutions and are not long-term solutions to rodent infestations. We need the voices of wildlife rehabilitators, veterinarians, healthcare providers, and community members willing to share personal stories of child, pet, or wildlife poisonings, as well as incidents with glue traps. **Please share with your communities and contact Mark if you or someone you know can testify or share their story.**

**Quote for Press Release:** If you are a wildlife rehabilitator, veterinarian, healthcare provider, or an individual with a personal story that would like to provide a quote for a press release, **please send it to Mark by 1/23.**

**Outreach materials:** If you need additional resources to develop your own materials, you can use [this fact sheet](#) or draw from the information in [this spreadsheet](#).

### Sign-on letters:

[Veterinarian Sign-on](#)

Medical Professional (needed)

Wildlife rehabilitator or advocacy org (needed)



**Mark Surls**

COLORADO & NORTHERN ROCKIES COORDINATOR  
PROJECT COYOTE

 [msurls@projectcoyote.org](mailto:msurls@projectcoyote.org)

 3038862141

 [projectcoyote.org](http://projectcoyote.org)





# casey's project

## — IN COSTA RICA —

As many of you know, I have been traveling to Costa Rica for more than 15 years to help dogs and cats in low-income villages and towns. Our spay and neuter program not only reduces the overpopulation of unwanted puppies and kittens, but also protects local wildlife from conflicts with domestic animals that hunt native birds and small mammals.

Casey's Project was named in honor of my beloved dog, Casey, who accompanied me on several of these trips. After her passing, I felt compelled to continue this work as a tribute to her and to make a meaningful difference in a country that is deeply appreciative of the support we provide for their animals.

CWWC is a proud sponsor of this effort. As many of you know, we rely entirely on tour fees and donations, so any support is truly appreciated. I will be returning in May for another clinic. Some of our current needs include small collars and leashes—no chains, please. Monetary donations will go directly toward medications for surgery and aftercare.

Thank you, sincerely, from my heart.

Package Donations can be sent to:

**COLORADO WOLF AND WILDLIFE CENTER**  
4729 TWIN ROCKS ROAD  
DIVIDE, COLORADO 80814

Monetary Donations can be sent to:

**COLORADO WOLF AND WILDLIFE CENTER**  
PO BOX 713 | Divide, Colorado 80814  
Subject line: Costa Rica / Casey's Project



# The Biggest Takeaways From Our Investigation Into Grazing on Public Lands

Livestock grazing is allowed across 240 million acres of federal land. Our investigation revealed the subsidies propping up ranching, its impact on the environment and the politics underpinning the system.

Mark Oalde | ProPublica | January 12, 2026



Mark Oalde takes notes while reporting near the Winecup Gamble Ranch in northeastern Nevada in July 2025. Roberto "Bear" Guerra/High Country News

The federal government allows livestock grazing across an area of publicly owned land more than twice the size of California, making ranching the largest land use in the West. Billions of dollars of taxpayer subsidies support the system, which often harms the environment.

As President Donald Trump's administration pushes a pro-ranching agenda, ProPublica and High Country News investigated how public lands ranching has evolved. We filed more than 100 public record requests and sued the Bureau of Land Management to pry free documents and data; we interviewed everyone from ranchers to conservationists; and we toured ranching operations in Arizona, Colorado, Montana and Nevada.

The resulting three-part investigation digs into the subsidies baked into ranching, the environmental impacts from livestock and the political clout that protects this status quo. Here are the takeaways from that work.

## The system has evolved into a subsidy program for ranchers.

The public lands grazing system was modernized in the 1930s in response to the rampant use of natural resources that led to the Dust Bowl — the massive dust storms triggered by poor agricultural practices, including overgrazing. Today, the system focuses on subsidizing the continued grazing of these lands.

The BLM and Forest Service, the two largest federal land management agencies, oversee most of the system. Combined, the agencies charged ranchers \$21 million in grazing fees in 2024. Our analysis found that to be about a 93% discount, on average, compared with the market rate for forage on private land. We also found that, in 2024 alone, the federal government poured at least \$2.5 billion into subsidy programs that public lands ranchers can access. Such subsidies include disaster assistance after droughts and floods as well as compensation for livestock lost to predators.

## Ranching is consolidated in the hands of some of the wealthiest Americans.

A small number of wealthy individuals and corporations manage most livestock on public lands. Roughly two-thirds of the grazing on BLM acreage is controlled by just 10% of ranchers, our analysis found. And on Forest Service land, the top 10% of permittees control more than 50% of grazing. Among the largest ranchers are billionaires like Stan Kroenke and Rupert Murdoch, as well as mining companies and public utilities. The financial benefits of holding permits to graze herds on public lands extend beyond cattle sales. Even hobby ranches can qualify for property tax breaks in many areas; ranching business expenses can be deducted from federal taxes; and private property associated with grazing permits is a stable long-term investment. (Representatives of Kroenke did not respond to requests for comment, and Murdoch's representative declined to comment.)

## The Trump administration is supercharging the system, including by further increasing subsidies.

The administration released a "plan to fortify the American Beef Industry" in October that instructed the BLM and Forest Service to amend grazing regulations for the first time since the 1990s. The plan suggested that taxpayers further support ranching by increasing subsidies for drought and wildfire relief, livestock killed by predators and government-backed insurance. The White House referred questions to the U.S. Department of Agriculture, which said in a statement, "Livestock grazing is not only a federally and statutorily recognized appropriate land use, but a proven land management tool, one that reduces invasive species and wildfire risk, enhances ecosystem health, and supports rural stewardship." Roughly 18,000 permittees graze livestock on BLM or Forest Service land, most of them small operations. These ranchers say they need government support and cheaper grazing fees to avoid insolvency.

## The administration is loosening already lax oversight.

Ranchers must renew their permits to use public lands every 10 years, including undergoing an environmental review. But Congress passed a law in 2014 that allows permits to be automatically renewed if federal agencies are unable to complete such reviews. In 2013, the BLM approved grazing on 47% of its land open to livestock without an environmental review, our analysis of agency data showed. (The status of about an additional 10% of BLM land was unclear that year.) A decade later, the BLM authorized grazing on roughly 75% of its acreage without review.

This is in large part because the BLM's rangeland management staff is shrinking. The number of these employees dropped 39% between 2020 and 2024,

according to Office of Personnel Management data, and roughly 1 in 10 rangeland staff left the agency between Trump's election win and last June, according to BLM records.

## The system allows widespread environmental harm in the West.

The BLM oversees 155 million acres of public lands open to grazing, and assessments it conducts on the health of the environment found that grazing had degraded at least 38 million acres, an area about half the size of New Mexico. The agency has no record of land health assessments for an additional 35 million acres. ProPublica and High Country News observed overgrazing in multiple states, including streambeds trampled by cattle, grasslands denuded by grazing and creeks fouled by cow corpses.

Ranchers contend that public lands grazing has ecological benefits, such as preventing nearby private lands from being sold off and paved over. Bill Fales and his family, for example, run cattle in western Colorado and have done so for more than a century. "The wildlife here is dependent on these ranches staying as open ranch land," he said. While development destroyed habitat nearby, Fales said, the areas his cattle graze are increasingly shared by animals such as elk, bears and mountain lions.

## Regulators say that it's difficult to significantly change the system because of the industry's political influence.

We interviewed 10 current and former BLM employees, from upper management to rank-and-file rangeland managers, and they all spoke of political pressure to go easy on ranchers. "If we do anything anti-grazing, there's at least a decent chance of politicians being involved," one BLM employee told us. "We want to avoid that, so we don't do anything that would bring that about." A BLM spokesperson said in a statement that "any policy decisions are made in accordance with federal law and are designed to balance economic opportunity with conservation responsibilities across the nation's public lands."

The industry has friends in high places. The Trump administration appointed to a high-level post at the U.S. Department of the Interior a lawyer who has represented ranchers in cases against the government and owns a stake in a Wyoming cattle operation. The administration also named a tech entrepreneur who owns a ranch in Idaho to a post overseeing the Forest Service.

Moreover, politicians from both parties are quick to act if they believe ranchers face onerous oversight. Since 2020, members of Congress on both sides of the aisle have written to the BLM and Forest Service about grazing issues more than 20 times, according to logs of agency communications we obtained via public records requests.

# Wild Mustangs Roam Free Once Again at The Wild Horse Refuge

A New Sanctuary Where Colorado's Wild Horses Run Free



by the Wild Horse Refuge | Colorado Expression | Photos Courtesy of the Wild Horse Refuge

Wild mustangs are an enduring symbol of the American West, woven into the nation's history and the landscapes they still roam today. For hundreds of years, herds of wild horses have lived on these lands, adapting to the same harsh climates and wide-open spaces as other native wildlife. In that time, they have become an essential part of the living ecosystem and deserve to be recognized and protected as a native or indigenous species. As pressures on wild herds continue, new and complementary solutions are needed to ensure

their future.

There's a place on the wide-open plains of northwestern Colorado where green prairie stretches endlessly beneath a brilliant blue sky. On the wind, past the call of blackbirds, you might hear the thunder of hoofbeats. A band of horses appears on the horizon, gray, chestnut, paint, and deep brown. These are not domesticated horses turned loose. They are true Colorado mustangs, born to the wild and now running free once again at the Wild Horse Refuge near Craig, Colorado.

The Wild Horse Refuge is pioneering a new and hopeful path forward. Working with private citizens and supporters who believe deeply in the preservation of wild horses, the refuge offers a complementary solution focused on restoring freedom, dignity, and space, giving mustangs the chance to live as wild horses were always meant to live, without replacing existing management efforts, but expanding what is possible for their future.

Until 2021, many of these mustangs roamed the nearby Sand Wash Basin, a rugged landscape where wild horses have lived for generations. But after hundreds were removed and placed in holding, their future was uncertain. That's when Pat Craig, founder of The Wild Animal Sanctuary, stepped



forward with a vision not just to save individual horses, but to return them to a life as close to the wild as possible.

After an exhaustive search, Craig and his team found the perfect property, a former cattle ranch spanning 23,000 acres just 35 miles from the Sand Wash Basin. Today, the Wild Horse Refuge has expanded to more than 30,000 acres, giving the mustangs room to roam, graze, and form natural social bands. The transformation of the land, from cattle operation to wild horse sanctuary, marked the beginning of a bold new chapter for these iconic animals.

The journey back to freedom is unforgettable. After more than a year confined to small corrals, the mustangs step cautiously onto open grassland, unsure at first of what awaits them. Then something shifts. They realize there are



no fences, no helicopters, no barriers. One by one, they break into a run, mane and tail flying, kicking, bucking, and rediscovering the joy of open space. It's a moment that never loses its power.

Today, roughly 250 mustangs call the refuge home. They live in small bands, weathering snowy winters and hot summers just as wild horses have always done. A dedicated team quietly monitors their health and provides veterinary care when needed, but human interference is kept to a minimum to preserve their wild nature.



The Wild Horse Refuge stands as a rare and powerful example of what is possible when land, vision, and compassion come together. It is a place where rescued mustangs are not simply housed, but truly free, running across vast plains, shaping the land beneath their hooves, and once again becoming part of the living Colorado landscape.

The refuge is supported entirely by donations. Visitors can symbolically adopt a mustang, become a symbolic land founder, or schedule a guided visit to witness these remarkable horses in person at [wildhorserefuge.org](http://wildhorserefuge.org).

**For more information:**  
The Wild Horse Refuge  
24319 County Road 17  
Craig, CO 81625  
[www.wildhorserefuge.org](http://www.wildhorserefuge.org)



# Africa's rarest carnivore: the story of the first Ethiopian wolf ever captured, nursed and returned to the wild

Sandra Lai | The Conversation | December 24, 2025



The first sighting of Terefe, the endangered Ethiopian wolf, after his release from rehabilitation. Courtesy Fasika N., Ethiopian Wolf Conservation Programme

What's the value of one animal? When a wild animal is found badly injured, the most humane option is often euthanasia to prevent further suffering. That's what usually happens, and sometimes for good reason. Even when the resources to rescue one animal are available, a rehabilitated animal brought back into the wild might be rejected by its group, or struggle to find food or escape predators. If it does survive, it may fail to reproduce, and leave no lasting mark on the population.

But every so often a single case comes along where one animal becomes evidence that intervention can do more than save a life on the spot. It can also change what we

think is possible.

This is a story of a second chance that played out in the Simien Mountains, Ethiopia. The air there is thin at 3,000 metres above sea level. The nights are cold, and life offers very little mercy. This is also the home of the Ethiopian wolf (*Canis simensis*), the top predator in this habitat and the most endangered carnivore in Africa. Fewer than 500 adult wolves are left in the Ethiopian highlands, with about 60-70 in the Simien Mountains.

In early May 2020, a male Ethiopian wolf sustained a severe injury, a fractured femur, from a gunshot. He was unable to keep up with his pack in the unforgiving highlands. That would usually be the end of the story. But this time, it wasn't.

I'm a postdoctoral researcher in the Ethiopian Wolf Conservation Programme, a 30-year-old programme committed to safeguarding the Ethiopian wolf and its mountain home. I was honoured to be part of a team who documented the first ever case of an Ethiopian wolf being rescued, clinically treated in captivity, and successfully released back into the wild following rehabilitation.

## Terefe, the lucky survivor

Park scouts discovered the wolf lying under a bridge and alerted Getachew Assefa, the wolf monitor team leader of the Ethiopian Wolf Conservation Programme in the



Terefe, just before his release. Fasika N., Wildlife Conservation Network



Simien Mountains wolf monitoring team, Andualem, Getachew and Jejaw (from left) Courtesy Sandra Lai

Simien Mountains National Park.

It's unusual for an Ethiopian wolf to be shot in the park. So, Ethiopian wildlife authorities and the Ethiopian Wolf Conservation Programme decided to capture and save the frightened animal.

This was an unprecedented step, as there was no previous record of an Ethiopian wolf ever being held in captivity before. The decision to save him was driven both by the fact that his injury was human-made and by the small number of Simien wolves left.

A small mountain shelter was quickly converted into a makeshift enclosure for the wolf. There, over the next 51 days, his rehabilitation began.

In the following weeks, the wolf received intensive veterinary treatment guided by Ethiopian wolf experts. He was cared for by local community guard Chilot Wagaye. At first, progress was uncertain, but then the broken bones began to heal and, after a month, the wolf could stand on its own.

He was named Terefe, meaning "lucky survivor" in Amharic, the local language.

## Returning to the wild: a story of hope

After his leg recovered, Terefe's eagerness to leave the shelter started to show. He was howling at night, perhaps as an attempt to call his pack members.

In late June 2020, he was released back near his pack, fitted with a lightweight GPS collar, the first ever deployed on an Ethiopian wolf. This allowed researchers to follow his movements and explore a critical question: could a rehabilitated wolf reintegrate into the wild?

Soon after his release, sightings showed that Terefe had been welcomed back into his pack. He stayed within his original territory for several weeks. But soon, he began to travel more widely in the mountains, sometimes visiting neighbouring packs, and eventually settling near Shehano village.

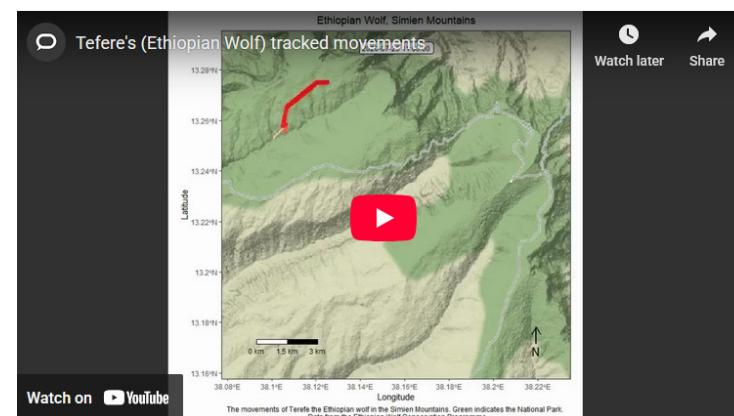
At first, villagers were surprised to see a wolf near their homes and tried to chase him away. But wolf monitors, led by Getachew and Chilot, explained Terefe's story of survival.

Learning more about this wolf prompted a change of attitude. It increased the villagers' willingness to protect Terefe ... and his new pack members! Indeed, Terefe had found a mate and they had a litter of pups.

## A historic rescue that protected more than one life

Today, the "Terefe pack" still exists. Terefe not only survived, but created a new legacy. He also changed something that's really important but difficult to measure: local perceptions. Wolves are sometimes seen as a threat. But because of Terefe, they became a symbol of resilience and a source of pride.

Terefe's story does not mean that every injured wild animal can or should be saved. But when intervention is carefully executed, one life can carry more meaning than expected, not only for an endangered species, but also for the people living alongside it. Today, Getachew often tells me that no one would ever harm Terefe.



The Ethiopian Wolf Conservation Programme tracked Terefe's movements after he healed from his injury to make sure he was doing ok.

Will Terefe's fame protect his pack members after he is gone? Will it protect other members of his species? Terefe was saved from an injury made by human hands, yet many other wolves fade slowly and quietly, killed by rabies and canine distemper transmitted by domestic dogs, an indirect consequence of human presence in the mountains.

Yet, Terefe's story is a reminder that conservation efforts are the strongest when local organisations work together with local communities. His story shows how much can be achieved when many people who care about the same landscape come together.

# 5,000-Year-Old Wolves Found on Remote Island Challenge Conventional Views of Domestication

Stockholm University | SciTechDaily | December 23, 2025



View from the cave Stora Förvar on the island of Stora Karlsö in Sweden. Credit: Jan Storå/Stockholm University

## Ancient wolves found on a human-occupied Baltic island reveal unexpected and complex forms of prehistoric human-animal interaction.

Ancient wolves found on a human-occupied Baltic island reveal unexpected and complex forms of prehistoric human-animal interaction.



Detail of one of the upper arm bones from one of the wolves included in the study. Credit: Jan Storå/Stockholm University

The remains, estimated to be between 3,000 and 5,000 years old, were discovered in the Stora Förvar cave on the Swedish island of Stora Karlsö. This site was heavily used by seal hunters and fishers during the Neolithic and Bronze Ages. The island spans just 2.5 square kilometers and has no native land mammals, indicating

that any large terrestrial animals found there must have been brought by people.

Detailed genomic analysis of two canid specimens confirmed that they were wolves rather than dogs, with no trace of dog ancestry. Despite this, the animals showed characteristics commonly linked to close proximity with humans. Isotope analysis of the bones revealed a diet rich in marine foods, including seals and fish, closely matching what people on the island consumed and suggesting that the wolves were fed by humans.

The animals were also smaller than most mainland wolves, and one individual displayed notably low genetic diversity, which is often seen in isolated populations or in cases of controlled breeding.

### Wolves living alongside humans

"The discovery of these wolves on a remote island is completely unexpected," said Dr. Linus Girdland-Flink of the University of Aberdeen, a lead author of the study. "Not only did they have ancestry indistinguishable from other Eurasian wolves, but they seemed to be living alongside humans, eating their food, and in a place they could only have reached by boat. This paints a complex picture of the relationship between humans and wolves in the past."

The findings challenge traditional views of how humans and wolves interacted and how dog domestication unfolded. Although it is still unclear whether the animals were tamed, kept in captivity, or managed in another way, their long-term presence on a human-inhabited and isolated island points to intentional and ongoing interaction between people and wolves.

"It was a complete surprise to see that it was a wolf and not a dog," said Pontus Skoglund of the Ancient Genomics Laboratory at the Francis Crick Institute and senior author. "This is a provocative case that raises the possibility that in certain environments, humans were able to keep wolves in their settlements, and found value in doing so."

Anders Bergström of the University of East Anglia and co-lead author, commented: "The genetic data is fascinating. We found that the wolf with the most complete genome had



Entrance to the Stora Förvar Cave on the island Stora Karlsö. The entrance to the Stora Förvar cave on the island Stora Karlsö. The limestone-rich bedrock has contributed to the skeletal material found there being very well preserved. Credit: Jan Storå/Stockholm University

low genetic diversity, lower than any other ancient wolf we've seen. This is similar to what you see in isolated or bottlenecked populations, or in domesticated organisms. While we can't rule out that these wolves had low genetic diversity for natural reasons, it suggests that humans were interacting with and managing wolves in ways we hadn't previously considered."

### May have been cared for

One of the wolf specimens, dated to the Bronze Age, also showed advanced pathology in a limb bone, which would have limited its mobility. This suggests it may have

been cared for or was able to survive in an environment where it did not need to hunt large prey.

### Rethinking prehistoric human-wolf relationships

The combination of osteology and genetic analyses has provided unique information not available separately.

"The combination of data has revealed new and very unexpected perspectives on Stone Age and Bronze Age human-animal interactions in general and specifically concerning wolves and also dogs," says Jan Storå, Professor of Osteoarchaeology at Stockholm University.

The study suggests that human-wolf interactions in prehistory were more diverse than previously thought, extending beyond simple hunting or avoidance to include complex relations and interactions that, in this case, mirror new aspects of domestication without leading to the canines we know as dogs today.

Reference: "Gray wolves in an anthropogenic context on a small island in prehistoric Scandinavia" by Linus Girdland-Flink, Anders Bergström, Jan Storå, Erik Ersmark, Jan Apel, Maja Krzewinska, Love Dalén, Anders Götherström and Pontus Skoglund, 24 November 2025, *Proceedings of the National Academy of Sciences*.

DOI: [10.1073/pnas.2421759122](https://doi.org/10.1073/pnas.2421759122)

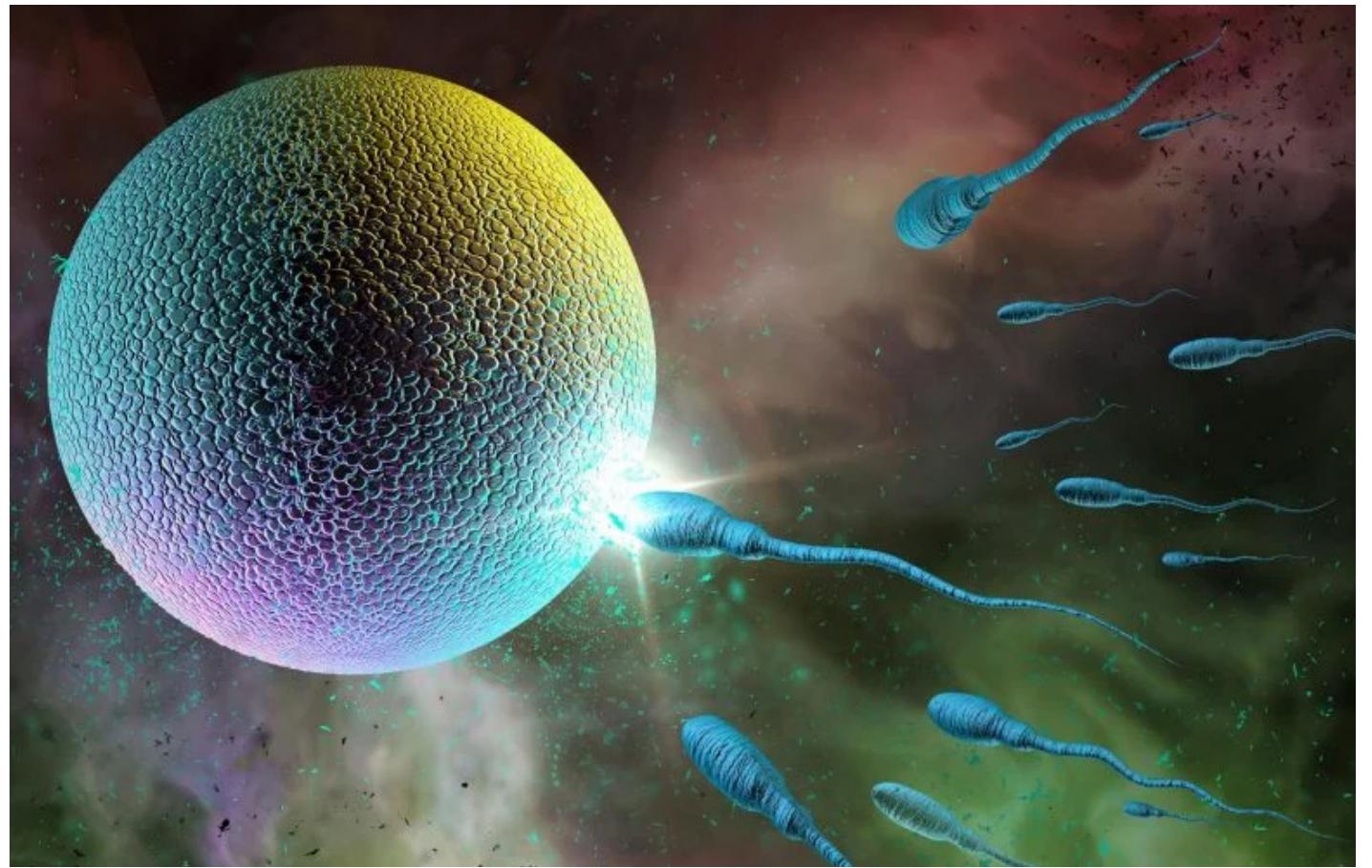
Ancient genome sequencing was supported by SciLifeLab National Projects and the Erik Philip Sørensen Foundation (to P.S.). P.S. was supported by the UKRI Horizon guarantee (APP45780), the European Molecular Biology Organisation, the Vallee Foundation, the European Research Council (Grant no. 852558), the Wellcome Trust (217223/Z/19/Z), and Francis Crick Institute core funding (FC001595) from Cancer Research UK, the UK Medical Research Council, and the Wellcome Trust.



View towards the Stora Förvar cave on the island of Stora Karlsö. Credit: Jan Apel/Stockholm University

# Castration Linked to Increased Lifespan in Mammals

The Associated Press and David Douglas | November 19, 2025



Across mammals, lifespan appears to be shaped not just by genes or environment, but by how much energy is devoted to reproduction over a lifetime. When reproduction is limited, animals tend to live longer, though the biological reasons differ between males and females. Credit: Stock

A large-scale analysis of 117 mammal species found that preventing reproduction is associated with longer lifespans, suggesting a strong link between reproductive activity and life expectancy.

Why do some animals live for decades while others survive only a few years? Female elephants can reach 80 years of age, yet they typically produce only a small number of calves. Mice, in contrast, usually live just a few years, but in theory can have well over a hundred offspring. Evolutionary theory links these patterns to a core trade-off: species must divide limited energy between reproduction and maintaining the body.

A new large-scale study adds broad evidence that this balance influences longevity across many mammals, including humans.

An international research team that included scientists from the Max Planck Institute for Evolutionary Anthropology in Leipzig investigated how different ways of suppressing reproduction relate to lifespan in

mammals.

They analyzed records from 117 mammal species kept in zoos and aquariums around the world and paired those data with a meta-analysis of 71 published studies. Across the datasets, animals receiving ongoing hormonal contraception or undergoing permanent surgical sterilization lived about ten percent longer on average.

## The reproduction – survival trade-off

One reason may be that reproduction requires major biological investment. Pregnancy and lactation demand energy, and so do sperm production, mating behaviours, and parental care. Even outside of breeding, sex hormones such as testosterone and estrogen continue to affect growth, behavior, and aging, potentially drawing resources away from long-term body maintenance.

"Zoos, where reproduction is carefully managed, provide a unique setting to study these dynamics,"

says Johanna Stärk, one of the authors. "Animals may receive contraception or sterilization to prevent breeding, creating natural comparison groups within the same environment."

The longevity boost appeared across a wide range of mammals, including primates, marsupials, and rodents. In some cases the differences were especially large. Female hamadryas baboons given hormonal contraception lived 29 percent longer, and castrated males lived 19 percent longer.

"This study shows that the energetic costs of reproduction have measurable and sometimes considerable consequences for survival across mammals," says Fernando Colchero, one of the study's senior authors. "Reducing reproductive investment may allow more energy to be directed toward longevity."

## Both sexes live longer – but for different reasons

Although both sexes lived longer when reproduction was blocked, the underlying causes differed. Lead author Mike Garratt of the University of Otago explains that only castration—not vasectomy—extends male lifespan. "This indicates that the effect stems from eliminating testosterone and its influence on core aging pathways, particularly during early-life development. The largest benefits occur when castration happens early in life," he says.

In females, multiple forms of sterilization increased lifespan, suggesting that the advantage comes from relieving the substantial physiological costs of pregnancy, lactation, and reproductive cycling. Ovary removal, which eliminates ovarian hormone production, still extends lifespan, although a meta-analysis of 47 laboratory rodent studies indicates potential trade-offs: later-life health may be impaired.

These findings may help explain the "survival-health



An Asian elephant (*Elephas maximus*) with offspring. Credit: Natalie O'Dell

paradox" seen in post-menopausal women, who typically outlive men but experience higher frailty and chronic disease burden.

Patterns of mortality also differed by sex. Castrated males were less likely to die from behavioral causes linked to aggression or risk-taking. Females with blocked reproduction were less likely to die from infection, consistent with the idea that the high energy costs of reproduction may lower the mothers' immune-defense systems.

## Insights from humans

Data on the effects of castration and sterilization in humans is rare. Some historical data, such as those of Korean Eunuchs in the pre-19th-century Chosun Dynasty, suggest that castrated men lived, on average, 18 percent longer than non-castrated men. However, these historical records need to be interpreted carefully, as their accuracy is debated. Among women, surgical sterilization for benign reasons (such as hysterectomy or oophorectomy) is associated with a small decrease in lifespan, only about 1 percent relative to comparable non-sterilized women.

"Reproduction is inherently costly," the authors note. "However, human environments—through healthcare, nutrition, and social support—can buffer or reshape these costs."

The study makes it clear that reproduction in mammals involves considerable biological costs—a fundamental evolutionary trade-off between reproduction and survival. These costs arise from an interplay of hormonally controlled processes and the manifold risks and stresses associated with reproduction. However, the exact mechanisms involved remain unclear and require further research. "Our findings show that the costs of reproduction are substantial and measurable across a vast range of mammals," the authors conclude. "Understanding these trade-offs deepens our insight into how aging evolves and how males and females balance survival and reproduction differently."

Reference: "Sterilization and contraception increase lifespan across vertebrates" by Michael Garratt, Małgorzata Lagisz, Johanna Stärk, Christine Neyt, Michael B. Stout, José V. V. Isola, Veronica B. Cowl, Nannette Driver-Ruiz, Ashley D. Franklin, Monica M. McDonald, David M. Powell, Susan L. Walker, Jean-Michel Gaillard, Dalia A. Conde, Jean-François Lemaître, Fernando Colchero and Shinichi Nakagawa, 10 December 2025, *Nature*.

DOI: [10.1038/s41586-025-09836-9](https://doi.org/10.1038/s41586-025-09836-9)

## It was a wolf: Animal shot in 2021 was not a coyote, scientists say

Kathleen Moore | Times Union | January 2, 2026



Part of the exhibit at the New York State Museum shows the similarities between wolves and coyotes, citing the wolf that was shot after being mistaken for a coyote. Provided by the New York State Museum

ALBANY — DNA from an animal shot in 2021 has proven that wolves do occasionally traipse into New York.

It's been more than 125 years since wolves truly lived in New York state — or anywhere in the Northeast. They were exterminated in the 1800s and scientists are not aware of any breeding groups here.

They have long suspected that lone wolves travel here from Canada. But photos and hunter reports have often been dismissed as coyotes mistaken for wolves.

Then, in 2021, a hunter in Cherry Valley shot a coyote that looked an awful lot like a wolf. It was much bigger than the typical coyote. The hunter said he thought, when he shot, that it was a coyote — which are legal to hunt. Wolves are protected and must not be hunted.

But it was so difficult to know for sure that a New York State Museum scientist turned to DNA.

In a report published in December in Northeastern Naturalist, Jeremy Kirchman laid out the lengths to which he went to prove that the animal was a wolf.

First, the skull: Huge. Much bigger than a coyote's head.

Next, the body. Samples showed the animal lived on a diet of wild food "at all stages of its life." Scientists even pulled out a tooth and studied the root as part of their investigation into whether the animal ever ate anything connected to corn. The answer was no, suggesting it never lived off human trash.

And finally, the DNA. The animal matched the Great Lakes Gray Wolf genetic cluster, not the local dogs and coyotes.

"Our analyses add to the growing body of evidence of wild Wolves occasionally dispersing long distances from core breeding areas to localities east of the Great Lakes and south of the St. Lawrence River," Kirchman wrote.

But it took four years to get to that identification.

It began on Dec. 19, 2021, when a licensed hunter on a search for deer heard an animal behind him. He turned and saw a large animal about 15 meters away, he said. He fired, killing the animal, which he reported to the state Department of Environmental Conservation as a possible record-holder for the largest coyote killed. A DEC officer measured the animal (85 pounds — twice as heavy as a typical coyote) and collected blood for genetic testing. The hunter was allowed to take the animal to a taxidermist, which mounted it for display.

East Stroudsburg University analyzed the blood sample and decided it was a coyote, with about 65% wolf ancestry. But other scientists cried foul. So the State Museum scientists got permission from the hunter to take tongue and lung samples for a deeper analysis.

They found the animal had a specific genetic mutation found in Eastern wolves and that its genes matched wolves in the Great Lakes region.

Want to see the wolf? It is on display at a new exhibit at the State Museum. The exhibit, which opened in 2024, discusses the ways in which coyotes and wolves have interbred over the last century. The wolf is shown across from a coyote, to show how similar they have become — though the wolf is still much bigger.

In response to the incident, DEC has changed how it educates hunters about wolves. Hunters are now warned that wolves might be in the state, and are told how to attempt to distinguish them from coyotes. Any coyote-like animal shot that weighs more than 50 pounds must be reported to DEC for evaluation as to whether it was a wolf. It is still illegal to hunt wolves, but their possible presence has "raised some difficult questions," the scientists wrote.

"How should licensed Coyote hunters/trappers react to a sighting of an especially large canid? How should the nature-loving public react to the occasional presence of an apex predator that was deliberately extirpated for the perceived good of society?" they wrote.

Still, only two wolves have been definitively identified in New York in the last 25 years. Could they be making a comeback?

In the report, scientists wrote, "That possibility still seems remote."

## 2025 NATIONAL WILDLIFE PHOTO CONTEST WINNER



STEFFEN FOERSTER

### Steffen Foerster | San Juan Island, Washington | Baby Animals: 1st Place

San Juan Island's red foxes were introduced in the 1900s to manage the local rabbit population and since have become part of the ecosystem. Foerster of New York City photographed them from a safe distance to avoid disturbing their behaviors. The foxes get enough stimulation on their own. "During a play session, one of the kits sought comfort from its mother nearby," he says of this photo.

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## Fed agency looking for wildlife refuges that 'no longer align with the mission'

Wyoming Public Radio | CPR News | January 11, 2026



The Trump administration is reviewing hundreds of national wildlife refuges and dozens of fish hatcheries.

The U.S. Fish and Wildlife Service said it's looking for sites "established for a purpose that no longer aligns with the mission" of the bureau, according to a Dec. 16 order from Director Brian Nesvik, who used to lead Wyoming's state wildlife agency.

He said the review should also consider "opportunities to achieve efficiencies in the areas of governance, oversight, and span of control," along with ways to remove organizational barriers and staff capacity to work with local communities, and state and tribal wildlife management agencies.

Senior Advisor Joshua Coursey, a Wyoming mule deer advocate, will lead the review of wildlife refuges, while Acting Deputy Director for Operations David Miko will lead the one for fish hatcheries.

Some conservationists and former Fish and Wildlife Service employees worry the effort is being rushed, as the team leads were given three weeks over the Christmas and New Year holidays to conduct their initial review.

"Such a large and important analysis should certainly be given more time and resources to develop a thoughtful and useful product," a group of retired Fish and Wildlife employees, including several high-ranking directors, wrote in an email to Nesvik, obtained by digital news outlet WyoFile.

"We would welcome more clarity from the FWS [Fish and Wildlife Service] about how it would proceed with any

recommendations regarding refuges that, in the opinion of this Administration, no longer align with the Service's mission," the email continued.

Aaron Weiss, deputy director of the nonprofit the Center for Western Priorities, added that the review could be detrimental to visitors and habitats. He said wildlife refuges tend to be a "great equalizer" when it comes to people accessing public land.

"National parks can be more of an investment to get to both in terms of transportation, in terms of cost," Weiss told Wyoming Public Media. "Wildlife refuges tend to be free or inexpensive." Refuges are also often smaller than national parks and more urban. One example is the Rocky Mountain Arsenal outside Denver, which used to make chemical weapons, and is now habitat for bison and black-footed ferrets.

Weiss is concerned the "comprehensive review" of sites like this could mean selling them off.

"So anything that comes out of this, the first question is, who's making money off this and who are greasing the wheels inside the Interior Department?" Weiss said.

The Fish and Wildlife Service didn't respond to a request for comment. It has said it's accepting feedback from staff and other partners about refuges and hatcheries.

An initial summary of "organizational change recommendations" was due Jan. 5. The more detailed review is due Feb. 15.

# Bring your Sweetheart

and celebrate the history!

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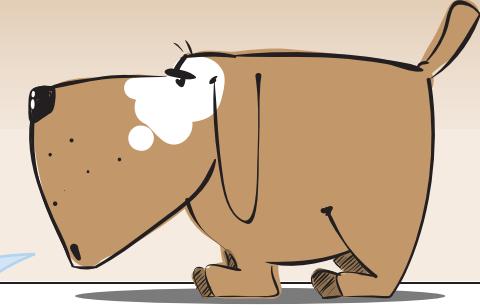
# Adoption corner

## TCRAS

Teller County Regional Animal Shelter  
tcrascolorado.org · 719.686.7707

## SLVAWS

San Luis Valley Animal Welfare Society  
slvaws.org · 719.587.woof (9663)



**NOTE** - Our shelter is still open for adoptions, but we are asking that you call ahead and make an appointment before coming in to the shelter - 719-686-7707.

### COLA »

This gorgeous boy is very sweet, but slow to trust. Due to his nervous behavior meeting new people we recommend that he is visited more than once prior to his adoption. Cola is food motivated which has been helping with his training. He enjoys walks but is still learning the polite leash manners. Luckily he has been making some canine friends to help show him the ropes!



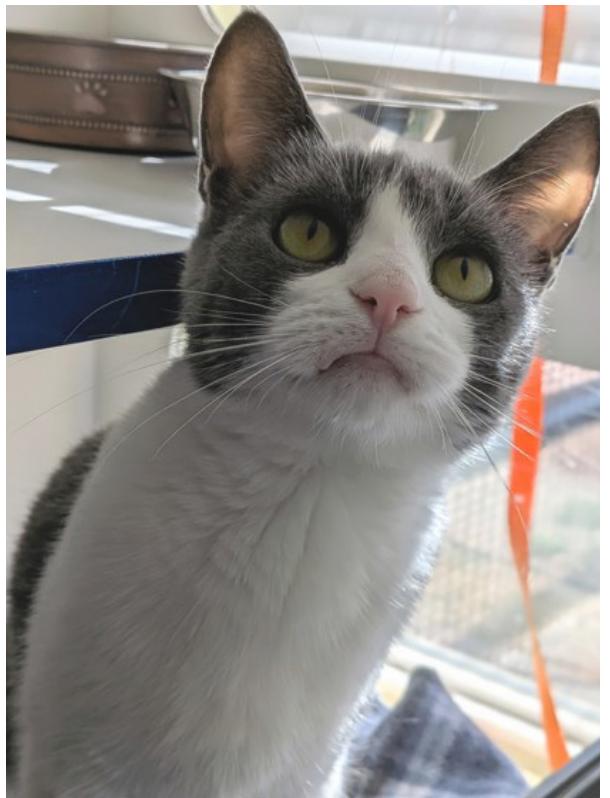
### BOOMER »

Boomer is a sweet and gentle big boy with a kind heart and an easygoing nature. He does well with children of all ages and is highly treat motivated. Boomer is mostly neutral with other dogs and doesn't have a lot of experience socializing, so slow and thoughtful introductions are recommended.



### « MINNIEHALA

I'm a very shy girl and I take a bit of time to get used to people around me. I do love having another kitty companion, it really helps my confidence! When I'm comfortable I enjoy playing, I think wand toys are the best. I prefer to have a quiet space and maybe a box to hide in, it helps me feel safe.



### « FRED

Fred is a young, active pup looking for a home that can provide continued training, structure, and plenty of exercise. He's eager to learn and will thrive with positive reinforcement and consistent routines. Fred's history with dogs, cats, and kids is unknown, so slow, thoughtful introductions and good management will be important.