

D V E A  
**NATURE'S NEWSLETTER**  
SPECIAL ONLINE EDITION



ENDANGERED WOLVES IN NORTH AMERICA





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The Delaware Valley Eagle Alliance

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# ABOUT THIS SPECIAL ISSUE

by the Editor

The Delaware Valley Eagle Alliance is committed to increase awareness, understanding and promote conservation of our wildlife and the natural environment. As part of our outreach to the community and to expand the use of *Nature's Newsletter* as an educational tool, we now include articles on topics of interest to students, and articles written by students for students.

**This Special Issue features the two critically endangered wolf species in North America - the Mexican gray wolf and red wolf.**

Written by students and young volunteers, the articles offer a look at wolves and their ecological importance, and describe important project work with wildlife and environmental organizations to help save and preserve the wolves.

Being able to inspire young people to become aware, knowledgeable and involved in wildlife and environmental conservation issues, is something we at the DVEA are working hard to accomplish.

We hope you enjoy reading these stories by these amazing "next generation" biologists and environmentalists!

Yoke Bauer DiGiorgio  
Editor

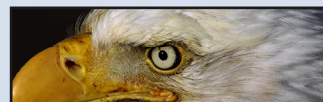
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The Delaware Valley Eagle Alliance







Red wolf (*Canis rufus*)

© Photograph provided by Wolf Conservation Center

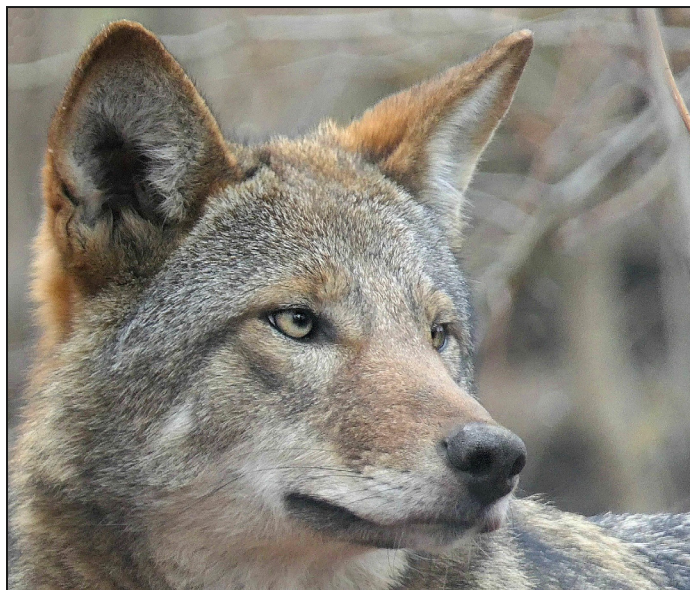
# Working to Save the Red Wolf

by Regan Downey

*Director of Education / Wolf Conservation Center*

Red wolves (*Canis rufus*) are a distinct species of wolf that currently hover on the brink of extinction. Lean, lanky, and yet extremely powerful, these elusive animals once ranged across the southeastern United States but centuries of persecution, intensive predator control programs and loss of habitat decimated the population. In 1980, the U.S. Fish and Wildlife Service (USFWS) captured the last wild red wolves (just 14 animals) and declared the species extinct in the wild.

On September 14, 1987, U. S. Fish and Wildlife Service (USFWS) took a giant leap forward in endangered species conservation by releasing captive bred red wolves in North Carolina's Alligator River National Wildlife Refuge as part of a federal reintroduction program under the Endangered Species Act. The red wolf reintroduction was among the first instances of a species, considered extinct in the wild, being re-established from a captive population and served as a model for subsequent canid reintroductions. The reintroduction effort remains a significant milestone not only for the rare species but endangered wildlife conservation.



© Photograph provided by Wolf Conservation Center

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## Working to Save the Red Wolf



© Photograph provided by Wolf Conservation Center

The Wolf Conservation Center (WCC), a nonprofit organization located in South Salem, New York, is an active proponent of red wolf conservation. The Center has been a vocal and visible advocate in trying to protect and preserve critically endangered red wolves and is active in physically safeguarding representatives of the rare species that have been entrusted to its care. As one of 41 facilities in the U.S. participating in the Red Wolf Species Survival Plan (SSP) – a breeding and management program whose primary purpose is to support the reestablishment of red wolves in the wild through captive breeding, public education, and research.

The WCC currently houses and cares for 20 red wolves in the hopes that they will one day resume their rightful place on the wild landscape. Each wolf is elusive, endangered, and essential to the recovery of their rare species.

Students at North Carolina State University are showing

their love for wolves – and not just their school mascot. A student-run organization, Wolves 4 Wolves, formed in 2017 with two main objectives: educating NC State students and the public about endangered wolf species, and contributing to conservation through service and fundraising.

The club frequently offers educational events on their Raleigh campus, and has expanded their work to the surrounding schools and libraries to better inform the public about one of the world's rarest mammals that lives their state: the red wolf. With funding from the Wolf Conservation Center, Wolves 4 Wolves embarked on a volunteer trip to the Alligator River National Wildlife Refuge, home to the world's only wild red wolves. The students assisted USFWS staff with general maintenance and tasks and returned to school with an even stronger desire to educate their peers about the importance and plight of the endangered canids.

**For more information:** <https://nywolf.org/>





© Photograph provided by Wolf Conservation Center

## HOWL OF THE RED WOLF

by Rhianna Klewin

*Volunteer / Student, North Carolina State University / President Wolves 4 Wolves*

The winding roads stretch for miles, surrounded by canals of water that always leave the question of what's in them. Forests stretching out all around, only broken up by the rare show of a field filled with long yellow grass. This area can only be the Alligator River National Refuge on the Outer Banks, an area that is never quiet. My club, Wolves 4 Wolves, was lucky enough to camp on the actual refuge, and then work alongside the amazing people that work there.

The nights staying on the refuge were always an adventure, the endless amount of noises surrounding our campsite let us know we were never alone, from frogs in the lake nearby to the numerous types of insects filling the air with sounds. We even got the experience to hear the sounds of great horn owls and even the howl of a red wolf when it was in the area. There was also a run in with a black bear when it came rummaging through our trash that we were about to throw into the car. The many different encounters with nature we had left us feeling a real connection that really only can be felt when you're out in the woods, disconnected from human civilization.

From just being out in the area, we got the amazing opportunity to work with the employees and volunteers for the refuge. The work we put in to help clean up the trails never felt like work, it ended up being a fun bonding activity and learning experience. The workers were filled with so much knowledge that kept us asking deep thought provoking questions to really understand and grasp what they were saying. We could never see this as true work, as we saw that the people who worked there were volunteers that gave their time and efforts because they wanted to help, how couldn't we feel the same? They were out there, giving away their knowledge to us for free. It was just an incredible experience to share with them.

The best part was the result of our work, the newly cleaned paths for everyone to experience the beautiful surroundings properly. The knowledge we gained had a great impact on everything we learned about, from the red wolf, to the native species that lived out there, to the inner working of the Refuge itself. The kindness expressed to us was just so refreshing, true kindness that made me want to

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## HOWL OF THE RED WOLF



© Rebecca Goodnight, Photographer

keep returning again and again. All the memories that we gathered there really stole the show, especially the howling we got to be a part of with actual red wolves. The ability to go out there and howl with those magnificent creatures and actually get a response back was an opportunity that is like no other. Knowing what we are fighting for are real and still out there, it's those wolves that need our help and we will continue to do just that.

Many believe that it's a lost cause, that those wolves can't be saved, that there are too few of them to make any difference. However, those people weren't out there that day, hearing them howl and play with us. Just knowing that they are out there and enjoying their lives as best as they can, how could I not want them to continue feeling that way? I don't want them to endlessly live in fear, I want them to stand tall and howl like we heard that day. Those creatures need our help and I will give as much of my time and efforts as I can even if it seems to be a "lost cause", because those wolves don't see themselves that way, so neither will I. Every creature out there deserves to live and I will make sure they are able to continue to do so.

And that is why we, Wolves 4 Wolves, stand up for wolves that don't have their own voice. As the president of this club at North Carolina State University, we strive to accomplish our mission of educating and advocating for wolf conservation. We have made it our goal to go out and

inform the public about issues surrounding North Carolina native wolf populations, such as the Red Wolf, in addition to other wolf species found in the Americas. We also advocate for conservation groups whose efforts align with our own ideas. Even though I am only a 19 year old sophomore at NCSU, I want to be able to make a difference, even if it's just a small one for these amazing creatures. Even if it's just raising awareness or raising money, I want to be able to say that our club did something to help.

I hope that everyone can understand the impact of what our club did at Alligator River Refuge. Even if it's just going out to the Refuge to experience nature or just to volunteer, all of these opportunities are equally amazing and fun to do. I recommend everyone go out and experience the amazing place that is Alligator River Refuge once in their lives, as it won't disappoint. Especially to check out the amazing welcome center that is open to all visitors and the trails surrounding it that really give an up close and personal experience. I can't thank the Refuge enough for accommodating our small club to have that adventure at the Refuge, and the Wolf Conservation Center located in Upstate New York for funding our trip, we couldn't have experienced anything without the help of both wonderful organizations and all of their efforts.

**For More Information:** <https://ncsu.campuslabs.com/engage/organization/wolves4wolves>





*Mexican gray wolf (Canis lupus baileyi)*

© John A. DiGiorgio, Photographer

# Working to Save the Mexican Gray Wolf

by Sara Eno and Allison Greenleaf  
Wildlife Biologists / USFWS

The Mexican Wolf Recovery Program brings on 5-8 volunteers to assist interagency staff biologists with a diverse set of tasks in the recovery and management of Mexican gray wolves in Arizona and New Mexico. National and international volunteers apply and are awarded positions. Most are recent college graduates with degrees in wildlife biology or a related field - that seek field experience in carnivore management and research. The duration for each volunteer is approximately 6 months. Additionally, during the summer 1-2 current college students join the program. Several volunteers go on to pursue graduate degrees and permanent careers in natural resources.

Volunteer duties may include (and are not limited to): establishing diversionary and supplemental food caches, deploying/maintaining trail cameras, monitoring wolves via radio telemetry/sign search/howl surveys, hazing wolves to reduce wolf/livestock conflict, assisting with trap lines, cross-fostering wolf pups, data collection, assisting with aerial count/capture operations, maintaining vehicles/equipment, and education/outreach.

These volunteers are essential to the recovery and management of this endangered species. We highly value and appreciate their contributions.

**For more information on our volunteer program please contact Allison Greenleaf, USFWS Wildlife Biologist, at: [allison\\_greenleaf@fws.gov](mailto:allison_greenleaf@fws.gov)**

## ABOUT MEXICAN GRAY WOLVES (*Canis lupus baileyi*)

Weighing in at 50 to 85 pounds, with males typically heavier and taller than females, Mexican gray wolves are about the size of a German shepherd. They are the smallest subspecies of the gray wolf in North America (about half the size of their cousin, the North American gray wolf).

Prefer mountain forests, grasslands and scrublands.

Have a keen sense of smell, excellent hearing and highly sensitive vision. They are intelligent, family-oriented animals who live in family packs and maintain home ranges or territories. They communicate through howling, body language and scent marking.

Kill and eat a variety of prey, including elk, mule deer, white-tailed deer, and javelina. Opportunistic, they will scavenge dead elk and deer, cattle carcasses and hunter gut piles during hunting season. They occasionally also prey on livestock; and wildlife biologists believe this behavior could be exacerbated by scavenging on livestock carcasses.

Mexican gray wolf packs are generally fairly small, consisting of an adult alpha pair, a yearling or two, and pups of the year. Social cohesion in the pack is strong. Adults are very tolerant of the growing pups, feeding them meat brought back from kills. Pups establish a dominance hierarchy and learn hunting behavior through play.

Pups are born blind and defenseless. About 8 to 10 weeks after birth, pups are moved from the den site to a rendezvous site, where they remain while the adults hunt. A pack member often stays behind to "babysit" the pups. Pups are mature at about 10 months of age.

Reproduction: Mating season is mid-February to mid-March; Gestation is 63 days; Litter size is 4 - 7 pups  
Lifespan is 6 to 8 years in the wild; up to 15 years in captivity.

## RESOURCES:

<http://www.fws.gov/southwest/es/mexicanwolf/>

[http://www.biologicaldiversity.org/species/mammals/Mexican\\_gray\\_wolf/](http://www.biologicaldiversity.org/species/mammals/Mexican_gray_wolf/)





© Photograph courtesy of Wolf Conservation Center

## CO-EXISTING WITH MEXICAN WOLVES

by Sujay Singh

Volunteer / Student, Texas A&M University

***“What in the world is a depredation and why do people keep talking about it?!!”***

These were some of my first thoughts as I was being introduced to the Mexican Wolf Recovery Program. Being a novice to anything relating to wildlife, I wasn't expecting to know all the jargon associated with field work. Having spent my entire life living in cities and only learning through lectures and PowerPoint presentations, I had very limited knowledge of what goes on in wildlife outside of the textbooks. All my life I had heard that wolves are amazing

animals who help bring balance to ecosystems they live in. It never occurred to me that while wolves are important to their ecosystems, they can cause havoc within human populations. In fact, a common misconception people have about wolves is that they are simply wild dogs who will either adhere to our image of dogs, or simply attempt to attack you. Friends of mine often ask me – “You got to work with wolves? Will a wolf fetch a stick? Did you get bit by one in the wild?” I usually proceed to look at them blankly for a couple of seconds and let them answer their

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## CO-EXISTING WITH MEXICAN WOLVES

own questions.

A wolf is not a dog, but rather a wild canid that can and will avoid humans, and eat whatever is easiest to catch, in order to increase efficiency. Unfortunately for livestock owners, this efficiency manifests itself in the form of dead livestock across the landscape.

It wasn't until I understood the history behind why Mexican wolves were essentially wiped out from the wild and the meaning behind the word 'depredation', did I figure out why people kept talking about it.

Livestock depredations are possibly the biggest challenges facing Mexican wolf recovery efforts. Many ranchers are strongly opposed to the reintroduction of wolves, and undoubtedly have a right to be. Running cattle is often a major part of their livelihood and losing even a small amount to wolves can make their lives infinitely harder. However, the solutions are not always black and white. As someone who grew up moving from country to country and always living in large cities, it's tempting to say that these ranchers can just move to a different area without wolves or work different jobs to make a living. The reality is that for many individuals, ranching is a family tradition. No matter how challenging it might get, there is a certain solace, familiarity, and pride associated with doing what your family has been doing for generations.

Often portrayed in a bad light by conservationists due to their dislike of wolves, it is important to remember that ranchers are still humans with families entitled to their own opinions. I recall one specific interaction with a rancher. I was patrolling her allotment to deter wolves from her cattle when I ran into her. While she made it clear she didn't want wolves around, she was still incredibly helpful and courteous. She offered me a ride in her UTV so that I didn't have to take my truck through rough roads, and we struck up a friendly conversation the entire way. I discovered that she checks on her cattle daily, and even named each one of them! Even though they were a source of income, her cattle were also part of her family. Losing them was very much like losing a beloved pet. I soon came to understand and respect a livestock owner's beliefs and concluded that it's vital to keep such perspectives in mind while concentrating on recovery efforts.

Co-existing with Mexican wolves is no easy task. A major component of the recovery program involves 'hazing' of wolves away from livestock in order to mediate human-wildlife conflict. Hazing involves going out to an area occupied by livestock and making sure wolves stay away. It comprises of listening to radio signals from collared wolves, making loud noises to deter them, and occasionally shooting rubber bullets or cracker shells at wolves if one is in sight. As an intern, I was occasionally tasked with



TOP: © Photograph courtesy of Laura Paskus  
BOTTOM: © Sujay Singh, Photographer

TOP: An anti-wolf sign posted around western New Mexico / BOTTOM: Sujay Singh listening to radio signals from collared wolves.

spending time in remote locations to make sure wolves were not bullying livestock. During my shifts hazing, I got to explore the most rugged, yet stunning country New Mexico had to offer, and in the process, learned quite a bit about wolf and human behavior alike.

While there are many accounts of me hazing, one prominent 16-hour day will stay etched in my mind forever. I was sent out to a nearby town to make sure a certain pack of wolves

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## CO-EXISTING WITH MEXICAN WOLVES

were not north of the town. After driving around for only a few minutes, I heard radio signals coming from a male wolf who was miles away from his usual territory. I promptly decided that my priorities lay in checking for wolves further up north, as that was where the most recent depredations were. One might argue that I was being a bit lazy, but in no later than an hour of driving north did I hear an incredibly strong signal coming from a female wolf associated with the pack. She was nestled in a valley within a mile radius from the most recent depredation. Deciding that something needed to be done, I jumped out of my truck, grabbed my bag-pack, shotgun, radio telemetry equipment, and proceeded to hike towards the wolf.

About 15 minutes in, I realized that I was succeeding! She had moved a couple of 100 feet north further into the valley. I was invigorated by my perceived success and ready to keep the chase up. Unfortunately, mother nature had other plans for me. It was within twenty minutes into my pursuit when I noticed lighting striking within a mile of me. Not wanting to end up as deep fried food, I hunkered down under some rocks just as the skies started letting loose all around me. Looking back, I was stuck under the rocks for well over 40 minutes. The lighting never ceased, and the downpour was torrential. After about an hour, I heard a loud growl within my vicinity. I hastily got up deciding that I would rather die getting struck by lightning than being mauled by a mountain lion. A short 20-minute hike back to my truck was all that was needed, and fortunately, the downpour had eased to a light drizzle.

Unfortunately, the storm picked back up within 10 minutes of it subsiding. Meanwhile, I still had to make sure the wolf was keeping staying put. I didn't have too many options and was simply forced to wait out the storm in my truck while listening for signals. It was during this interim that I learned wolves were frankly just as lazy as I was. I refused to leave my truck due to the possibility of getting wet, and apparently so did the wolf. Presumably hunkered down under cover, she simply refused to leave her spot for well over 4 hours. Once the rain petered out around 5 pm, I set off to hike and chase her away for good.

Physical activity has been a big part of my life as I am an avid tennis and soccer enthusiast. However, no amount of activity at sea level can prepare one for playing catch up with a wolf at 8000 ft of elevation. I am thoroughly convinced that the wolf I was chasing knew precisely what she was doing when she kept running up and down hills in enormous circles. During my 3-hour pursuit I never got a visual but could tell via telemetry that she was startlingly close to me multiple times - which speaks volumes to her ability to blend in with the brush and stay concealed. Of course, my dog like panting along with a natural born gift to move through terrain like a bulldozer did not help my



TOP and BOTTOM: © Sujay Singh, Photographer

TOP: A sunset atop a mountain in New Mexico during my time hazing.  
BOTTOM: Sujay Singh holding a Mexican grey wolf pup.

cause. Around sundown I ceased my efforts knowing that she had gotten the better of me as I fired a cracker shell that exploded in her direction. Over the course of 8 hours, she had successfully tricked me and ended up in the exact spot I heard her in the morning. No amount of failing exams, tripping in public, or getting rejected by girls had prepared me for this moment. I felt like an absolute idiot.

Although the sun had already set, I had to stay put for a couple of hours until a coworker working the night shift arrived. During my last few hours, nothing of interest happened. While I was glad to leave and finally get some sleep, it all felt rather somber. Unsurprisingly, the wolf likely despised me and wanted me to leave her alone. Contrarily, I got a glimpse into her daily life and couldn't respect

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## CO-EXISTING WITH MEXICAN WOLVES

her more. I spent hours chasing her while enduring the harsh weather and terrain she deals with daily. My efforts might have kept her occupied for a few hours but were essentially in vain. She was simply able to navigate the terrain more efficiently, and effectively fool me. Humans are supposedly the most advanced creatures on the planet, but it is worthwhile to consider that many of us have become distant from the natural world. Stepping into the shoes of wild animals for a few hours is all it takes to realize what an incredibly tough life they live, and how amazing they are at facing adversity

All wildlife interacts with humans, be it directly or indirectly. Wolves might not meet people often yet, are the cause for some of the most controversial debates regarding wildlife within modern society. For humans to coexist with wolves, it is critically important to consider and respect every viewpoint. A conservationist might want wolves on a landscape and a rancher might not. We as managers and decision makers often seem to act on ideas that have some direct benefit for us, but in the process forget about looking through the perspective of the very species we are trying to manage.

Mexican wolves have had to face challenges long before we ever knew of their existence. Humans are simply an addition to a growing list of problems they face, and it is important to understand that wolves will keep doing what they have done for millennia - kill the easiest prey in order to feed an entire pack. If that prey happens to be an old, weak bull elk with an enormous set of antlers, then hunters might be angry. However, if that prey happens to be old and weak cattle, then ranchers might be angry.

At about 8 billion people and counting, human-wildlife conflict will always be the biggest challenge facing conservation. There might not be a single answer, but the most important lesson I learned during my time with the wolf program is one of understanding. Without necessarily trying to anthropomorphize, everyone's perspective needs to be considered and respected; even the ones of wildlife.

**Only once we learn to see the world through different lenses will we be able to coexist with the stunning biodiversity surrounding us.**

### **About Sujay Singh**

*Sujay Singh is currently a senior at Texas A&M University, studying Biology and Wildlife, and Fisheries Sciences. Upon graduation, he plans on attaining further field experience before hopefully moving on to graduate school. He has always had an interest in the natural world, and plans on eventually being a Wildlife Biologist, preferably working with carnivores.*



© Megan Higgins, Photographer

## CROSS FOSTERING WOLF PUPS

**by Megan Higgins  
Volunteer / Biologist**

Starting in April and running through the middle of May the Mexican Grey Wolf Recovery Program through the U.S. Fish and Wildlife Service, in partnership with the Arizona Game and Fish Department, proactively conduct cross fostering.

Cross fostering involves placing Mexican gray wolf puppies that were born in captivity into the wild dens in order to introduce genetic variability into the population. This will ensure the continuation of the wolves in the wild by combating inbreeding depression.

Puppies can be added to the den and wild puppies can be taken out in order to maximize the genetic variation. A total of 8 puppies can be in each den. The puppies must be about the same age and size. Dens are monitored carefully in order to determine when the wild puppies are born so that they can be matched with captive puppies.

When placing the puppies at the den, the captive and wild puppies are processed together. Pit tags are deployed right under their skin between their shoulder blades as a way to identify them as they grow up. Once data is collected on the pups, weight, condition etc. they are mixed up, rubbed down with dirt from the den, milk is placed on their lips, and they are stimulated to pee on each other in an effort to make them all smell the same.

They are then placed into the den. It is considered a

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## CROSS FOSTERING WOLF PUPS



© LEFT: Megan Higgins, Photographer / RIGHT: Cyrenea Piper, Photographer

successful cross foster when the captive born puppies breed and their genetics enter the environment.

Supplemental food caches are established when puppies are added to a pack's den to relieve some of the stress that comes from more mouths to feed. It also provides a designated area the team can expect to see the wolves at and collect pictures via trail camera.

Food caches are restocked every three days with approximately 80 pounds of meat which either consists of processed meat logs or road kill elk/deer. Road kill salvage is a cheaper alternative to meat logs and is a great way to use resources that may otherwise be wasted. Using a winch and ramp road kill is collected and quartered so that it can be used on multiple caches.

### About Megan Higgins

Megan graduated from Iowa State University in 2017 with a degree in Animal Ecology. Additional field work included experience with White-tail deer, Fishers and Northern Spotted Owls. Megan's future goals are to work with a variety of animals in as many areas of the world as possible



© Photograph courtesy of the Arizona Game and Fish Department

### Did You Know?

**Mexican gray wolves are not necessarily gray. Their fur is a mix of gray, rust, black and cream.**





© Megan Huggins, Photographer  
 Christen Guajardo during a "cross-foster" holding a Mexican gray wolf puppy (flown in from a captive wolf facility in St. Louis, Missouri) prior to this individual puppy being placed in her new home with the San Mateo pack.

## IMPACT ON THE RECOVERY EFFORT

by Christian Guajardo  
 Volunteer / Student, B.S., Texas State University

***Since the inception of the Mexican Wolf Recovery Program in 1998 there have been many challenges that face these wolves. That's where interns like myself come into play.....***

The Mexican gray wolf (*Canis lupus baileyi*) is the most genetically distinct subspecies of gray wolf and ranges from 50-80lbs in weight when fully grown. Mexican wolves' historic range spanned from Mexico to southern Utah, but unfortunately they were extirpated and nearly brought to extinction. Thankfully seven individual wolves from captive facilities were able to escape the fate of their wild conspecifics and gave this federally listed endangered subspecies a chance at reintroduction. There are currently a minimum of 130 Mexican

wolves in the United States, that range from the White Mountains in eastern Arizona through the San Mateo Mountains in western New Mexico.

Since the inception of the Mexican Wolf Recovery Program in 1998 there have been many challenges that face these wolves. That's where interns like myself come into play. We help out this program in a wide range of aspects from small tasks like answering phone calls to vital responsibilities like creating strong

and foundational relationships with private stakeholders (e.g. ranchers/ permittees, etc.) who are directly affected by the wolves through cattle/ livestock depredations and their presence alone. Although my journey with this program may be relatively small in the grand scheme of things, I believe it is my job as an intern to have the most positive impact I can while a part of this recovery effort. Through things like public outreach and the aforementioned private

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## IMPACT ON THE RECOVERY EFFORT



**TOP and BOTTOM:** © Daniel Gachuz, Photographer

**TOP:** Christian using VHF telemetry via a handheld “H” antenna attempting to locate a radio collared Mexican Gray Wolf. **BOTTOM:** Christian and another intern at dart gun practice in Pinetop, AZ.

stakeholder relationships we build, this program strives to create a social dynamic where wolves are accepted (or at least tolerated) by locals. If we can find a common ground between conservation and local tradition and culture this program is assured to succeed.

To expand on my personal experience with public outreach, I was fortunate enough to have the opportunity with presenting a PowerPoint of my experience (as an intern with the Mexican Wolf Recovery Program) to wolf advocates of the Grand Canyon Wolf Recovery Project at Big Lake, Arizona. It was a tremendous opportunity to see a collective from another wolf recovery project with the same goals and aspirations. Being able to share my experience with them and the positive impacts the project has had for my career, and likewise the positive impact I've had on the project is one I will always cherish.

**Being an intern with this program has opened many doors for me and there is no monetary value that can be assigned to the valuable skills and experiences this program has afforded me.**

### **About Christian Guajardo**

*Christian Guajardo is a young aspiring biologist. He has always had an interest in wildlife as a child and followed that passion into college and his professional career. Christian will be starting graduate school in January 2020. He hopes his masters project will be revolved around ESA laws or conservation policy.*

*Christian is very passionate about wildlife and habitat conservation and hopes to make a positive impact on the environment throughout his professional career and personal life.*





*A wolf from the Mangas pack walks by a trail camera in New Mexico*

© Photograph provided by IFT Field Team

## **LOCATING WOLVES: IN TOUCH WITH THE GROUND**

**by Ben Breslau**

***Volunteer / Student B.S., University of Connecticut***

How do we manage animals whose very nature is to avoid us? If we want to monitor wolves, we need to fit them with GPS and radio collars. In order to fit them with collars, we need to trap them. And before we can trap them, we have to find them. To find a wolf, you have to think like one.

There are two primary methods of finding uncollared wolves: track and sign search, and howling surveys. Track and sign search has been a large part of my internship this season. When I plan to go on a search, I first look at a map of the area to find the best route. Where is a wolf likely to go? Wolves follow their prey: deer and elk. These animals prefer to take the path of least resistance whenever possible. Game trails, hiking paths, and even main roads are commonly used by a multitude of wildlife. So within a search area, I try to find the major arteries of animal traffic.

Once I'm on the ground, I'll try to pick up a game trail and search from there. The most important indicators of wolf presence are tracks and scat.

My favorite, but most exhausting, sign search session took place in June when I sought out the Colibri pack. Our goal was to set up a trail camera near the den site, on the edge of the Gila Wilderness. Fortunately, the male was already collared and we had a general sense of his territory. My supervisor and I looked over the map and guessed that the den was on a steep mountainside, overlooking a narrow canyon. I would try to find a good spot somewhere in the ravine. It turned out that this was easier said than done. When I arrived at the edge of the valley I saw that whatever hiking trail had been there was long gone. The

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## LOCATIONING WOLVES: IN TOUCH WITH THE GROUND

area had evidently been burned in a wildfire several years ago, and the canyon was covered in tall trees, charred and frail. Their fallen comrades blanketed the valley floor. On top of this, ecological regeneration had begun. While a beautiful demonstration of nature's ability to recover, the dense thickets of young aspen trees and shrubs provided yet another obstacle for my wolf search. The environment itself was a hazard: there were several boulder fields from ancient avalanches, and through all of this scene wound a stream with steep banks.

Faced with this "American Nature Warrior" course, I turned to getting into the mindset of a wolf: find a game trail. I walked up and down the hillside next to the stream, looking for any gaps in the foliage. Just a few minutes of searching, and there lay the trail. Every open patch of mud had hoofprints of elk and deer. Sprinkled in between were piles of their scat. From here, still with some difficulty, I followed the prey on nearly hidden paths through the brush and over small fords across the stream. Finally, after half a mile, my conjecture paid off: a fresh wolf pawprint gleamed in the mud. Soon I found several more, leading up and down the game trail. Thinking like a wolf, I continued on. The afternoon drew on and I realized I needed to find a spot for the camera soon, or keep up the pursuit and get trapped overnight. Just a little farther, and I knew I found the perfect place. Following the trail over a small rise I came to a small grassy clearing, greeted by three huge bull elk. My mindset paid off. I set up the camera and slowly wound my way out of the valley.

Scouting out wolves is a job for all hours. When we're not sign searching during the day, we're conducting howling surveys at night. This procedure is easily some of the most fun that I've had all season. Following up the sign search's idea of mimicking wolf behavior, the howling survey is exactly what it sounds like. We drive about a mile between sites, get out of the truck, take a deep breath, and shout a series of howls in all directions. Ideally, the local wolves – especially their instinct-driven pups – will respond and give us a population estimate for the area. My first howling survey had the perfect atmosphere: a bright, full moon and a sky dotted with stars, with just enough silvery clouds to set the mood. Procedurally, we need to start with quiet howls and get louder over time, in case the wolves are nearby. I started off feeling pretty shy about raising my voice, even for the louder howls. But after the first series, I got my act together. In each cardinal direction, I lifted my head and bellowed deep calls across the landscape. I can't describe the excitement of hearing the echoes gallop through the canyons around me. But that feeling was surpassed minutes later, when two packs of coyotes started yelping back at me. Throughout the night I had loud, moonlit conversations with dozens of coyotes. While no wolves responded, the thrill didn't waver.



© BenBreslau, Photographer

TOP: A fresh wolf track / BOTTOM: Wolf territory in the Gila Wilderness

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## LOCATING WOLVES: IN TOUCH WITH THE GROUND

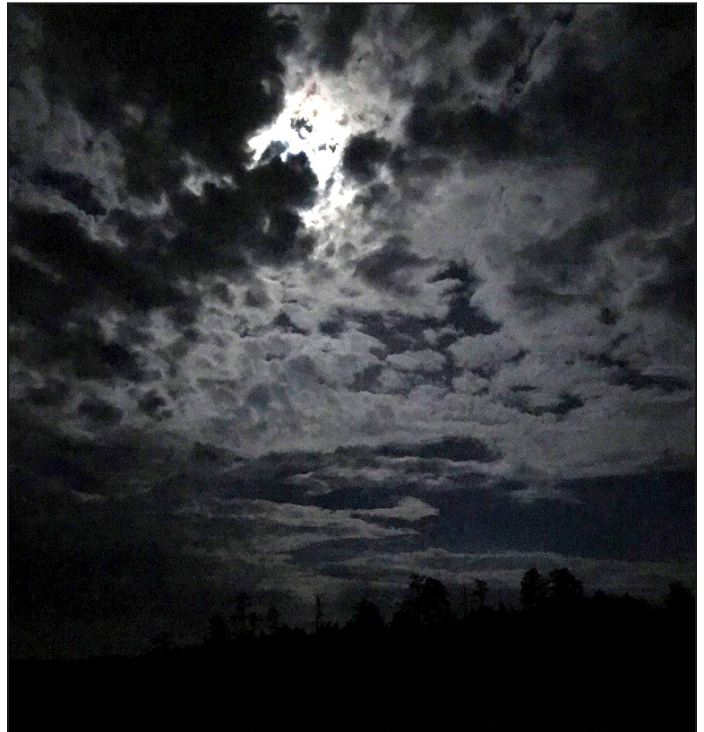
When we have an idea of where the wolves are, it's time to set traps. My trapping experience took place in June, with my supervisor and coworker. As my supervisor continued to remind us, the key to trapping is covering up scent; canids would smell anything out of the ordinary, and that could give away the game. We wore long sleeves, hats, and multiple layers of gloves. All of the equipment had also been boiled prior to our expedition. Our first move was an extension of track and sign search: we found a couple roads that had wolf trackways, and these became our base of operations. We set our traps under small trees and shrubs that would provide a screen for the disturbed ground. Trap setting turned out to be a much more laborious process than I'd expected. For each trap that I set, I had to dig a deep hole to bury the trap's chain and hammer the anchoring stakes into the hard ground. From there it was a matter of patience and chance. Every morning and afternoon we checked the traps. We continued to search the area for fresh tracks. Unfortunately, this trapping mission was unsuccessful. Luckily, I had an earlier opportunity to experience the procedure for handling a trapped wolf.

Earlier in the season, a wolf was trapped and removed from the wild landscape to captivity. We arrived on the scene late in the evening to process her. After the wolf was immobilized, we brought her inside to keep her warm. Once there, we drew blood for disease testing and for genetic data. We also administered vaccines for diseases such as rabies. I had the privilege of applying some of my first responder skills, by caring for the abrasions on her foot; while our traps are made to reduce injury to the animals as much as possible, they can still cause cuts to the feet, depending on the animal's duration in and activity while captured. Once this wolf was processed, my advisor administered an antagonist to the immobilizing drug, which got the wolf back on her feet for transport. If she had been trapped for collaring, we would have attached the collar before getting her moving again, and then released her afterward. This wolf, however, was bound for captivity, so she came back with us in a kennel.

I still have another month in this internship, and I look forward to more adventures exploring New Mexico and helping the Mexican gray wolf to recover.

### About Ben Breslau

*Ben graduated from the University of Connecticut in 2018 with a B.S. in Ecology and Evolutionary Biology. He has worked on research and management with numerous animal species, from frogs and salamanders to trout and gazelles. Ben is passionate about ecological restoration and environmental protection.*



© **TOP:** Ben Breslau, Photographer / **BOTTOM:** Cyrenea Piper, Photographer  
**TOP:** Ben's first howling survey had the perfect atmosphere: a bright, full moon and a sky dotted with stars, with just enough silvery clouds to set the mood. / **BOTTOM:** Ben on his first trap line. The process of setting up a trap involves many tools and a heavy concentration.



# DISCOVERING NATURE

## "Ambassador Wolves"

There are many organizations collaborating to help bring back the Mexican gray wolf and red wolf, including: U.S. Fish and Wildlife Service (USFWS); the Association of Zoos and Aquariums; the Arizona Game and Fish Dept; the White Mountain Apache Tribe; the U.S. Dept of Agriculture (USDA) Forest Service, and the USDA Animal and Plant Health Inspection Service - Wildlife Services; and private organizations.

We feel so fortunate to have been able to include articles in *Nature's Newsletter* over the past 5-years by these organizations, including some whose facilities also include "ambassador wolves" residing on exhibit for the public to view and learn about:

### **Wolf Conservation Center (WCC)** **South Salem, New York**

Founded in 1999, WCC is a 501(c)(3) not-for-profit environmental education organization working to protect and preserve wolves in North America through science-based education, advocacy, and participation in the federal recovery and release programs for two critically endangered wolf species - the Mexican gray wolf and red wolf.

<https://nywolf.org>

### **Southwest Wildlife Conservation Center (SWCC)** **Scottsdale, Arizona**

Established in 1994, SWCC rescues and rehabilitates wildlife that has been injured, displaced, and orphaned. Once rehabilitated, they are returned to the wild. Sanctuary is provided to animals that cannot be released back to the wild. As a long-standing member of the Species Survival Plan (SSP) for the Mexican gray wolf, SWCC provides space at the sanctuary to care for part of the captive population

[www.southwestwildlife.org](http://www.southwestwildlife.org)

### **Endangered Wolf Center (Center)** **St. Louis, Missouri**

Established in 1971, the Center is dedicated to preserve and protect Mexican wolves, red wolves and other canid species, with purpose and passion, through carefully managed breeding, reintroduction and inspiring education programs. Considered one of the cornerstones of wolf conservation in the U.S., most Mexican gray wolves in the wild can trace their roots back to the Endangered Wolf Center. <http://www.endangeredwolfcenter.org/>

### **Brookfield Zoo / Chicago Zoological Society (CZS)** **Brookfield, Illinois**

The Chicago Zoological Society is a private nonprofit organization that operates Brookfield Zoo. A Mexican gray wolf pack is on display at the Zoo through a one-way viewing glass at the Regenstein Wolf Woods. The Zoo participates in the SSP for the Mexican gray wolf (via fostering efforts).

<https://www.czs.org/Brookfield-ZOO/Home.aspx>

### **Additional Resources:**

<http://www.fws.gov/southwest/es/mexicanwolf/>

<https://www.fws.gov/southeast/wildlife/mammals/red-wolf/>

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