National Park Service
U.S. Department of the Interior

Denali National Park and Preserve

2024 Annual Wolf Report

DENALI
Wolf Project

On the cover: Two members of the Riley Creek pack photographed by a trail camera. *NPS Photo*

Contents

Have you ever felt like you're *chasing your tail?*

A wolf chases its tail at the mouth of a den. *NPS Photo*

Background

Wolves are one of six keystone large mammal species in interior Alaska, along with grizzly bears, black bears, moose, caribou, and Dall sheep. Wolves are important to people and to the ecosystem as a whole. As a top predator, wolves may play a key role in influencing ungulate populations, such as caribou. This may also influence vegetation patterns and promote species diversity .

Wolves are found in all three parks of the Central Alaska Monitoring Network (CAKN): Denali National Park and Preserve (Denali), Yukon-Charley Rivers National Preserve, and Wrangell-St. Elias National Park and Preserve. Indeed, wolves are specifically identified in the enabling legislation and management objectives of all three CAKN parks.

This report summarizes efforts to monitor wolves in Denali National Park and Preserve through December 2020. The main goal of monitoring is to track how many wolves there are and where they're moving. However, a variety of additional data is obtained in the monitoring process. This information can help future wildlife management and research, and can also help develop scientific models of predator/prey systems.

For example, scientists use data obtained from wolf monitoring to help protect wolf dens as part of the Denali Wolf-Human Conflict Management Plan. In heavily visited portions of the park, managers want to know where active wolf dens and rendezvous sites (pup rearing areas) are so that they can be protected from disturbance.

Additionally, data on the genetic, physical, and immunological characteristics of wolves, obtained in the course of wolf capture, will be important in evaluating long-term changes in wolf populations in Alaska.

Information gathered through wolf monitoring can also help scientists determine whether the park packs are being impacted by activities happening outside of the parks, such as intensive wolf harvest or wolf control.

Wolf tracks. *NPS Photo*

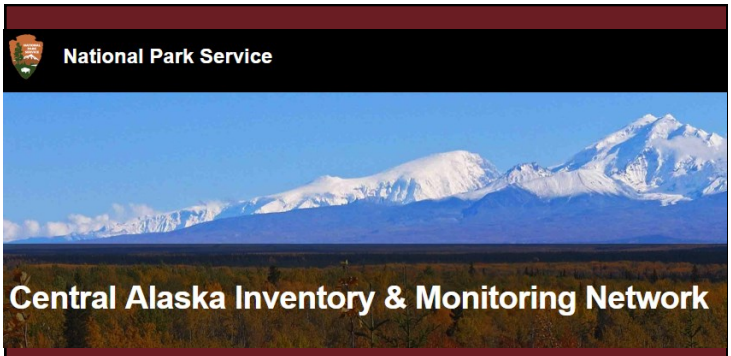
Wolves are important to people in Alaska. Some value the opportunity to hunt or trap wolves while others value their existence or the opportunity to see a wolf. Wolves are of great significance to Denali's visitors because of the exceptional opportunities to view wolves in Denali. The unique long-tenured research project in Denali allows scientists around the world to understand how wolves live in a relatively intact ecosystem, and will be invaluable for years to come.

Park-wide monitoring of wolves in Denali was initiated by Resource Management Ranger John Dalle-Molle in 1986, with principal investigators L. David Mech and Layne Adams. Field work and project management from 1986 to 2016 was conducted by Dr. Layne Adams, Dr. Steve Arthur, Dr. Bridget Borg, John Burch, and Tom Meier. Beginning in 2017, Dr. Bridget Borg oversaw the program, and field work and program support was conducted by biological technician Kaija Klauder.

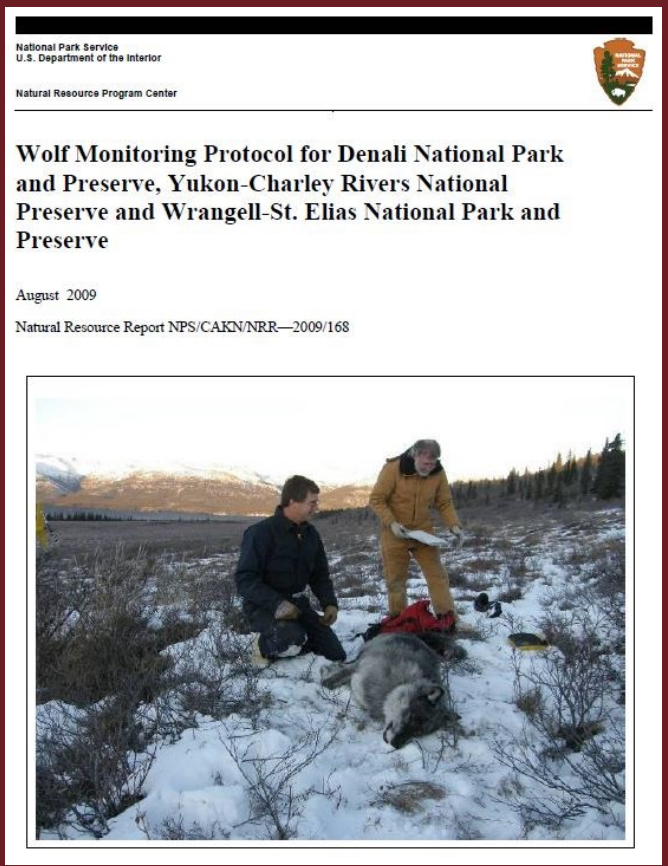
Wolf Project Goals

Wolf research and monitoring in Denali occurs annually to meet the following measurable objectives:

- Capture and radio-collar 1-3 individuals in each wolf pack identified in the study area.
- Determine the demography (numbers, colors, age structure) of monitored wolf packs.
- Obtain genetic samples from captured wolves.
- Determine pack size for each collared pack in fall (early winter) and spring (late winter).
- Detect pack extinction and pack formation events in the population.
- Locate non-radio-collared wolf packs on Park and Preserve lands using aerial snow tracking.
- Detect changes in wolf density, pack size, and home range size over time.
- Monitor and detect changes in the physical, immunological, and genetic makeup of the wolf population over time.
- Investigate the effects of wildlife management activities on the natural and healthy character of wolves in Denali.
- Investigate the biological and social characteristics of wolf viewing by visitors in Denali, and factors that may affect wolf viewing opportunities.



The 2009 wolf monitoring protocol, one of the first protocols approved for the Central Alaska Network's Inventory and Monitoring Program, identifies the long term monitoring objectives for Denali's Wolf Project . It also lays out procedures that parks use to collect the data.


National Park Service
U.S. Department of the Interior

Natural Resource Program Center

Wolf Monitoring Protocol for Denali National Park and Preserve, Yukon-Charley Rivers National Preserve and Wrangell-St. Elias National Park and Preserve

August 2009

Natural Resource Report NPS/CAKN/NRR—2009/168

2024 Summary

In 2024, we monitored 13 wolf packs in and around the Denali study area and captured and collared 19 wolves during two capture efforts, including 6 recaptures of wolves collared in previous years to replace aging or failed collars. Twenty-three aerial tracking bouts were conducted to observe wolf pack locations, obtain pack counts, locate den sites, and provide estimates of pups produced. Information from these flights also documented wolves feeding at kills 38 times, comprised of 10 caribou, 27 moose, 1 sheep, and 1 unknown. In spring 2024, 56 wolves in 11 packs resided in the study area, for an estimated population of 61 wolves. There was evidence that 10 out of 12 packs monitored during denning season denned in 2024. Two of those packs failed to recruit any pups, the remainder recruited 33 pups. Twelve collared wolves died in 2024: 5 were harvested, 3 died of natural unknown causes, 1 died of uterine rupture, and three died of unknown causes. In fall 2024, 56 wolves were counted in 10 packs within the study area, for an estimated population of 61 wolves. See territory map (page 9) for Spring 2025 estimates.

In addition to addressing our long-term monitoring goals, the Denali Wolf Project worked with multiple collaborators on several research projects.

Reproduction and Mortality

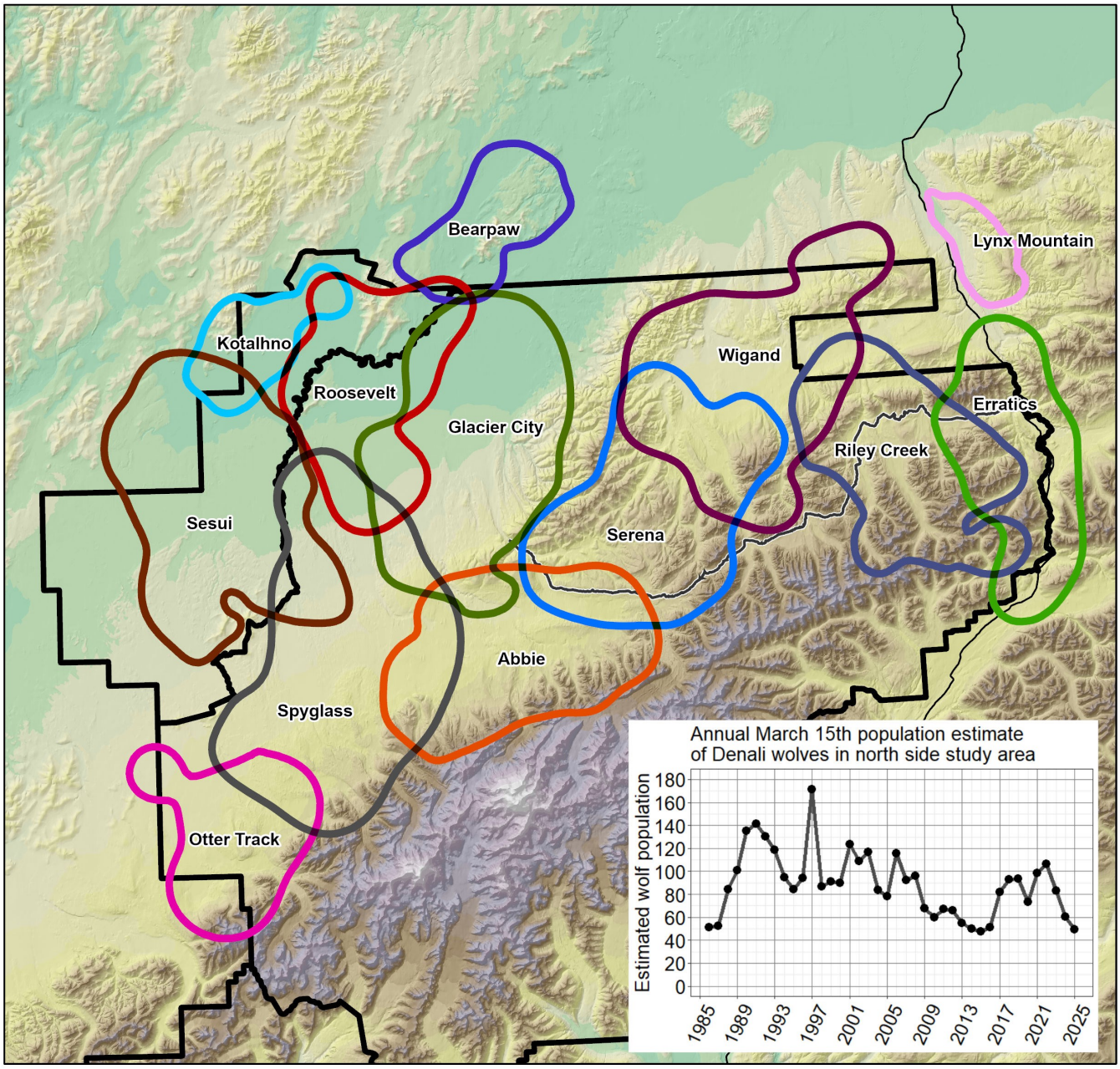
2024

	Spring Pack Count	Fall Pack Count	Reproduction		Mortality		
PACK			**Denned**	**Fall Pup Count**	**Natural**	**Human-Caused**	**Description**
Eastern Region							
Erratics	6	4	yes	1			
Grant Creek	3	0	NA	NA		3	3 harvested
Lynx Mountain†	unk	8	yes	6			
Riley Creek	13	13	yes	6			
Wigand	2	5	yes	3		2	2 harvested
Western Region							
Abbie	8	8	yes	4			
Bearpaw†	2	4	yes	2			
Blanc†	2	0	NA	NA			(disperser 2211BF died of unknown causes outside the
Glacier City	4	1	no				
Kotalhno	3	10	yes	6	1		1 natural unknown (plus disperser 2305GM died of unknown causes outside the park)
Roosevelt	2	2	suspected	0			
Serena	8	3	failed	0	1		1 natural other (uterine rupture)
Sesui	4	8	yes	5			
Spyglass	3	2	no		1		1 natural unknown
TOTALS*	**60**	**68**		**33**	**3**	**5**	

*These numbers are not considered official population counts and may differ from official counts due to existence of lone wolves, dispersers, etc. Please consult https://www.nps.gov/dena/learn/nature/wolf-research.htm#wolf-population-data for official population figures.

†Resided outside of the study area

Spring 2025 Population Map



Study Area Population Count March 2025: 46 wolves in 11 groups
(Bearpaw and Lynx Mountain majority outside study area)
Population Estimate accounting for lone/uncollared: 50 wolves
Mean pack size = 4 wolves. Home ranges based on locations from April 1, 2024 - March 31, 2025.

Pack name (Pack size as of 3/15/2025)

- Abbie (8)
- Bearpaw (unk)
- Erratics (2)
- Glacier City (3)
- Kotalhno (3)
- Lynx Mountain (unk)
- Otter Track (6)
- Riley Creek (9)
- Roosevelt (2)
- Serena (3)
- Sesui (7)
- Spyglass (2)
- Wigand (1)

How do we collar wolves?

Have you ever wondered how scientists study wolves in a place as vast and wild as Denali? Twice a year—once in March and again in November—our team heads out into the snowy backcountry to safely capture and collar wolves using a method called aerial darting. Imagine the wide-open, snow-covered landscape, a cold wind howling, and the careful preparation it would take to work with wildlife in such extreme conditions. What part of this work do you think would be the most exciting — or the most challenging?

At every step, safety comes first—for both the people and the animals involved. Before heading into the field, we walk through detailed plans that outline exactly what we'll do, including how to respond if something doesn't go as expected. We often say we don't just have a backup plan — we have backups for our backups.

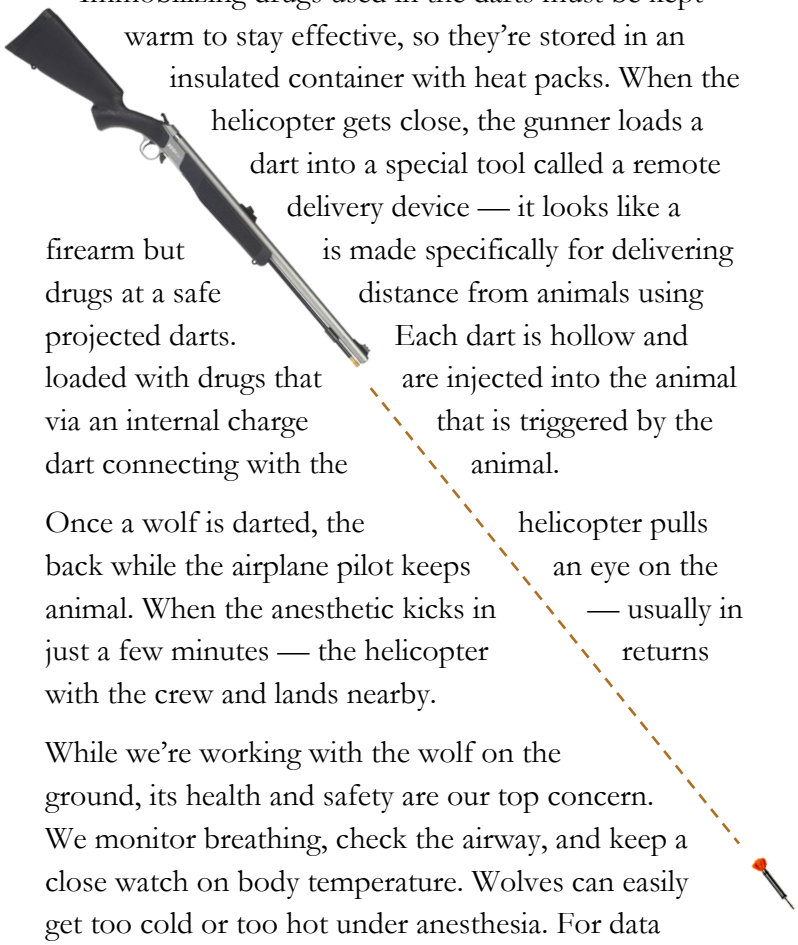
In the days before a capture, we carefully check and pack all of our gear. Even small details matter. For example, we use a small tackle box to organize darts and syringes by size, and a zippered three-ring binder — just like a student might use in school — to protect our data sheets from snow and wind.

Capturing a wolf is a true team effort. The process begins with a small fixed-wing airplane, usually a Supercub, which acts as our "eyes in the sky." The pilot uses radio tracking equipment to locate collared wolf packs and looks for good conditions to attempt a safe capture.

Flying several miles behind is a helicopter carrying a pilot, a gunner (who handles the darting), and a mugger (who helps collect data and manage the animal once it's darted). Once the airplane pilot finds wolves in a safe area and gives the go-ahead, the helicopter crew moves in.

Darting wolves from a helicopter is highly specialized work. It involves low flying and quick maneuvering, so it requires an expert pilot — someone who not only has flight skills but also understands animal behavior. Before darting begins, the helicopter lands so the mugger can get out, which lightens the aircraft and makes it more agile. The gunner sits in the backseat behind the pilot, and depending on the type of helicopter used, a shooting window may be opened or the mugger may remove the rear door to allow the darter to get in position and dart.

Circling overhead, the airplane pilot continues to assist by guiding the helicopter toward the wolves. The goal is to encourage the animals into open terrain — avoiding hazards like trees, steep slopes, open water, or cliffs. Once the wolves are in a good spot, the helicopter moves in close enough for a darting attempt. Hitting a moving wolf from a moving helicopter takes serious skill and practice — even for experienced crews, it requires patience and opportunity!



Immobilizing drugs used in the darts must be kept warm to stay effective, so they're stored in an insulated container with heat packs. When the helicopter gets close, the gunner loads a dart into a special tool called a remote delivery device — it looks like a firearm but is made specifically for delivering drugs at a safe distance from animals using projected darts. Each dart is hollow and loaded with drugs that are injected into the animal via an internal charge that is triggered by the dart connecting with the animal.

Once a wolf is darted, the helicopter pulls back while the airplane pilot keeps an eye on the animal. When the anesthetic kicks in — usually in just a few minutes — the helicopter returns with the crew and lands nearby.

While we're working with the wolf on the ground, its health and safety are our top concern. We monitor breathing, check the airway, and keep a close watch on body temperature. Wolves can easily get too cold or too hot under anesthesia. For data collection, our first priority is to fit a radio collar, which allows us to track the wolf from the air. Each collar

emits a signal on a unique radio-frequency which allows us to relocate the individual during future aerial tracking flights. The collar also records GPS locations several times a day, and those locations are transmitted via satellite every few days, allowing us to track movements of collared wolves from our office.

Ready to begin handling a wolf. *Photo courtesy Troy Cambier*

The effect of the anesthetic wears off slowly, so we don't have to worry about the wolf waking up suddenly. That gives us time to safely collect more valuable scientific data: blood and hair samples, a whisker, a DNA swab from inside the cheek, measurements of the wolf's body and teeth, and photos for our records.

Before we leave, we make sure the wolf is in a safe, quiet location — far from dangers like cliffs, water, or people — so it can recover peacefully.

Once flying is done for the day, and we're back on the ground, the work isn't over. We clean, dry and restock our equipment, process blood samples, review data sheets, and do preliminary data management tasks to allow us to start receiving data from the collars. Capture operations often involve long days and hard work, but they are worth it. Radio-collaring helps us track, monitor, and understand Denali's wolf population in a way that no other method can.

We are always exploring less invasive ways to study wolves, but in a place as big and remote as Denali, radio collars remain the most effective way to monitor wolves.

One of the key reasons the long-term wolf monitoring project began here in the 1980s was the discovery of wolves poached within park boundaries. Without monitoring, we wouldn't know if threats like poaching, disease, or other disruptions were affecting Denali's wolves.

Our hope is that by studying and collecting information from wolves here in Denali, we can contribute to a broader understanding of these incredible animals — one that helps us learn how to coexist with wolves everywhere.

Collecting data with the airplane and helicopter in the background. *Photo courtesy Troy Cambier*

Pack Narratives

EASTERN PACKS

Erratics

Pack Counts: Spring – 6 | Fall – 4
Collared Wolves: 2109GF, 2411GF

Erratics pack began the year with a pack count of 6 in March. No additional wolves were collared in March. The Erratics pack again denned in the Carlo Pass den, and had no obvious rendezvous sites. They recruited just 1 pup, and had a fall pack size of 4. We collared 2411GF in November, a young adult female. Back in early 2023, 2013GF had dispersed outside of the park and traveled east past the Richardson Highway. GPS locations indicated that she died in October 2023. In fall 2024, we received confirmation that 2013GF was harvested.
Spring 2025 update: Beginning in late March, 2411GF began moving separately from 2109GF, and is now considered dispersed.

Grant Creek

Pack Counts: Spring – 0 | Fall – NA
Collared Wolves: None

We suspected that a pack of 3-4 wolves remained from the Grant Creek pack in late winter 2024, following the loss of all three collared individuals to trapping in January 2024. However, we were unable to confirm or relocate the suspected remaining members during aerial tracking in March, and the pack was considered dissolved after spring.

Riley Creek

Pack Counts: Spring – 13 | Fall – 13
Collared Wolves: 1911GM, 2007BF, 2401GF, 2410BF

The reign of Riley Creek as a large and successful pack continued. They had a March count of 13 animals. In March we re-collared breeding male 1911GM, who is currently the oldest wolf in our monitoring pool; we estimated that he was born May 2015, making him over 10 years old in late 2024. Despite his age and the loss of sight in one eye, he remains a fearless individual, who even charged and tried to attack the helicopter when it pursued him. We also collared a younger female, 2401GF, in March. The pack denned at a new site on the Sanctuary River and recruited 6 pups. In November we collared adult female 2410BF. The fall count for Riley Creek remained 13 wolves. In mid-December, 2410BF left the Riley Creek pack and almost immediately joined with 2308GM, a male disperser from Abbie pack.
Spring 2025 update: 2308GM was harvested in the Stampede at the beginning of February. 2410BF continued traveling alone as a disperser, and was harvested a month later in the same area. Adult female 2401GF began traveling separately from the pack in late March. She was harvested in late April in the Stampede.

Serena

Pack Counts: Spring – 8 | Fall – 3
Collared Wolves: 2113GM, 2307GF, 2309GF, 2406GM

This pack began the year with a spring count of 8 wolves. We did not add any additional collars in March. Breeding female 2309GF's collar went into mortality

HOW TO NAME A COLLARED WOLF:

1. Last two digits of the year
2. The order of wolves collared that year
3. One letter for the color of the wolf (G = gray, B = black)
4. One letter for the sex of the wolf (F = female, M = male)

How would you name this wolf? A gray female that was the 7th wolf collared in 2021.

mode on May 10th, and we discovered that she had died of a ruptured uterus associated with late-stage pregnancy or labor complications. Her five unborn pups perished with her. This event seemed to have a large impact on pack dynamics, as remaining collared animals 2113GM and 2307GF both soon began to travel separately outside their traditional pack territory. 2307GF eventually returned to Serena's territory. In November 2024, we collared large adult male 2406GM with 2307GF. The pack had a fall count of 3 wolves.

2113GM did not return, and for the second time in his life became a roamer. Born in the North Face pack, he spent over six months in 2021 and 2022 traversing the park as a local disperser after the dissolution of his natal pack. In spring of 2022, he joined 1915GF and other wolves from Grant Creek to form the Serena pack. The death of 2309GF seemed to prompt his departure. Why? We suspect that he had been the dominant breeding male of the Serena pack, meaning after the death of 2309GF the only females remaining in the pack may have been his daughters. If that were the case, he may have left to seek future breeding opportunities with other unrelated wolves. In early December, his collar stopped uploading GPS locations while in the Stampede corridor. When staff investigated, his last locations were at a site with evidence of trapping, and he is presumed to have been harvested.

Wigand

Pack Counts: Spring – 2 | Fall – 5
Collared Wolves: 2403GM, 2404GF, 2413BM

The Wigand pack began as a pair that were collared in the spring of 2024, consisting of a large grey male, 2403GM, and reddish-coated female, 2404GF. In the short time between placing the collar and completing the activation procedure from the office, 2403GM's collar went off-air and disappeared, possibly due to harvest. 2404GF went on to whelp in the central Wigand flats, with help from a new black male that was seen during aerial monitoring flights. They recruited 3 pups, for a fall pack size of 5 wolves. In November 2024, we collared 2404GF's companion, 2413BM. He had about a dozen porcupine quills in his mouth and lips at the time of capture, which we removed for him. An observation

2404GF (front) at capture, with 2403GM behind. Wolves are sometimes placed together like this during recovery to retain body heat if conditions are very cold or windy. *NPS photo/Klauder*

during an aerial monitoring flight shortly before November capture operations illustrated the tenacity of 2404GF, and how pups have a learning process to become effective hunters:

"I heard and located her [2404GF] in the NE Wyoming hills. Was the same two adults and 3 pups that I saw on the 27th. They were trudging slowly up a steep hill south bound towards the big draw that runs into the East Fork. They were spaced out with the black male and pups roughly a half mile behind her. She was just cresting out on top when I saw her and a herd of sheep that were also on top of the flat plateau. There were a dozen rams and around 24 ewes and lambs for around 30 head total. She saw them at the same time they saw her and the race was on for escape terrain. Sheep had a solid 200 meter head start but she managed to close the distance to a whisker just as they passed thru some cobble stones. The sheep never faltered but it caused her to fall back. She countered by switching to the other side of the flock out of the rocks and managed to gain on that side and was able to grab a lamb just before they reached some rocky cliffs. She grabbed it by the back leg and they pinwheeled around in circles for a fair while, as she didn't dare let go for a more lethal hold. Eventually they fell off over the steep side of a hill and spun their way down it a fair way before coming to a stop. Meanwhile the black male was just now getting

to the top of the hill where the chase started and you could see him pick up speed as his nose started to tell him what had transpired. He started to run and with just one hesitation when he came to the spot they had veered off over the side, he quickly worked that out and shot over the side to help 2404GF finish the job. I stuck around to see the pups join the feast, but when they eventually lolly-gagged their way to the top and picked up the scent trail, they overshot the veered off corner and continued on into the herd of sheep now standing on the top of a cliff area. They messed around looking at them but never made a chase towards them. When I left, they were still milling about trying to sort out where the adults had gone."

Unfortunately, 2404GF was harvested in December in the Stampede.

Spring 2025 update: After the death of 2404GF in late December 2024, remaining adult 2413BM was only seen alone, suggesting that the remaining pups did not survive. He began ranging widely in the eastern area of the park, although still centered on their traditional territory.

Lynx mountain

Pack Counts: Spring – unk | Fall – 8
Collared wolves: 2103BF

After Bearpaw female 2301BF dispersed in April of 2023, she appeared to settle later that year in a territory to the northeast of the Park. Because she was outside the study area, and in an area of thick vegetation, monitoring opportunities were limited. In 2024, her GPS locations revealed denning behavior, and a flight in late fall found that she was in a pack of 8, including some pups. Monitoring of this pack will likely remain very limited.

WESTERN PACKS

Abbie

Pack Counts: Spring – 8 | Fall – 8
Collared Wolves: 2112GF, 2308GM, 2310BM, 2409GF

Abbie continued to be a strong pack in 2024. They had a March count of 8 wolves, and we did not add any additional collars. The pack denned at a new site on the Muddy River, and recruited 4 pups. In November we collared a very small light-colored female 2409GF, of similar coloring to 2112GF. The pack had a fall count of 8 wolves.

Right around whelping time in May, 2308GM began making forays outside the territory. They grew longer and longer until he was fully dispersed. He ranged widely around the entire eastern area of the park, likely encountered other packs and other dispersers, including 2113GM. On December 15th he began traveling with 2410BF, who had departed from the Riley Creek pack just two days prior.

Spring 2025 update: 2308GM was harvested in the Stampede at the beginning of February.

Bearpaw

Pack Counts: Spring – 2 | Fall – 4
Collared Wolves: 2209GM, 2210GF

The Bearpaw pack started the year with 2 wolves, who continued to maintain a territory primarily to the north of the park, in the area of the Bearpaw mountains. Limited monitoring was conducted on this pack, but they did den and recruit 2 pups, for a fall count of 4 wolves.

Spring 2025 update: Breeding female 2210GF was harvested north of the Park in late January. The collar on breeding male 2209GM last transmitted a GPS waypoint on December 2nd, 2024. His fate is considered "missing," ending monitoring of this pack.

Blanc

Pack Counts: Spring – NA | Fall – NA
Collared Wolves: 2211BF

The only animal remaining in this pack, 2211BF, had moved west from the original territory in 2023, and was residing too far outside the park for regular monitoring. Her collar stopped uploading GPS locations in mid-January of 2024, so little is known about her movements. We received a mortality signal from the collar far west of the park and south of Telida in late September 2024. That marked the end of monitoring of the Blanc pack.

Glacier City

Pack Counts: Spring – 4 | Fall – 1

Collared Wolves: 1904GF, 2402GF

Glacier City pack seemed to struggle this year. They had a spring count of 4 wolves. In March 2024, we recollared breeding female 1904GF, and also collared a younger female, 2402GF. In late April, 2402GF began to move separately from 1904GF, first within the territory and then ranging by herself to the west of the traditional territory, with occasional returns (see Spyglass pack). The large uncollared black male that had been the presumed breeding male had not been seen with the pack since late in 2023, and neither 1904GF nor 2402GF showed any signs of denning, and pups were never seen. 1904GF was mostly seen alone through the end of the year, for a fall pack size of 1.

Kotahlno

Pack Counts: Spring – 3 | Fall – 10
Collared Wolves: 2306GF, 2407BM, 2305GM (dispersed)

This pack kept surprising us. Despite ending 2023 with 2306GF seemingly alone, in March she had 2 companions for a pack count of 3. 2306GF denned on a birch knob, but the largely forested areas of her territory made obtaining visual counts challenging. She was seen once during the summer with 5 black pups on a riverbank. However, during November captures we found her to be part of a pack of 10, including 6 black pups. In November we collared adult black male 2407BM. In late December 2306GF died of natural unknown causes.

In 2023, 2305GM dispersed from Kotahlno pack well to the west of the park. Due to his distance, no monitoring flights were able to reach him. In early summer of 2024 his GPS locations indicated that he was likely attending a den, so we presume he was with a pack. The GPS portion of his collar went offline in early June, ending our ability to monitor him. His fate is unknown.

Roosevelt

Pack Counts: Spring – 2 | Fall – 2
Collared Wolves: 1903BF

Roosevelt remained a small pack this year. 1903BF picked up a companion over the winter, for a spring count of 2 wolves. She denned at a her previously used densite on the Kantishna, but no pups were ever seen. In November 2024, we replaced her collar, and found her to be in good health although all four of her canine teeth were broken – a level of wear not uncommon for wolves of her age (8 years old). The pack's fall count remained at 2 wolves.

Sesui

Pack Counts: Spring – 4 | Fall – 8
Collared Wolves: 2405GF, 2412GM

In a great comeback story, this pack that seemed to be on the edge of dissolution by the end of 2023 apparently managed to pull through in 2024. Although we lost collar monitoring of Sesui in late 2023, snow tracking in early 2024 confirmed that several wolves remained in the traditional Sesui territory. In March 2024, we captured and collared a young adult female, 2405GF, who was traveling with two pups, a grouping which matched the expected remnants of Sesui. All three were in poor condition. Another grey was seen with them later in March, for a spring count of 4. 2405GF's subsequent GPS locations were in former Sesui territory, and we consider them a continuation of the Sesui pack. 2405GF denned on the Foraker River, and recruited 5 pups, for a fall count of 8. In November we collared a large grey male, 2412GM, from this pack.

Spyglass

Pack Counts: Spring – 3 | Fall – 2
Collared Wolves: 1918GF, 2208GM

Spyglass pack began the year with 3 wolves, but breeding male 2208GM died of unknown natural causes in early March, and the remaining pup from the summer of 2023 was not seen with 1918GF after that. There was no indication that 1918GF denned. In November 2024, we discovered that1918GF had a new companion, a younger black male that we collared as 2408GM, for a fall pack size of 2. In early December, the Spyglass pair and local disperser 2402GF (originally from Glacier Creek pack) converged on Slippery Creek. All three wolves remained in a small area around a caribou kill for a week, at which time 1918GF died. Three days later, 2408BM and 2402GF left the area together. We consider 2402GF to have become a member of Spyglass at this time. The exact nature of the interactions that took place will remain a mystery.

Wolf Management

COLLARING

Denali has been collaring members of the wolf population since 1986 in order to track movements, estimate territory locations and sizes and estimate the population size and density. Current methods of wolf monitoring used in Denali follow the Wolf Monitoring Protocol for Denali National Park and Preserve, Yukon-Charley Rivers National Preserve, Alaska (Meier et al. 2009). In brief, this method involves capture and radio-collaring of one or two members of each wolf pack in the study area and locating and counting wolves during aerial tracking flights periodically through the year. Morphological data, including sex, weight, age and color, and blood and tissue samples for genetics and disease analysis, are gathered from captured wolves.

Staff examine and document tooth wear during capture to assess age and health. This wolf is young and has teeth in excellent condition. *NPS Photo/Bridget Borg*

In 2024, staff captured and collared 19 wolves during two capture efforts, including 6 recaptures of wolves collared in previous years to replace aging or failed collars.

CLOSURES

The Denali Wolf-Human Management plan stipulates that closures will be implemented around active dens, and will automatically be implemented around a den that was active in the previous two years, until it can be determined if the den is active or not.

South Sanctuary Wolf Closure

The south Sanctuary wolf closure was implemented on June 8th, 2024, and lifted on September 30th, 2024 after it was determined that the wolves had left the area. This closure did allow for through-traffic by boaters on the Sanctuary River.

Teklanika Wolf Closure

The Teklanika wolf closure was implemented on April 19th 2024. The closure was lifted on May 22nd 2024 after it was determined that wolves were not using the den. The area closed encompassed areas south of the Teklanika bridge and along Igloo Creek.

Outreach and Collaborations

OUTREACH

- Documentary Film "A Good Wolf," directed by Ramey Newell, — Bridget Borg and Kaija Klauder
- Wolf Research in Denali, 2024 Science Symposium Presentation, May 2024 — Bridget Borg
- Wildlife Tracking field Seminar July 2024 — Kaija Klauder
- Continued updates to wolf web page: https://www.nps.gov/dena/learn/nature/wolves.htm

PUBLICATIONS

- Benson, J. F., Keiter, D.A., Mahoney, P.J., Allen, B. L., Allen, L., Álvares, F., Anderson, M. L., et al. (2024). **Intrinsic and Environmental Drivers of Pairwise Cohesion In Wild Canis Social Groups.** *Ecology e4492*. https://doi.org/10.1002/ecy.4492
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COLLABORATIONS

- Genetic and genomic effects of harvest on a cooperatively breeding carnivore, USGS NRPP award and collaboration with University of Idaho
- Isotopic analysis and mercury levels in wolf populations, Dr. Ben Barst, University of Alaska Fairbanks
- Skull morphology and facial musculature of wolves, Dr. Sarah Kienle, Baylor University

Wolf skull specimens in the office. *NPS Photo/ Kaija Klauder*

READING WOLF BEHAVIOR: WHAT IS THIS WOLF COMMUNICATING?

NPS Photo

Neutral

A wolf that has its ears slightly forward or slightly back, is walking or trotting, and may only glance in your direction is neutral about your presence. Enjoy the lucky sighting and do not try to attract its attention.

NPS Photo

Curious

A wolf that fixes its gaze on you with its ears up is curious. It may approach slowly or walk around you to get a better look. Curious behavior usually results in the wolf leaving once it realizes you are a human. If the wolf follows you or shows interest in tents or vehicles, encourage it to leave by shouting and waving your arms.

NPS Photo

Howling

Wolves howl to communicate with pack members, often as a chorus. Wolves will howl to gather the pack or to communicate with pups. Howls may also be used as a warning to other wolves to stay away. Enjoy this sound of the wild!

Interactions between wolves and humans are very rare. If you do see a wolf, pay attention to its behavior to determine how to respond.

Pinterest

Fearful/Defensive

A wolf with its ears pinned, hackles up, crouching, with lips pulled back and tail between its legs is acting out of fear or defending itself. Back away quickly and give it space. Barking or bark-howling by wolves is also a sign that you are too close. Leave the area if you hear this.

Holly Kuchera

Aggressive/Predatory

Aggressive or predatory attacks on humans are extremely rare. If a wolf has its eyes fixed on you, ears forward, is standing tall, and has its tail up, it is acting dominant and may become aggressive. A predatory wolf may stalk with head lowered and gaze fixed, or rush directly at its prey. **DO NOT RUN.** Shout, make noise, and be tough.

WHAT SHOULD I DO IF A WOLF APPROACHES ME?

Wolves are wild animals! Stay at least **25 yards** away from wolves at all times. Never feed a wolf. If a wolf approaches you in a predatory or aggressive manner, or is curious and not leaving, **DO NOT RUN!** Get tough! Shout aggressively and make other loud noises, maintain eye contact, and throw rocks.

2024 Annual Wolf Report

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