



2023 Annual Wolf Report



On the cover: Top: A Riley Creek pup photographed by trail camera near the den. *NPS photo*; Bottom: A wolf with ground squirrel prey. *NPS photo/Kirby*

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A young wolf rubs itself in the scent of a road-killed bird. *Photo courtesy Kent Miller*



Left: wolf tracks in silt. *NPS photo/Kirby*. Right: Wolf feet, documented during capture. *NPS Photo/Klauder*

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. In 2023, Dr. Bridget Borg oversaw the program, and field work and program support was conducted by biological technician Kaija Klaunder.


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.




National Park Service



Central Alaska Inventory & Monitoring Network

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



2023 Summary



In 2023, we monitored 17 wolf packs in and around the Denali study area and captured and collared 14 wolves during two capture efforts, including 8 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 49 times, comprised of 13 caribou, and 33 moose. In spring 2023, 82 wolves in 13 packs resided in the study area, for an estimated population of 83 wolves. There was evidence that 11 out of 13 packs monitored during denning season denned in 2023. Three of those packs failed to recruit any pups, the remainder recruited 20 pups. Twelve collared wolves died in 2023: 3 were harvested, 3 starved, 2 were killed by wolves, 2 were killed by unknown natural causes, 1 was killed in an avalanche, 1 drowned. An uncollared pup from the Erratics pack was killed by vehicle strike. In fall 2023, 59 wolves were counted in 11 packs within the study area, for an estimated population of 60 wolves. See territory map (page 9) for Spring 2024 estimates.

A index of wolf viewing for the eastern portion of the road (to East Fork) was 0.01 in 2023; only 2 data collection trip out of 135 observed a wolf.

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

Reproduction and Mortality

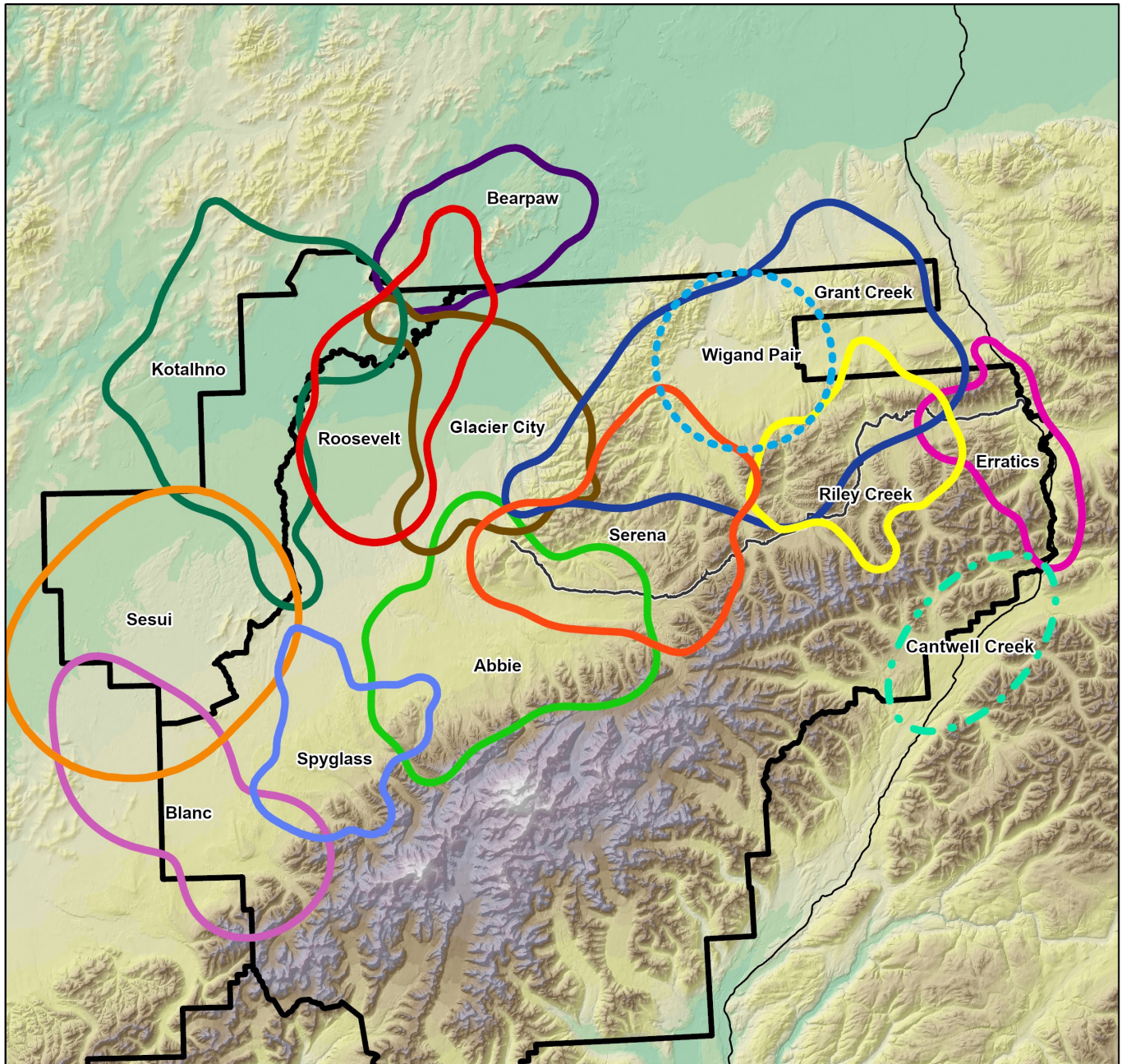
2023

PACK	Spring Pack Count	Fall Pack Count	Reproduction		Mortality		Description
			Dennded	Fall Pup Count	Natural	Human-Caused	
Eastern Region							
Cantwell Creek	4	0	Yes	unk	1	1	Killed by avalanche, Harvested
Erratics	4	7	Yes	5		1	Uncollared pup died from vehicle strike
Grant Creek	9	7	Yes	0			
Hana	0	NA	No		1		Killed by wolves
Riley Creek	12	11	Yes	3			
Sunday Creek†	0	NA	NA			1	Harvested
Dry†	0	NA	NA			1	Harvested
Western Region							
Abbie	8	8	Yes	2	2		Drowned, Starved
Bearpaw	7	2	No				
Blanc	4	NA	No		1		Starved
Glacier City	5	5	Yes	1			
Kotalhno	7	1	Yes	0			
Roosevelt	7	1	Yes	0			
Serena	6	6	Yes	2	1		Starved
Sesui	7	7	Yes	5	2		Natural unknown, Killed by wolves
Spyglass	2	4	Yes	2			
Short Cache	4	0	NA		1		Natural unknown
TOTALS*	86	59		20	9	4	

*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 on the boundary of the study area

Spring 2024 Population Map



Study Area Population Count March 2024: 56 wolves in 11 groups
 (Bearpaw and Blanc majority outside study area, monitoring of Cantwell Creek ended summer 2023)
 Mean pack size = 5 wolves. Home ranges based on locations from April 1, 2023 - March 31, 2024.

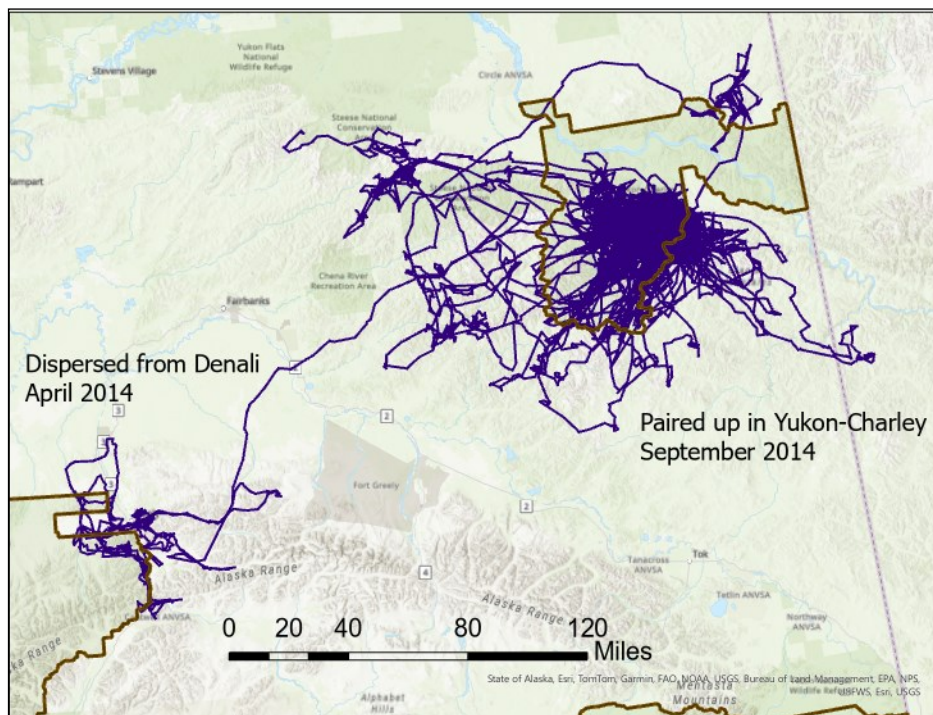
Pack (Pack size as of 3/15/2024)		
Abbie (8)	Glacier City (4)	Serena (8)
Bearpaw (2)	Grant Creek (3)	Sesui (4)
Blanc (2)	Kotalhno (3)	Spyglass (3)
Cantwell Creek (0)	Riley Creek (13)	Wigand pair (2)
Erratics (6)	Roosevelt (2)	Wigand pair territory approximate.

Extended Family

In April of 2014, five-year-old 1308GM was ready. After learning everything he could from his parents, the experienced leaders of the East Fork pack, he set out on his own, looking for a territory and a mate. His journey that summer took him hundreds of miles, across mountains and rivers, through the territories of countless other packs, until in September he found a partner and started a pack of his own, over 200 miles away. What made 1308GM special was that his GPS collar was able to tell us the whole story, and show that his new home was another NPS unit— Yukon-Charley Rivers National Preserve (YUCH). There, biologists continued monitoring him and his pack until his death in 2021 at the ripe old age of twelve. 1308GM was an exceptionally well-traveled wolf: even after his move to YUCH, he continued to make many long forays outside his territory.

His story made us wonder: how genetically connected are the wolves in these two parks, separated by 150 miles at their closest points? Do the parks have healthy levels of genetic diversity in their wolf populations? In a collaborative

The lifetime travel path of 1308GM.



project with the University of Idaho, we used the samples collected and saved during wolf captures to genotype 183 wolves from Denali and 199 from YUCH, spanning a time period from 1990-2022.

One thing we wanted to know is if Denali and YUCH wolves are distinct genetic populations. Often, populations of animals that are far apart from one another become more genetically distinct over time until there is a measurable difference. We found that there were no consistent genetic differences between the two parks — meaning they're both part of the same large population.

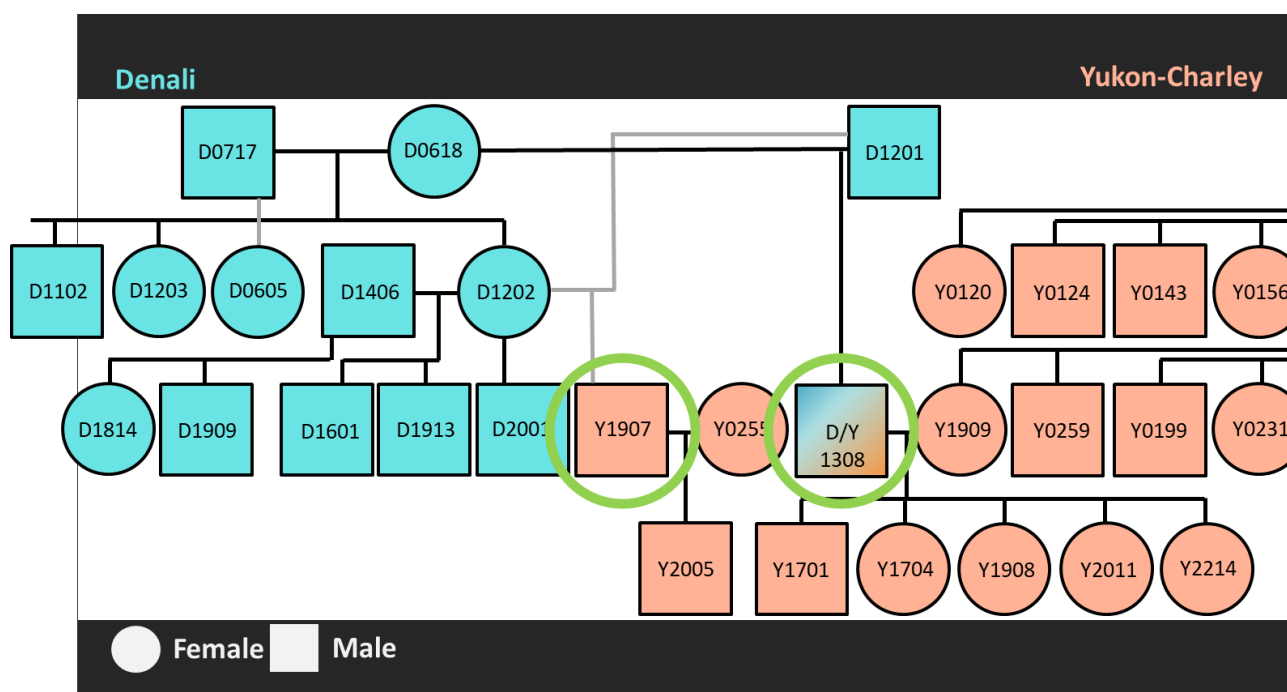
We also wanted to know if the

population(s) had healthy levels of genetic diversity. Populations that don't receive enough new genes in the mix can sometimes become inbred, leading to reductions in health and fitness. We found that YUCH and Denali wolves had lots of genetic diversity, signifying a healthy population.

Wolves like 1308GM demonstrate how the long-distance dispersals of wolves help maintain genetic diversity across huge landscapes. The vast amounts of wild land in Alaska, both within and outside protected areas, mean that wolves can still travel on long journeys without getting blocked by too much human development,

helping keep their populations healthy.

Although 1308GM is the only collared wolf we've tracked moving between these two parks, the genetics showed us that it has happened on other occasions as well. For example, YUCH wolf 1907M is also from Denali — and he is 1308GM's half-brother! The Denali wolf project will compare these genetic results to our historical assumptions about which wolves were the breeders so we can complete the family tree.



Partial pedigree diagram of Denali and YUCH wolves, showing how YUCH wolf 1907 was from a Denali lineage, and how wolf 1308 started in Denali but moved to YUCH and successfully reproduced.

Pack Narratives

EASTERN PACKS

Cantwell Creek

Pack Counts: Spring – 4 | Fall – 0
Collared Wolves: 2008GF, 2108GF,

This pack began the year 11 strong, with two collared females, breeding female 2108GF and adult female 2008GF. They dropped to 9 by the end of January. In early March, 2108GF and likely several other pack members were caught and killed in an avalanche, bringing their numbers down. After this incident the pack began spending more time further outside the park, in Broad Pass and the mountains to the south. 2008GF whelped at least 5 pups in that area, but was harvested in July. There were no attempts to add additional collars to this pack in 2023 given their distance from the park. The fate of the remaining pack members was unknown, and this pack is no longer monitored.

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.

Dry

Pack Counts: Spring – NA | Fall – 0
Collared Wolves: 2206BF

This pack's territory overlapped with several developed areas outside the park. The only collared wolf, breeding female 2206BF, was trapped in March. The fate of the remaining 4 pack members was unknown.

Erratics

Pack Counts: Spring – 4 | Fall – 7
Collared Wolves: 2013GF, 2109GF

Erratics pack began the year with a pack count of 5, but 2013GF dispersed in February, for a March count of 4 wolves. No additional wolves were collared in March. Dispersing 2013GF made her way northeast, to the area around the mouth of the Little Delta River and Birch Lake on the Richardson Highway. She died in October, in unknown circumstances. The Erratics pack again dened in the Carlo Pass den, and had several rendezvous sites in the greater Riley Creek and Park road corridor areas. They recruited 5 pups, for a fall pack size of 7. Monitoring flights showed that breeding female 2109GF has a fierce personality, especially when it comes to bears. On August 30th, the telemetry monitoring flight observed: "Defending pups from bear.. There was a big dark grizzly that appeared to be trying to get at the pups...The female collar was real aggressively chasing off the bear who kept coming back and trying to sneak in towards the pups...When I left the bear was walking uphill and away from the area." Then on September 13th: "[2109GF] seems to dislike and have no fear of bears. I previously saw her chasing a bear in this same area. Today, I found her resting alone on a knob above mid-Jenny creek. Two pups, 1G, 1B, were resting ~100 meters away. They got up to romp and play while I circled and eventually went over to the grey female... As I circled, I noticed a bear just 100m away feeding on remains of a moose kill. During my circling, 2109GF got

up and noticed the bear and immediately gave chase and ran him off to the south. When I left, she was still in pursuit chasing him off.”

Grant Creek

Pack Counts: Spring – 9 | Fall – 7

Collared Wolves: 2102GF, 2303GM, 2304GF

This generally strong pack seemed to have a challenging year. They began the year with 9-10 wolves. Telemetry flights identified a smallish light grey wolf typically leading the pack. During March captures we collared this animal, 2303GM, as well as re-collaring 2102GF and adding a collar on adult female 2304GF. They had a March count of 9 wolves. There was evidence that both 2102GF and 2304GF whelped litters. 2102GF used a new den site on the East Fork, but abandoned it by the end of May. 2304GF used one of the traditional Wigand dens. Unfortunately, no pups were ever seen with any pack members in the summer or fall. 2304GF was twice observed in September holding an injured right front leg off the ground. The pack continued to maintain a very large territory from the Kantishna hills east across Wigand Flats and including portions of the Stampede corridor area. They had a fall count of 7 wolves. At the beginning of December, the whole pack traveled north to the area of Toklat Springs at the mouth of the Sushana River. 2303GM and possibly some other pack members did not return to the territory with the rest of the pack, and instead finished out the year well to the north of the Park.

Spring 2024 update: In January, 2303GM returned to the territory but was not traveling with the other collared wolves. In late January, the collar of 2303GM sent a mortality signal before going off-air. The collars of 2304GF and 2102GF both went off-air that same week. The last locations of all three animals were seen to be in trap circles (the marks left by an animal caught in a trap). In March we suspected there were still 3 pack members remaining in the territory, but were not able to locate them for collaring.

Hana

Pack Counts: Spring – 0 | Fall – NA

Collared Wolves: 2115BM

This pack began the year consisting of only 2115BM, after he lost his two previous mates to Grant Creek aggression. In early March he met the same fate, killed by Grant Creek. The Grant Creek pack incorporated this former Hana territory into their own.

Riley Creek

Pack Counts: Spring – 12 | Fall – 11

Collared Wolves: 1911GM, 2007BF

This pack continued to be large and successful. In the early part of the year this pack had as many as 14 members, with a March count of 12. In March we recollared breeding female 2007BF. Shortly thereafter, the GPS portion of her mate 1911GM's collar failed, making it very fortunate that we were able to maintain at least 1 functional GPS collar in the pack. At 7 years of age, 1911GM is the oldest wolf monitored in 2023. This pack returned to a den site on the Teklanika in 2023 that they used in previous years, where they whelped at least 3 pups, all of which survived through October, for a fall pack size of 11 wolves.

Serena

Pack Counts: Spring – 6 | Fall – 6

Collared Wolves: 1915GF, 2113GM, 2307GF, 2309GF

This pack began the year with 9 wolves, but by March this number had diminished to 6. 1915GF died of starvation in early April. In mid-April the telemetry flight observed the pack “just east of Cabin Divide Mt. stalking two big sheep rams. The two leaders sneaked within 30 yards then made their rush as the rams blew out. One went downhill and the other cut back across the hill. They chased the one going downhill. The ram ran like his life depended on it and barely skidded into a small rock face outcropping downhill a half mile. When I left them he was still cliffed out there and the wolves were resting and others were trying to get within reach.”

To ensure continued monitoring, we added a collar to adult female 2307GF in April. In 2023, 2307GF whelped pups in a den on Stony Creek, and the pack recruited 2 pups, for a fall count of 6 wolves. In November we collared another adult female in the pack, 2309GF.

Sunday Creek

Pack Counts: Spring – 0 | Fall – NA
Collared Wolves: 2012GM,

This pack began the year as only a pair, with one collared animal. 2012GM was harvested in February, ending the story of the Sunday Creek pack.

WESTERN PACKS

Abbie

Pack Counts: Spring – 8 | Fall – 8
Collared Wolves: 2105GM, 2112GF, 2302GF, 2308GM, 2310BM

Abbie pack began the year 9 strong, but in early February presumed breeding male 2105GM drowned in Birch Creek. In March we collared another adult female, 2302GF, and the pack had a March count of 8 wolves. Neither collared female, including presumed breeding female 2112GF, showed clear evidence of whelping or den site attendance, although we suspected the pack was using one of the dens in the Slippery Creek den complex. 2302GF died of starvation in June. Our suspicions were supported by fall sightings of two wolves behaving like pups, snuggling up to 2112GF. The pack had a fall count of 8 wolves. In November we recollared 2112GF and added collars to two adult males in the pack, 2308GM and 2310BM.

Bearpaw

Pack Counts: Spring – 7 | Fall – 2
Collared Wolves: 2103BF, 2209GM, 2210GF

The Bearpaw pack started the year with 8 wolves, although by March this was reduced to 7. In a surprise moment of synchronicity during March captures, we came over a ridge to find 2103BF, a wolf we hoped to



2310BM from Abbie pack beginning to recover after capturing.

re-collar, alone and in the open far from the rest of the pack. We were able to recollar her, and although she briefly rejoined the pack in early April, she moved separately in the territory before ultimately dispersing eastward. Meanwhile, the other collared wolf, 2209GM, also split off from the pack in mid-April and trended northwest. In June, Roosevelt female 2210GF began spending time in the same area, and eventually joined 2209GM and was reclassified as a Bearpaw wolf. These two animals remained together for the rest of the year, for a fall count of 2. It is not known if any wolves are remaining in the original Bearpaw territory or if they denned.

Blanc

Pack Counts: Spring – 4 | Fall – NA
Collared Wolves: 2106GM, 2211BF

After their steep decline last year, this pack did not rebound. They had a spring count of 4, and shortly thereafter presumed breeding male 2106GM died of starvation. The remaining collared wolf, 2211BF, began trending westward, spending much of the year outside the park and too far for regular aerial monitoring. There

was no suggestion that she attended a den. The fall count of this pack is unknown.

Glacier City

Pack Counts: Spring – 5 | Fall – 5
Collared Wolves: 1904GF

Glacier City began the year with 5 wolves, and maintained that for their spring count. In March we were able to recollar breeding female 1904GF. Her mate, a large black male, is quick to flee from aircraft and has proved too elusive to collar. They denned in a location similar to last year, on lower Moose Creek. Most of their territory is steep and thickly vegetated, making it challenging to spot them. They were observed to have 1 pup with them in fall, for a fall count of 5 wolves.

Kotahlno

Pack Counts: Spring – 7 | Fall – 1
Collared Wolves: 2305GM, 2306GF

After seeing tracks of a pack of 6-7 in the western part of the park all winter, we were able to collar adults 2305GM and 2306GF out of a group of 7. They ranged a large territory southeast of Lake Minchumina. 2306GF appeared to whelp in a den near Starr Lake, but no pups were ever seen. In early June, 2305GM dispersed to the west/southwest. This pack was hard to get visuals on, but fall sightings were of only 2306GF by herself.

Roosevelt

Pack Counts: Spring – 7 | Fall – 1
Collared Wolves: 1903BF, 2210GF

This year saw this pack seemingly wane in strength. They started the year with 8 wolves, and had a spring count of 7 wolves. The GPS portion of presumed breeding female 1903BF's collar was already intermittent at the beginning of the year, and got worse as the summer progressed. Nevertheless, we could determine that she denned at one of their traditional den sites on the Kantishna river. With 2210GF having dispersed to Bearpaw pack, monitoring of Roosevelt became limited. Summertime monitoring showed three adults, but the only visuals of 1903BF from the fall showed her alone, with no evidence of pups or

other pack members.

Sesui

Pack Counts: Spring – 7 | Fall – 7
Collared Wolves: 1808GM, 2107GF

Although the year began with promise for this pack, it turned out to be a severe one. The pack began the year with 7 wolves and kept them through March, consisting of the breeding pair 1808GM and 2107GM and their surviving pups. In March we recollared 2107GF. They again used a den on the west side of Castle Rocks, and were seen to have whelped 5 pups. Their fall count remained 7. Then in October 1808GM died of unknown natural causes. When we investigated, his body had been almost fully consumed, perhaps by his own pack, reminiscent of the fate of his previous mate 1919GF. The following month, 2107GF was killed by other wolves, leaving any remaining pups and yearlings to fend for themselves, and ending our monitoring of this pack for the time being.

Short Cache

Pack Counts: Spring – 4 | Fall – 0
Collared Wolves: 2301BM

This pack, named for its short monitoring tenure and capture location, had been snowtracked as a group of 4 in the winter. In March we collared adult male 2301BM out of a group of 4; unfortunately he died only 5 days later of natural unknown causes, likely killed by other wolves – perhaps by neighboring Kotahlno.

Spyglass

Pack Counts: Spring – 2 | Fall – 4
Collared Wolves: 1918GF, 2208GM

Spyglass began the year as a pair after losing their pup last year, with a spring count of 2. In March we recollared 1918GF, and found her to be in excellent condition, particularly for a wolf about to turn 7 years old. They denned in a new location near the terminus of the Herron glacier, and recruited 2 pups for a fall count of 4.

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



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*

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.

In 2023, staff captured and collared 14 wolves during two capture efforts, including 8 recaptures of wolves collared in previous years to replace aging or failed collars.

CLOSURES

One closure around an active den site was put in place in 2023. 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.

Teklanika Wolf Closure

The Teklanika Wolf Closure was implemented on May 31st 2023. The closure was lifted on August 17th 2023 after the wolves left the area. The area closed encompassed areas south of the Teklanika bridge and along Igloo Creek.

Outreach and Collaborations

OUTREACH

- Wolf Research in Denali, 2023 Science Symposium Presentation, May 2023 — Bridget Borg
- Wolves of Denali Field Course August 2023 — Bridget Borg
- Presentation to Watershed Middle School classroom, November 2023 — Bridget Borg
- Continued updates to wolf web page: <https://www.nps.gov/dena/learn/nature/wolves.htm>



Dr. Borg enjoying good weather during wolf captures.

PUBLICATIONS

- Cassidy, K. A., Borg, B. L., Klauder, K. J., Sorum, M. S., Thomas-Kuzilik, R., Dewey, S. R., Stephenson, J. A., Stahler, D. R., Gable, T. D., Bump, J. K., Homkes, A. T., Windels, S. K., & Smith, D. W. (2023). **Human-caused mortality triggers pack instability in gray wolves.** *Frontiers in Ecology and the Environment*, 1–7. <https://doi.org/10.1002/fee.2597>
- Bridget L. Borg, Kaija J. Klauder, Kimberlee B. Beckmen. (2024). **Suspected True Hermaphroditism in a Free-ranging Gray Wolf (*Canis lupus*) in Interior Alaska, USA.** *Journal of Wildlife Diseases*, 60(2): 546–549. <https://doi.org/10.7589/JWD-D-23-00038>

COLLABORATIONS

- Wolf Hunting adjacent to National Parks: measuring impacts to wolf populations, pack stability and long-term research. Collaboration with Yellowstone and Grand Teton National Parks and Yukon Charley National Preserve
- Linking seasonal snow processes to wildlife population dynamics, NASA ABoVE campaign, Dr. Laura Prugh, University of Washington.
- 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

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.



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.



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.

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