



# 2022 Annual Wolf Report



**On the cover:** Wolves traveling along the Park road. Clockwise from top: *NPS photo/Jake Gaposchkin*; *NPS photo/Jake Gaposchkin*; *NPS photo/Andrew Kirby*.

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A wolf on the park road in Igloo Forest. *NPS Photo/Kai Shafer*



Retrieved collars showing heavy damage from pack members. *NPS Photo /Bridget Borg*

# 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 2022, 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.

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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



# 2022 Summary



In 2022, we monitored 19 wolf packs in and around the Denali study area and captured and collared 18 wolves during two capture efforts, including 8 recaptures of wolves collared in previous years to replace aging or failed collars. and 39 aerial tracking flights 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 46 times, comprised of 12 caribou, 33 moose, and 1 Dall sheep.

In spring 2022, 97 wolves in 13 packs resided in the study area, for an estimated population of 98 wolves. There was evidence that 16 monitored packs denned in 2022, recruiting 38 pups (13 packs denned in the park, recruiting 36 pups). Fourteen collared wolves died in 2022: 2 were illegally harvested and 1 was suspected legally harvested, 4 were killed by other wolves, 4 died of unknown natural causes, 1 starved, 1 died of unknown causes, and 1 died as a result of capture. In addition, 2 wolves that dispersed in 2022 also died during dispersal. In November, 2 new packs were located and collared in the western area of the park. In fall 2022, 102 wolves were counted in 14 packs within the study area, for an estimated population of 103 wolves. See territory map (page 9) for Spring 2023 estimates.

A index of wolf viewing for the eastern portion of the road (to East Fork) was 0.01 in 2022.; only one data collection trip out of 91 observed a wolf in 2022.

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

# Reproduction and Mortality

2022

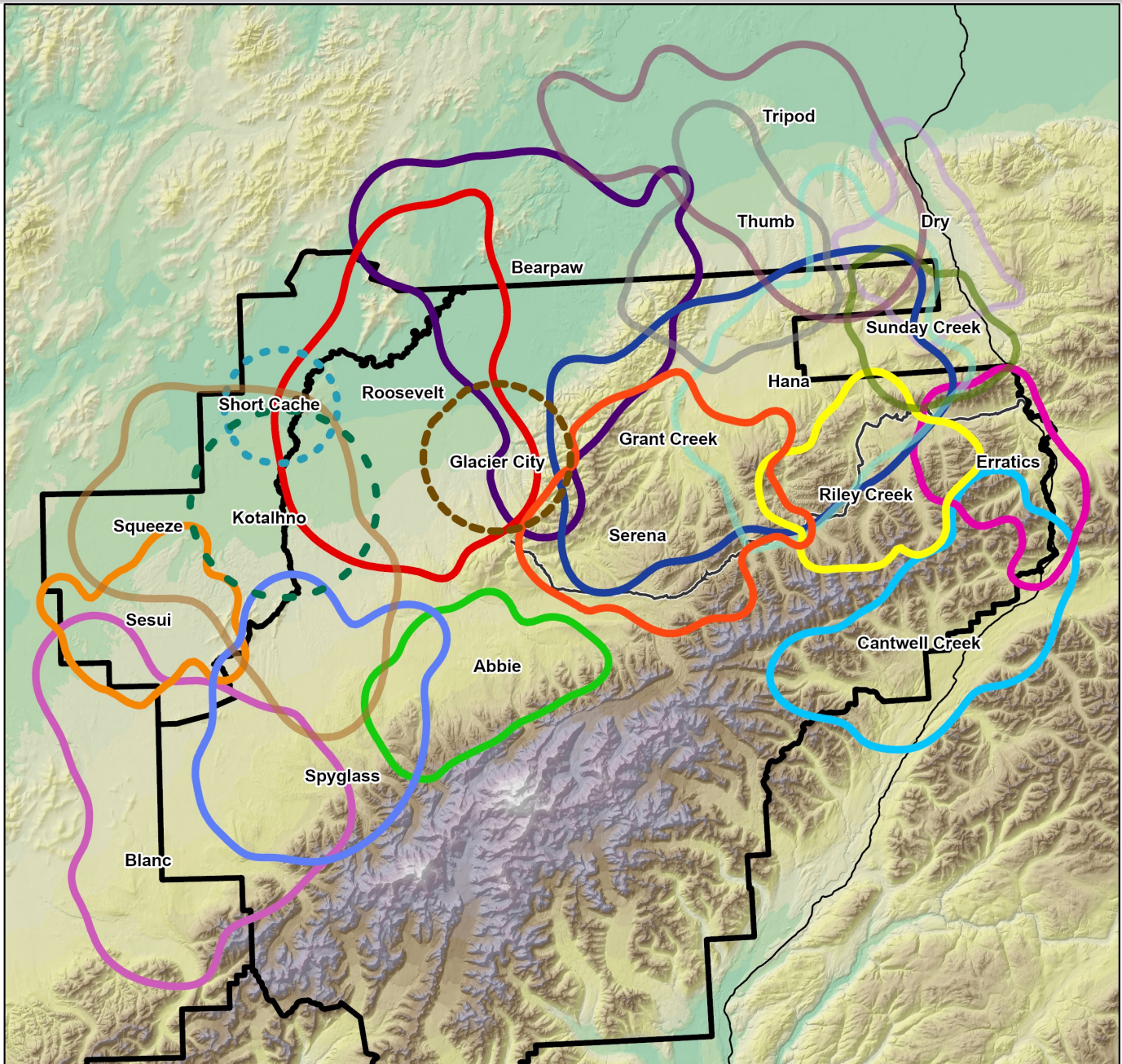
PACK	Spring Pack Count	Fall Pack Count	Reproduction		Mortality		Description
			Dennded	Fall Pup Count	Natural	Human-Caused	
<b>Eastern Region</b>							
Cantwell Creek	14	11	Yes	3			
Erratics	7	7	Yes	4			
Grant Creek	18	10	Yes	4		1	Capture-related
Hana	2	2	No		2		Killed by wolves
Riley Creek	9	16	Yes	4	1		Killed by wolves
Sunday Creek†	3	2	Yes	0		2	Illegal harvest
Dry†	2	4	Yes	2			
Thumb†	6	NA	Yes	0		1	Suspected harvest
<b>Western Region</b>							
Abbie	7	9	Yes	3			
Bearpaw	8	7	Yes	3	1		Natural unknown
Blanc	14	4	Yes	2	1		Natural unknown
Glacier City	2	6	Yes	4			
North Face	1	0	No		1		Killed by wolves
Roosevelt	8	9	Yes	3	1		Natural unknown
Sesui	4	7	Yes	2			
Serena	NA	9	Yes	2			
Spyglass	NA	3	Yes	3			
Squeeze	8	0	Yes	0	2		Natural unknown, starved
<b>Out of Study Area</b>							
Tripod	6	NA	No		1		1 unknown
<b>TOTALS*</b>	<b>119</b>	<b>106</b>		<b>39</b>	<b>10</b>	<b>4</b>	

\*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 2023 Population Map



**Study Area Population Count March 2023: 81 wolves in 13 groups, Mean pack size = 6 wolves**  
**Home ranges based on locations from April 1, 2022 - March 31, 2023.**

Packs with faint outlines and grey labels are no longer active.

Short Cache pack not included in population count because not enough information on territory location.

## Pack (Pack size as of 3/15/2023)

Abbie (8)	Glacier City (5)	Riley Creek (12)	Squeeze (0)
Bearpaw (7)	Grant Creek (9)	Roosevelt (7)	Sunday Creek (0)
Blanc (3)	Hana (0)	Serena (6)	Thumb (0)
Cantwell Creek (4)	Kotalhno (7) (may be continuation of Squeeze)	Sesui (7)	Tripod (0)
Dry (0)		Spyglass (2)	
Erratics (4)			

# Pack Narratives

## EASTERN PACKS

### Cantwell Creek

*Pack Counts: Spring – 14 | Fall – 11*  
*Collared Wolves: 2008GF, 2108GF, 2111GF*

In early January 2022 this pack made a 10-day foray out of their traditional territory and looped north as far as the north side of Mt. Wright. Cantwell Creek began the spring with 14 wolves. In early March, 2111GF, collared the previous November, began dispersing to the north and east. In late April she died of natural causes in the headwaters of Delta Creek in the eastern part of the Alaska Range. The deep persistent spring snowpack blocked several of the pack's traditional den sites. They denned in a new area along Cantwell Creek and eventually moved to previously used homesites further up the creek. In mid-July the GPS portion of 2008GF's collar failed. The pack recruited at least 3 pups, and had a fall 2022 count of 11 wolves.

### 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 2017.

### Dry

*Pack Counts: Spring – 2 | Fall – 4*  
*Collared Wolves: 2206BF*

In March 2022 we collared adult female 2206BF and observed her male companion. The pair were captured in an area already in another pack's territory, but they were able to carve out a space to the northeast of the Park. Beating this odds, this pair remained together, whelped, and recruited 2 pups. Because their territory lies mostly outside the park, this pack is not monitored as regularly.

### Erratics

*Pack Counts: Spring – 7 | Fall – 7*  
*Collared Wolves: 2013GF, 2109GF, 2110GM*

This pack had a March 2022 count of 7 wolves, and no additional wolves were collared in March 2022. Adult male 2110GM made a month-long foray to the north in March, briefly returned to the pack, and then struck out on an impressive dispersal at the beginning of April. Over the course of two months he moved approximately 800 miles to the northeast, deep into the heart of the Yukon Territory. He died there in early June of unknown causes, as the area is so remote that there was no feasible opportunity to investigate the mortality. Back in Denali, the pack again denned in Carlo Pass, and later had a rendezvous site in middle Jenny Creek. The pack recruited at least 4 pups, for a fall 2022 count of 7. No additional wolves were collared during November captures.

### Grant Creek

*Pack Counts: Spring – 18 | Fall – 10*  
*Collared Wolves: 1906GF, 1915GF, 2102GF, 2207GM*

This large pack continued to have a complex story. No additional animals were collared during March 2022 captures, and the pack had a spring count of 18 wolves. In early April 2022 this pack killed female 2114GF of the

Hana pack. Subsequently in mid-June Grant Creek female 1906GF began spending time with lone remaining Hana male 2115BM – see Hana Pack. At whelping time, 1915GF split off from the main pack and ultimately formed a new pack – see Serena pack information.

The pack denned in Wigand flats. It did not appear that any of the collared females were the breeding female. They recruited at least 4 pups for a fall count of 10 wolves. In November 2022 we collared yearling male 2207GM. Unfortunately, he perished from gastric dilation (bloat) while recovering from capture.

## Hana

*Pack Counts: Spring – 2 | Fall – 2*

*Collared Wolves: 2114GF, 2115BM, 1906GF*

This pack maintained a very small territory in 2022. In early April, breeding female 2114GF was killed by Grant Creek. Remaining male 2115BM wandered more widely, and in mid-June he began spending time with Grant Creek female 1906GF, in both Hana territory and the eastern part of Grant Creek territory. 1906GF spent more time with Hana than with Grant Creek, and we consider her to have become a Hana pack member during this time although she returned to Grant Creek pack/territory on multiple occasions. Their on-again-off-again connection lasted through late October, when 1906GF and 2115GM encountered the main body of Grant Creek pack and 1906GF was killed. When the collar of 1906GF was retrieved in November, we observed 2 puppies feeding on her remains. The parentage of these puppies is unknown. After this mortality the pack returned to a count of 1 wolf.

## Riley Creek

*Pack Counts: Spring – 9 | Fall – 16*

*Collared Wolves: 1911GM, 2001GM, 2007BF, 2205GM*

This pack maintained its large size, with a March 2022 count of 9 wolves. 2001GM, who had previously made several forays into Grant Creek territory, was killed by Grant Creek while on such a foray in early March. In March we recollared 1911GM and deployed a video-collar on yearling male 2205GM. The video collar



Thumb male 2202WM recovers after collaring.

*NPS Photo/Bridget Borg*

dropped off automatically in July. Unfortunately, due to a programming error it did not record any video footage. The pack denned and rendezvoused on the Sanctuary River. Riley Creek recruited at least 4 pups, for a fall 2022 pack count of 16. In November, we attempted to recollar 1907BF but were unsuccessful. In December 2022, the GPS portion of her collar failed.

## Serena

*Pack Counts: Spring – NA | Fall – 9*

*Collared Wolves: 1915GF, 2113GM*

Right about at whelping time in 2022 (May 15th) 1915GF and an uncollared companion separated from the main Grant Creek pack and began localizing in the Stony Creek area. 1915GF's GPS uploads failed at the beginning of June so it's not clear exactly what transpired, but telemetry flights indicated that she remained separated from the pack throughout the summer. In late August, wandering male 2113GM, last remaining survivor of the North Face pack, joined 1915GF's group. In November we recollared 1915GF, and this new pack was observed to have recruited 2 pups.

## Sunday Creek

*Pack Counts: Spring – 3 | Fall – 2*

*Collared Wolves: 2012GM, 2010GF, 2101GM*

Despite some time traveling separately during the 2022 breeding season, all three adults of the Sunday Creek pack ultimately stuck together and whelped at a den in the Dry Creek area. Unfortunately breeding female 2010WF died near the den in early July in what appeared to be a case of out-of-season anthropogenic mortality. Compounding this, male 2101GM was caught and killed in an out-of-season snare on the Savage river in mid-August. Unsurprisingly, no pups survived the summer. By November, surviving male 2012GM was traveling in the traditional territory with an uncollared female companion. We recollared 2012GM in November.

## Thumb

*Pack Counts: Spring – 6 | Fall – unk*

*Collared Wolves: 2201BF, 2202WM*

In March of 2022 we collared an adult male and female, 2201BF and 2202WM, out of this pack of 6. Their range primarily north of the Park meant limited monitoring, but they did den and presumably whelp. Unfortunately no pups were observed to have survived through the fall. In early September the collar of 2202WM went off-air. His fate is unknown, although several active hunting camps in the area suggest a possible anthropogenic involvement. In early December 2201BF died well north of the park, of unknown causes. Limited monitoring did not allow us to get an accurate fall count for this pack.

## Tripod

*Pack Counts: Spring – 6 | Fall – NA*

*Collared Wolves: 2104BM*

2104BM died of unknown causes in early July 2022. There was no evidence that this pack was denning. No further captures or monitoring were attempted as this pack had moved well north of the Park.

## WESTERN PACKS

### Abbie

*Pack Counts: Spring – 7 | Fall – 9*

*Collared Wolves: 2105GM, 2112GF*

Abbie pack enjoyed a strong year in 2022. 2105GM and 2112GF remained as the breeding pair. The pack had a spring count of 7, and likely benefited from the majority of the Denali caribou herd wintering in the pack's territory. They whelped in the Slippery Creek den complex area, and recruited at least 3 pups for a fall count of 9 wolves. We did not capture any additional animals in March or November 2022.

### Bearpaw

*Pack Counts: Spring – 8 | Fall – 7*

*Collared Wolves: 2002GM, 2103BF, 2209GM*

This pack had a spring 2022 count of 8 wolves. In March we recollared 2002GM. The pack denned in the Sandless Lakes area, and recruited at least 3 pups. In November we collared adult male 2209GM. Shortly before captures, 2002GM died in connection with the pack's efforts to hunt and consume a cow moose who had taken refuge in a small pond, a scene observed on a monitoring flight. The mortality signal from his collar was later discovered to be coming from under the ice of the pond. The pack had a fall count of 7 wolves.

### Blanc

*Pack Counts: Spring – 14 | Fall – 4*

*Collared Wolves: 1908BF, 1918GF, 2106GM, 2211BF*

In a year that saw this pack's dominance wane, they started spring 2022 strong with a count of 14. In March we recollared elderly breeding female 1908BF. The pack again denned on the Swift Fork, but in August 1908BF died of unknown natural causes. No pups were observed to survive through the fall. In November we collared yearling female 2211BF. 1918GF finally made the leap to independence in April

– see Spyglass pack. Blanc had a fall 2022 count of only 4 wolves.

## Glacier City

*Pack Counts: Spring – 2 | Fall – 6*

*Collared Wolves: 1904GF*

1904GF had been primarily separate from the Roosevelt pack proper beginning in March of 2021. The GPS portion of her collar had failed back in November of 2020, however telemetry flights indicated that she remained within the periphery of Roosevelt territory. In winter 2021-2022 aerial tracking determined that she had a companion, a large black wolf presumed to be a male. When she was observed at a freshly-dug den hole in spring of 2022, the pair were renamed Glacier City pack. They were observed to have recruited 4 pups, for a fall 2022 pack count of 6 wolves.

## North Face

*Pack Counts: Spring – 1 | Fall – 0*

*Collared Wolves: 1917GM, 2113GM*

In mid-January 2022, breeding male 1917GM was killed by Grant Creek within the North Face territory. After this, remaining collared male 2113GM ranged widely between the Stampede corridor and the Cache Creek area. He was sometime seen with other wolves but more often alone. He remained alone until August 2022 when he joined the Serena pack.

## Roosevelt

*Pack Counts: Spring – 8 | Fall – 9*

*Collared Wolves: 1811GF, 1903BF, 2210GF*

Roosevelt pack began 2022 with a spring count of 8 wolves. In March we recollared 1903BF. The GPS portion of 1904GF's collar had failed the previous November, and the GPS portion of 1811GF's collar had failed in December; however as both had last been captured in March of 2021 it was too soon to attempt recapture. The pack again denned on the Kantishna River and recruited at least 3 pups. 1811GF's collar briefly transmitted some locations in May that confirmed her presence at the den. 1811GF died in late July of unknown

natural causes. Meanwhile 1904GF split off to form her own pack – see Glacier City pack. In November we collared adult female 2210GF. The pack had a fall 2022 size of 9 wolves.

## Sesui

*Pack Counts: Spring – 4 | Fall – 7*

*Collared Wolves: 1808GM, 2107GF*

In March of 2022 we recollared 1808GM, whose GPS uploads had failed, and the pack had a spring count of 4. The GPS portion of 2107GF's collar had also primarily failed by January, but due to her recent collaring in March of 2021 she was not recaptured. The pack denned between Castle Rocks and the Herron River, and recruited at least 3 pups. 2107GF's collar occasionally transmitted GPS locations during the late summer and fall. We did not collar any additional wolves in November. The pack had a fall 2022 count of 7 wolves.

## Spyglass

*Pack Counts: Spring – NA | Fall – 3*

*Collared Wolves: 1918GF, 2208GM*

After her many forays, which began in April of 2021 and continued over the past year, 1918GF finally became independent for good in April of 2022. She and a male companion denned in the White Creek area and recruited 1 pup. The GPS portion of 1918GF's collar failed in early October. In November we collared her mate, 2208GM. By the end of the year the pup was no longer seen with the two adults.

## Squeeze

*Pack Counts: Spring – 8 | Fall – 0*

*Collared Wolves: 2203GM, 2204GM*

After snow-tracking this pack through the winter in 2021-2022, we were able to collar two of the 8 pack members in March of 2022: presumed breeding male 2203GM, and yearling male 2204GM. The pack denned along Birch Creek but no pups were ever observed. 2203GM died of unknown natural causes in mid-July. 2204GM was alone by the fall, and died of starvation in late September. The area used by this pack is known for

# 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 2022, staff captured and collared 18 wolves during two capture efforts, including 8 recaptures of wolves collared in previous years to replace aging or failed collars.

## CLOSURES

Once closure around an active den site was put in place in 2022, and one was pre-emptively put in place around a previous den. 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 April 25th 2022. The closure was lifted on May 28th 2022 when it became clear that wolves were not using the area. The area closed encompassed areas south of the Teklanika bridge and along Igloo Creek.

### **Sanctuary Wolf Closure**

The Sanctuary Wolf Closure was implemented on June 2nd 2022. The closure was lifted on September 2nd 2022. The area closed encompassed the north portion of backcountry unit #5.

# Outreach and Collaborations

## OUTREACH

- Wolf Research in Denali, 2022 Resources Day Presentation, May 2022 — Bridget Borg
- Webinar: Between a risk and a hard place: Scavenging patterns and habitat selection of carnivores in the subarctic, International Wolf Center, June 2022 — Kaija Klauder
- Wolves of Denali Field Course August 2022 – Kaija Klauder
- International Wolf Symposium plenary presentation: A History of Denali National Park Wolf Studies, October 2022 — Bridget Borg
- International Wolf Symposium panel member: Human-Caused Mortality Triggers Wolf Pack Instability: A Study from Five U.S. National Parks, October 2022 — Bridget Borg
- International Wolf Symposium presentation: Between a risk and a hard place: Scavenging patterns and habitat selection of carnivores in the subarctic, October 2022 — Kaija Klauder
- Wolf Connection Podcast, October 2022 — Bridget Borg
- Continued updates to wolf web page: <https://www.nps.gov/dena/learn/nature/wolves.htm>
- Interviews and field visits with independent filmmaker Ramey Newell for upcoming documentary “A Good Wolf.”

## PUBLICATIONS

- Borg, B. L., Schirokauer, D. W. (2022). **The Role of Weather and Long-Term Prey Dynamics as Drivers of Wolf Population Dynamics in a Multi-Prey System.** *Frontiers in Ecology and Evolution*, 10. <https://www.frontiersin.org/article/10.3389/fevo.2022.791161>
- Bryce, C. M., Dunford, C. E., Pagano, A. M., Wang, Y., Borg, B. L., Arthur, S. M., & Williams, T. M. (2022). **Environmental correlates of activity and energetics in a wide-ranging social carnivore.** *Animal Biotelemetry*, 10(1), 1–16. <https://doi.org/10.1186/s40317-021-00272-w>
- Sorum M., Pruszenski J., and Borg B. (2022) **It Takes A Pack To Raise A Pup.** *Front. Young Minds*. 10:735160. doi: 10.3389/frym.2022.735160

## 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
- Genetic and genomic effects of harvest on a cooperatively breeding carnivore, USGS NRPP award and collaboration with University of Idaho

# READING WOLF BEHAVIOR: WHAT IS THIS WOLF COMMUNICATING?



## 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!

NPS Photo



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.



Pinterest

## 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.



Holly Kuchera

## 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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