



Wolf Trails of Southeast Alaska

Alaska Department of Fish and Game, Winter 2024



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- » Get a sneak peek into plans for wolf management in 2024.

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- Additional updates on research, findings and more coming Summer 2024.

Pampered pups: Wolves select deer as preferred food for young

By **ABBY MCALLISTER**

Despite the fact wolves range far and wide to find food, when it's time to raise a litter of pups, new research is showing the pack changes not only the area where it spends most of its time, but also what type of food it preys upon.

Gretchen Roffler, a research biologist with the Alaska Department of Fish and Game who studies wolves in Southeast

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Pampered pups

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Alaska, wanted to gain insights into the diets of wolf pups and adults during denning season. From 2014 to 2020, Roffler and her team collected data at den sites on Prince of Wales Island.

The best data to reveal what wolves may be eating? Scat, naturally.

By breaking down the scat samples in a lab and extracting and identifying the DNA present in the excrement, they were able to paint a picture of the prey species targeted by wolves during denning season, which is in the spring — typically from late April to July. The team compared these findings with prey identified from scats collected during the rest of the year and throughout the wolf pack's entire home range.

On Prince of Wales Island, where annual rainfall totals between 50 to 150 inches annually, wolves roam a 2,577-square mile island dominated by Sitka spruce and Western hemlock. The island has seen logging throughout the past century, and is now a mix of old growth and second growth forests, as well as numerous logging roads not found in most areas of the Alexander Archipelago. The island — with its temperate climate — provides habitat to a range of species. The logging roads provide a network of access points to remote areas for researchers. And for wolves, the fabric of mixed-age forest and wide pathways, form a web for their forays.

Findings from researchers indicate wolves on POW prey throughout the year on Sitka black-tailed

deer, black bear, beaver, marten, river otter, small mammals, as well as salmon and a variety of bird species.

Roffler expected to find a similar variety when it came to what pups ate during their time near the den.

Instead, samples collected at wolf dens during the denning season showed a narrow dietary preference for primarily deer. This was true regardless of what pack was sampled on POW.

In other regions of North America, when ungulates were scarce wolf pups were fed beaver, and in some cases, beaver was the major diet item — but this was not found to be true in the latest study on POW by Roffler.

"I think that deer is a very high value prey species in

general and other studies have shown that pup survival increases when greater quantities of ungulates are included in their diet," Roffler said.

On POW deer are the only ungulate. "Beavers certainly exist on the island," she said. "But the wolves are prioritizing deer. It is the preferred species."

More than half the dens monitored showed pups were exclusively fed deer. Out of the nine active wolf dens monitored, scats collected at five of them only contained deer. And this wasn't because there were no beaver, or other prey species, available. Put simply, it appeared those adult wolves chose to exclusively provision their pups



ADOBE STOCK IMAGE

A female wolf and her pups. Samples of scat collected at wolf dens during denning season on Prince of Wales Island showed a narrow dietary preference for primarily deer.

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There is a relationship with litter size and the proportion of deer in their diet. Pups that have more ungulate in their diet are bigger, and have higher survival rates.

- GRETCHEN ROFFLER, Wildlife Biologist, ADF&G



A mounted trail camera captured this female wolf and her pup as they explore outside a den on Prince of Wales Island in early summer.

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with deer meat. Whether this was because deer meat is higher in nutritional value, or lower in parasites, or easier to digest — or perhaps a combination of all those factors is not entirely clear.

But research shows this natural selection of prey items is well documented.

“There is a relationship with litter size and the proportion of deer in their diet. Pups that have more ungulate in their diet are bigger, and have higher survival rates,” Roffler said.

Deer must be abundant, and wolves must be able to access deer around the den site in order to feed their pups. Hence, Roffler also looked at the relationship of the habitat around a wolf den site and diets. She found the configuration of the habitat played a role. For instance, areas with a higher proportion of young clear cuts — lots of sunlight to generate young growth of blueberry bushes, forbs and other woody browse favorable to deer — also happened to be areas where the proportion of deer in wolf diets was the highest.

“Also, there was an association with wolves eating more deer in areas near closed and unused logging roads — hypothetically, these could be easier travel corridors,” Roffler said.

And, she said, research is currently ongoing regarding that possibility.

There is much to be learned about wolves, especially those who choose to live under a forest canopy, one often shrouded by fingers of mist and rain. The setting and climate are only the beginnings of the challenges.

Roffler’s study revealed wolves on POW find deer as important for the growth of their pups as a

balanced diet is to a growing human child.

But obtaining the data for this research was certainly no small feat.

“It’s not easy to study this stuff. We had to crawl around den sites and pick up wolf scat, and not be invasive and not disturb the pack,” she said.

But while doing all that, Roffler and her team also had to try to learn challenging things — mysteries about wolves that are historically difficult to study even without the rain forest getting in the way — such as reproduction.

“We put a lot of thought into getting the data, but not create disturbance.”

ADF&G NEWS IN BRIEF

GMU 2 Wolf Population Objective

The current GMU 2 fall population objective of 150-200 wolves was set by the Alaska Board of Game at their January 2019 meeting. The purpose of the objective is to provide ADF&G with a management goal that can be verified by regular population estimates. When setting the objective, the Board referenced population estimates from 2013-2017. Several indicators now suggest estimates from 2014 and 2015 may have been low. If those estimates were low, the population objective may need to be reassessed to ensure long-term sustainability. ADF&G is investigating this question. Until more is known, particularly about the degree of genetic isolation and potential for inbreeding depression in this population, ADF&G is managing harvest to conserve existing genetic diversity by maintaining a population somewhat higher than the objective in regulation. At their January 2023 meeting in Ketchikan the Board of Game supported this approach.

GMU 2 Wolf Management Strategy Update

The 2019 GMU 2 Wolf Management Strategy was intended to be updated as new information became available. In 2024 ADF&G will host public meetings on Prince of Wales Island to present new information on management and research findings since 2019 and to gather stakeholder input for updating the GMU 2 Wolf Management Strategy. ADF&G’s goal is to publish and implement the updated strategy in fall 2024. Please watch for announcements regarding the meetings in spring 2024.

Using camera traps to aid in wolf research

By **ABBY MCALLISTER**

Periodically, the cubicle around Alex Lewis' desk at the Alaska Department of Fish and Game office in Douglas is overflowing with gear — totes, ziplock baggies of various sizes, locking cables, tackle boxes housing SD cards, metal cages, fanny packs and, of course, trail cameras.

Her prep for fall field work typically begins around the time salmon runs are wrapping up and hunters are headed afield, but before the first frosts of the season. Lewis is preparing to "catch" wolves on camera as they encounter hair boards. She's been working to do so since 2021, each year amassing at least one million individual images or videos. Some of those show wolves as they investigate various sites on Prince of Wales Island.

The main goal of her project is to investigate how wolves behave at hair boards — which are square boards roughly the size of a large floor tile affixed to the ground, armed with barbed wire and scented with lure. ADF&G, with assistance from the U.S. Forest Service and Hydaburg Cooperative Association, uses hundreds of hair boards distributed throughout GMU 2 to catch hair samples from wolves for annual population estimates. This analysis assumes wolves that encounter hair boards have a generally equal chance of rolling and leaving samples. Some GMU 2 residents, however, question whether this is true. This project aims to gather objective data to answer that question.

"My thought was 'I am going to set up a camera project to help with concerns being raised by the community,'" Lewis said. "But, I wanted to do it in a scientific way to try to get useful information for everyone."

That was three years ago and the study is now going into its third and final year. When this season is complete, Lewis will dive into the data and begin examining exactly how many wolves roll and how many don't roll on the hair boards. While some images are good enough to determine the sex of the animals in the images, Lewis said the data being collected isn't really a good way to accumulate age and sex classes. In other words, how many are male and female and how old they are.

"I'm hoping to learn what proportion of wolves roll on a board and leave hair, what proportion do roll and don't leave hair, and what proportion don't interact with it at all," she said. An interaction could be "sniffing, urinating or rolling."

Wolves that don't roll on the hair boards, but are "captured" by the trail cameras, could be accounted for when it comes to the department's annual population estimates.

The trail cameras go up each fall — 60 to be exact — and Lewis



ALEX LEWIS / ADF&G

Biologist Alex Lewis poses while she checks a trail camera on Prince of Wales Island. Lewis is conducting a project to gain data on how wolves behave at hair boards; her project began in 2021 and she hopes to have preliminary results in 2024.

DID YOU KNOW?

“ I get 1 million images and videos total — some of those are blanks, some are deer, some are marten etc. I have the cameras trained on trigger motion and to take a picture every five minutes. ”

”

ALEX LEWIS
Wildlife Biologist
Alaska Department of Fish & Game

USFWS: ESA listing for Southeast Alaska wolves not warranted

In August 2023 the U.S. Fish and Wildlife Service determined for the third time since 1993 that listing wolves in Southeast Alaska as threatened or endangered under the Endangered Species Act was not warranted. This conclusion follows a petition submitted in 2020 by the Center for Biological Diversity, Rainforest Defenders, and Defenders of Wildlife.

The 2020 petition urged the USFWS to consider designating wolves in Southeast Alaska (GMUs 1, 2, 3, and 5A) as a Distinct Population Segment (DPS) from wolves in coastal British Columbia and to evaluate their status as threatened or endangered. The petition cited threats to wolves including logging and road development, legal and illegal harvest, climate change, and loss of genetic diversity.

The agency's determination weighed these concerns against data provided by ADF&G and previous petitions from 1993 and 2011 that raised similar issues.

The verdict: Wolves in Southeast Alaska constitute a distinct population segment from wolves in coastal British Columbia, but no portion of the Alaska distinct population segment warrants listing at this time.

The not warranted decision underscores the value of the Alaska Department of Fish and Game's (ADF&G) adaptive harvest management strategy for GMU 2 (Prince of Wales Island) where a population objective set by the Alaska Board of Game (150-200 wolves) is verified by regular population estimates. Those estimates point to a stable wolf population and sustainable harvest management.

ADF&G is actively engaged in comprehensive research and management initiatives — delving into wolf behavior, diet, habitat use, connectivity between wolves in GMU 2 and adjacent GMUs, and the genetic status of wolves in GMU 2, collaborating with universities to gather vital information for sustainable wolf management across Southeast Alaska.



For more details on the USFWS decision, read the full announcement here: <https://public-inspection.federalregister.gov/2023-18260.pdf>



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"Individual variation of how wolves will interact or not interact with the board [is interesting]," she said. "One pack will frequently just walk right past. Sometimes they'll roll, or sniff, but a large part of their interaction is just 'eh, [the hair board] will be there next week.'"

takes them down each December before snows and weather make things woefully inefficient. There are two at each node, or cluster of hair boards, and are checked regularly by a combination of ADF&G staff and members of the USDA Forest Service. Each of the cameras are positioned close enough to the board to not miss any action, but also far enough away to capture background movement and other potential critters who may pass through, such as small mammals, bears and deer.

Lewis said she hopes she will have preliminary results in summer 2024. In the meantime, she remains fascinated by the behavior of various wolves as they move through the areas where her cameras are installed.

"Individual variation of how wolves will interact or not interact with the board [is interesting]," she said. "One pack will frequently just walk right past. Sometimes they'll roll, or sniff, but a large part of their interaction is just 'eh, [the hair board] will be there next week.'"

Other wolves show hair boards quite the opposite kind of attention.

"One wolf, on another part of the island, she was so happy to roll on the board. We got enough good rolling [footage] that I could tell she was female, and it was a huge snow year. In one week all the boards got buried. And this wolf dug through two or three feet of snow to get at this board and roll on it," Lewis said.

DNA study aims to reveal relatedness among Southeast region wolves

By **ABBY MCALLISTER**

Wolves are known for traveling over rugged terrain and are capable of swimming long distances, but have you ever wondered whether mountains, glaciers, or saltwater can inhibit movement by wolves?

Understanding how the landscape affects wolf movements and breeding is important for sustainably managing harvest and populations.

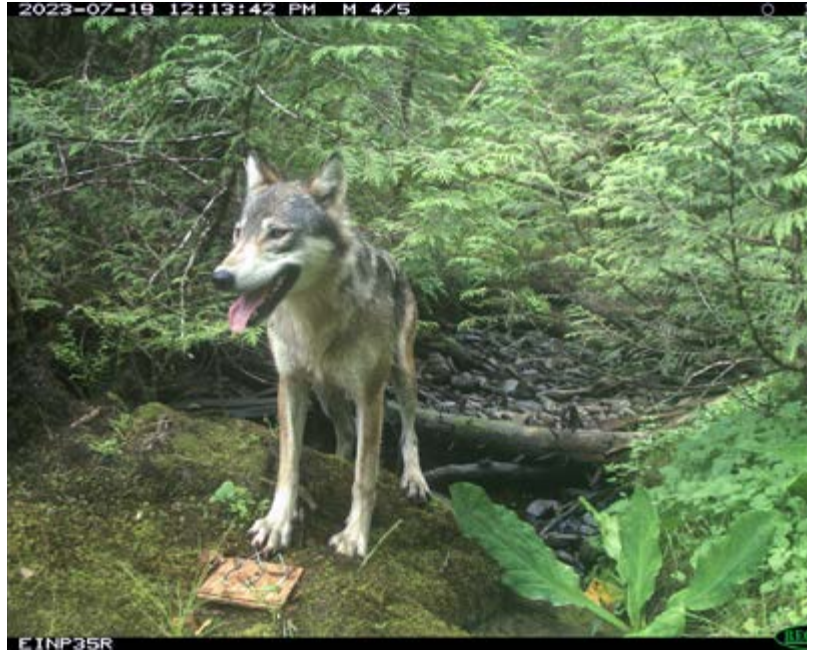
Gretchen Roffler, a wolf research biologist with the Alaska Department of Fish and Game, is investigating aspects of the landscape that act as barriers to movement, and those that act as highways — or corridors. Roffler is collecting DNA from wolves in Southeast Alaska and from those in British Columbia to compare how closely related wolves are in the region and what kind of genetic diversity exists.

In Southeast Alaska, Roffler is focused on corridors for movement and barriers to movement along the mainland, between the mainland and interior areas, and between the mainland and islands.

“We know there are corridors of connectivity — the Alsek and the Taku and the Stikine for example — these are expected avenues of gene flow from other populations,” Roffler said.

She said what isn’t known is what types of geographic features which inhibit wolf movements, such as broad open bodies of water or large mountain ranges.

The other part of the study extends into southern British Columbia. Wolves in British Columbia



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Using wolf DNA collected from hair boards, like those pictured, as well as from other samples, biologists from ADF&G and from British Columbia are working together to better understand how closely wolves in Southeast Alaska are related to wolves in Coastal British Columbia.

and Southeast Alaska are considered the same subspecies. Hence, understanding how wolves on either side of the border are related is of great

interest to researchers.

"There has been genetic work completed on the Alaska side of the border, and on the B.C. side," she said, "but the overall genetic diversity and structure of all these wolves hasn't been examined using DNA inherited from both parents. Work has certainly been done independently, and with mtDNA, but we haven't put these pieces together."

To do that, Roffler said, they need to collect DNA samples from wolves in coastal British Columbia. And, because of limited opportunity to collect DNA samples from harvested wolves, the collections need to be done through noninvasive ways, primarily by snaring hair. This effort began in summer 2022 and it is no small undertaking. Many of the sites are hard to access, and the challenging weather conditions complicate logistics regularly. Through a patchwork of partnerships with government agencies, universities, and Canadian First Nations, teams travel by boat, along logging roads and by foot to collect hair samples using hair snares.

Once collected, all the data needs to be genotyped, which will take quite some time.

"Maybe in a couple years, we can talk about results," Roffler said.

And it's been a long wait. Since 2015, Roffler has been laying the groundwork for this project, but over time pieces have been added, more people involved and the scope of the project has continued to become more complex.

"We are excited about this project. Plus, there's a huge management need." Roffler said. "We just keep trying to get better data and involve experts and people with more expertise."

Study: Trail cameras to monitor wolf behavior, habitat use?

Monitoring changes in abundance of animals in the dense rain forest of Southeast Alaska is an ongoing challenge. A new study is investigating whether remote cameras can be used to estimate abundance and trends of the GMU 2 wolf population.

Shawn Crimmins, a research ecologist with the United States Geologic Survey housed at the University of Alaska Fairbanks, is heading up the project and hopes to determine if trail cameras are an effective tool for species monitoring.

"What we're looking at, from a big picture standpoint ... are cameras an accurate, robust and cost-effective means of monitoring wolves on the landscape of Southeast."

If cameras can be used to monitor wolves, can those same cameras also be used to monitor other species like black bears and deer?

Right now, biologists use a variety of tools to monitor Alaska's mammals, such as deer and bears, to name only a few. Often, monitoring approaches are uniquely tailored to each species. Crimmins is hoping to demonstrate one tool can be used to monitor multiple species.

The study began in 2021 with a small number of cameras installed at random locations on POW. The study has continued every summer since then, with the field teams growing as the number of deployed cameras also increased.

As the field season wrapped up in 2023, the entire island is being monitored. Some sites can only be accessed from helicopter, all others by foot. Crimmins said they are deliberately trying to avoid placing cameras near roads or other areas adjacent to ADF&G's existing, scented, hair board nodes so "every camera is truly surveying a random area."

"We truly are really trying to have a broad random sample of the landscape," he said.

Crimmins said they don't have any preliminary findings yet. However, they may have 2022 data in spring of 2024, depending on data flow and processing.

Looking forward to the summer 2024 field season, the goal is to have 100 cameras installed on the landscape of POW.

If successful, camera-based estimates could complement the current DNA-based method of estimating wolf abundance.

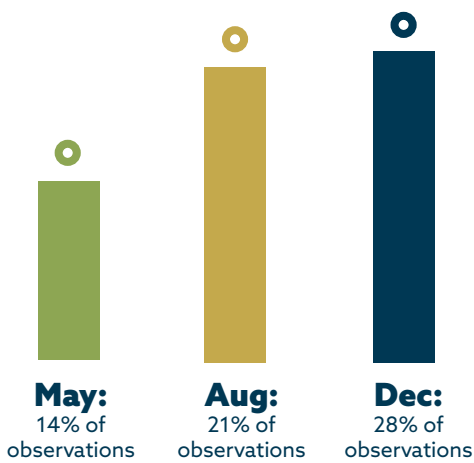


For more on wolves in Southeast Alaska, as well as research related to predator prey dynamics, and past Wolf Trails newsletters scan this QR code with your phone camera.



See a wolf? We want to know!

2022 WOLF SIGHTINGS



2: Track observations



6: Sighting observations



5: Trail camera observations



0: Howling observations

1: Observation was a combination of howling, sighting and observing tracks.

14 total
wolf observations were
submitted by **6 citizen**
scientists.

ADF&G appreciates these observations and encourages anyone to report wolf sightings from GMU 2 on the website. If you have any questions, contact the Ketchikan Area Office (907-225-2475). Share this opportunity with friends and family to help spread the word about this program. Thank you for your participation!

A dusting of snow had coated a familiar trail in early January in Southeast Alaska. The trail, a familiar one to trail runners, walkers and their canine companions, was typically littered with tracks — human, deer, porcupine and, of course, canine. But on this morning, not a soul had been there. But about a mile down the trail, a single set of tracks appeared. The gait was deliberate, as if the animal knew exactly where it was headed and the strides were long and straight. A quick measurement confirmed they were not from a domestic dog, but rather from something far larger. A wolf, a single animal had been through this section of woods.

It's sightings like these ADF&G biologists want to know about — especially sightings from Prince of Wales Island and the surrounding islands.

Reporting a wolf sighting is easy and submitting online is the best way to send this data to ADF&G biologists. The wolf reporting website can be found by searching "ADFG wolf species profile" in any browser search engine, and then selecting the "Research" tab. Or, go directly to: <https://www.adfg.alaska.gov/index.cfm?adfg=wildliferesearch.powwolves>.

From 2020 to 2022, 22 fewer people reported wolf observations, which resulted in fewer observations compared to previous years. People reported collecting pictures of wolves on trail cameras, finding wolf tracks, seeing wolves, and hearing wolves or a combination of the above. Just under half of observers (43 percent) reported seeing one wolf, while 21 percent reported two wolves. The highest wolf count at one time was five.

Anyone who submits a sighting — whether it is visual (seeing an actual animal), capturing the animal on a trail camera (pictures or video), observing tracks, or hearing howling — will be included in the tally and will receive a report at the conclusion of the calendar year of other observations submitted by residents. Right now, only those who submit an observation receive the annual summary.

The best time to submit observations is soon after their occurrence. ADF&G records observations year-round and all observations are appreciated. Any submitted sightings are used to track observations across the area and over time. By using the website, it is possible to pinpoint the exact location of a wolf observation, though no location will be shared outside of the department. Any additional details beyond the observation, are helpful.