



A Family of Wolves

Arctic National Wildlife Refuge

We commonly think of wildlife research as moose surveys or vegetation analysis, but I do a different type of science. I watch wild animals in undisturbed settings, to learn about how they spend their time, and how they interact with others. I've spent hundreds of hours watching caribou walk, wild sheep feed, and wolves sleep. During those times, I'm sometimes fortunate enough to catch an enlightening glimpse into a wild animal's life. This story I'll share with you is one such glimpse. It's a true story that I observed while working on a wolf project in the Arctic Refuge in northeast Alaska. Like much work of the U.S. Fish and Wildlife Service, this one was a partnership, between the Service, the National Park Service, and the University of Alaska - Fairbanks.

There were three of us that summer watching the pack of wolves. We camped along a river about 2 miles from the wolf den, and rotated 6 hour shifts, watching the animals from a small tent three quarters of a mile from the den. We used a spotting scope on a tripod to view the wolves, and recorded our observations into notebooks.

That summer, the wolf pack included eight adults and four pups. They lived on a mountainside, where a small, deep hole on a rocky ledge served as a den for the mother and pups. The adult wolves were not easy to tell apart because all of them in this particular pack were tan-brown color except one. The mother wolf was white. A wolf of great value and importance in the pack, we referred to her as Pearl when we wrote about her in our notebooks.

This wolf pack hunted up into the mountains for Dall sheep, and down onto the river valley for caribou. They also caught ground squirrels and ptarmigan (arctic birds very similar to grouse and chickens).

A week before this story occurred, Pearl had moved the pups to a new location

about three quarters of a mile north of the den site. Scientists are not sure exactly why mother wolves move their pups. Some suggest the pups are moved away from the filth and fleas that have accumulated around the den, or moved to a location less accessible to predators or where they can more safely and successfully practice their hunting skills. Whatever the reason, such moves are so universally common in wolves that scientists have given the name "rendezvous site" to this new location. The word rendezvous in French means "all meet together" and that's just what happened in this case. Over the following week, as they each returned from their travels, the wolves discovered the pups were no longer at the den site. The adults searched until they found the rendezvous site, and thereafter returned there from hunts.

Now look through the spotting scope with me, and we'll begin our observations of "A family of wolves." ...

It's morning, a week after the pups were moved to the rendezvous site. Notice that the puppies are alone now. All the adult wolves are away hunting. I record into my notebook: 8 am, partly sunny with high overcast skies, little wind, and a temperature of 52 degrees Fahrenheit. I write that the pups are lying quietly among an open patch of 6 foot high willows, and I wait, along with the pups, as the minutes tick by.

Later in the morning, while scanning the surrounding mountains and river valley, I see Pearl trotting steadily back home. She's been away from her pups for a number of hours, and is heavy with milk. The pups have nothing to drink except her milk, so they wait thirsty as well as hungry when the adults are away.

What's this? Pearl passes below the willows where her puppies wait, and continues on until she arrives near the den. Surely she remembers where she left the pups? Pearl lies down on the sand and

gravel of the mountain side, and I record her actions in my notebook, and resume my watch.

In a few minutes, another wolf trots up to Pearl and lies down nearby. Because all the wolves except Pearl are brown, it's not possible to know if any one of them is male or female unless they happen to urinate, and even then I only know until they duck out of sight and I lose track of which wolf is which. Just like dogs, female wolves squat and males lift a leg. Since I don't know if this newly arrived wolf is a male or a female, I just refer to it in my notebook as the babysitter.

Pearl and the babysitter wolf lie a few feet apart from each other for about ten minutes. I don't notice any noises or body movements, but they are looking at each other. How do they communicate? Does Pearl indicate "go get the pups and bring them back to me."? She doesn't speak those words, but that's what the babysitter wolf attempts to do.

The babysitter wolf gets up, trots slowly north across a quarter mile of low, widely-spaced willows, across a quarter mile of steep, unstable, rough rocks and cobbles called a talus or scree slope, and across a quarter mile of dense, 6-foot high willows. When it reaches the pups, they greet it with wild enthusiasm. (Ok, you're right, I don't know if it is wild enthusiasm. Scientists are careful not to assign human emotions to wild animals' actions. So let me tell you what the pups do, and you decide for yourself). The pups run up to the babysitter wolf, their tails wagging so much that their hips wag. Their hips wagging so much that their shoulders wag. Their shoulders wagging so much that their heads wag, and their heads wagging so much that their noses wag.

Adult wolves don't have hands or backpacks with which to carry food back to the pups, so after a successful hunt, adults bring home chunks of meat in their stomachs. The pups indicate their hunger

by jumping up and pulling on an adult's lips with their sharp little puppy teeth. The hungrier they are, the harder they bite and pull. If the adults have eaten recently, this jumping and pulling by the puppies causes them to regurgitate the meat back up and onto the ground for the puppies to eat.

While I watch, the puppies throw themselves up toward the babysitter's face, all four of them pulling energetically with their sharp little teeth on the adult wolf. When they have a free moment, they jump back and forth, up and down, race around the newly arrived wolf, and yip. After a few minutes of this, the puppies realize that the babysitter wolf has no food for them, and they calm down.

After another 5 minutes with the puppies, the babysitter wolf (does it remember that it has a job to do?) walks back toward the den, crossing the tall willows, picking its way across the talus slope, and crossing the short willows. When it arrives next to Pearl, it turns to look behind itself. If it were a human, I would say it was gesturing, "See, here are the puppies I was supposed to bring." But the pups are not there.

When the wolf pups were old enough to stay alone, Pearl joined the other adults in the hunt. Before she left the pups for the first time, she taught them when to follow her and when they should stay near the den: if she walked away slowly - at the speed short puppy-legs could keep up with - the pups were to accompany her; but when she walked away at an adult pace, they were to stay where they were until her return.

Being well trained, the puppies know not to follow an adult walking at a normal adult pace, so they didn't follow the babysitter wolf. They are still waiting back at the rendezvous site. The babysitter wolf lies down near Pearl.

Do the two wolves communicate again? It seems that Pearl indicates something because soon the babysitter wolf rises and walks back toward the pups, across the low willows, the talus slope, and the tall willows. When it enters the clearing where the puppies wait, they mob it again, wagging all the way up to their noses, and pulling energetically on the adult's face. But there is still no food for them, and soon the babysitter wolf moves off toward the den again.

This time the babysitter takes only a few steps before it stops and looks back toward the puppies. The puppies scamper up to the adult, and the babysitter wolf walks off again. Over and over, the

babysitter wolf takes a few steps and then waits for the puppies to join it. They travel in this halting manner most of the way through the tall willows. But then the babysitter wolf no longer stops to allow the puppies to catch up (did it think they would follow automatically now?). Whatever the reason, the babysitter wolf walks through the rest of the tall willows, across the talus slope, and across the low willows. When it reaches Pearl this second time, it looks behind itself (again it looks to me like it's indicating "now here are your puppies"), but there are still no puppies. The babysitter wolf lies down near Pearl.

Do the two wolves communicate again? Soon the babysitter wolf rises and walks back north. This time, when the pups see it coming, they aren't as energetic, wagging only as far forward as their hips, and jumping less forcefully around the mouth of the adult wolf. Again the babysitter wolf stays for a few minutes with the puppies, and then moves off south toward the den. But this time it tries a new technique (did Pearl somehow remind it about walking slowly, or does it realize on its own?). As the babysitter moves away from the puppies, it moves with exaggerated slowness, s-l-o-w-l-y lifting one foot, then s-l-o-w-l-y putting it down, before s-l-o-w-l-y lifting the next foot. It travels at this snail's pace across the willow clearing. The puppies watch this spectacle with what from a human I'd call "questioning glances," but they do follow the adult wolf all the way through the tall willows.

So far, so good. But when the puppies get to the talus slope, they refuse to follow the babysitter wolf out onto the sharp and unstable rocks. The babysitter wolf notices they're no longer close behind it. Itself part-way across the talus slope, it turns to face the puppies, lowers its front shoulders, raises its hindquarters, wags its tail, and jumps up and down with its front paws extended, yipping. It looks to me like the babysitter wolf is indicating "Come on. Follow me. You can do it."

But try as it may, the babysitter wolf is unable to entice any of the puppies out onto the talus slope. Finally it walks back to the puppies at the edge of the rocks.

Already the babysitter wolf has learned a great deal about how to work with young wolves. It has discovered under what circumstances they will stay when you leave, and how to have them follow when you want them to travel with you. At this new impasse the babysitter wolf pauses. It appears to me that the wolf is thinking of new actions to try, in its attempt to get the puppies home.

Now the babysitter tries pushing. It stands behind a puppy, lowers its head, and gently pushes the puppy from the rear end, nudging it forward onto the rocks. But the puppy stumbles over the rough surface, yips, and runs back off behind the other wolves. Pushing doesn't work.

The babysitter wolf pauses. Is it thinking of another method?

Next the babysitter wolf tries carrying. It turns away from the talus, picks up a puppy by the scruff of the neck, and turns back toward the rocks to carry the puppy across. When it swings the puppy across the rocks, however, the puppy's hind end hits hard against the sharp stones. The puppy yips. The babysitter wolf opens its mouth and drops the puppy, and the puppy runs off the rocks behind the other wolves. Carrying doesn't work.

It looks like the babysitter wolf has run out of ideas. It walks back to the clearing in the tall willows, followed by the puppies. It hasn't figured out how to move the young wolves over the talus slope yet, but on its walk back to the willows, it demonstrates that it has learned the proper pace to use when walking with baby wolves. The five animals lie down around the clearing. After recording all this in my notebook I wait to see what the babysitter wolf will do next.

I don't have to wait more than a few minutes before the babysitter wolf rises. It indicates by its slow walk (now just the right speed for young wolves) that the puppies should follow. They all walk through the tall willows, and again come to a halt at the edge of the talus slope.

The babysitter wolf walks a few steps out onto the rocks, while the puppies huddle together on the soil nearby. As it did before, the babysitter turns to face the puppies, lowers its front shoulders, raises its hindquarters, wags its tail, and jumps up and down with its front paws extended, yipping. It jumps and yips over and over again, progressively adding more bounce to the jumps and more volume to the yips. It jumps and yips for a minute and more.

Finally, one pup steps out onto the rocks of the talus slope. The adult wolf becomes even more energetic and noisy, and it backs slowly away from the puppies while still jumping and yipping. The puppy takes another tentative step, doesn't have any major problems, and continues very slowly picking its way across the sharp, unbalanced stones toward the babysitter wolf. Now a second puppy moves out onto the talus slope. It misses its footing, stumbling between two rocks, but it picks



itself up and slowly continues forward. The babysitter wolf moves backward toward the den, still with great energy. A third puppy follows the other two out onto the rocks. By now there is a string of wolves across the talus slope - the babysitter moving backwards with jumps and yips, and three tiny pups spread out and slowly picking their way across the steep slope.

When the babysitter wolf arrives at the end of the talus slope, it continues moving backwards and leads the pups easily through the low willows. As soon as the young wolves see their mother lying on the gravel, they race past the babysitter wolf, lie down with their mother, and nurse. The babysitter wolf follows behind, then lies down close to Pearl and the feeding pups.

I am bouncing up and down with excitement. The babysitter wolf tried repeatedly, learned new skills as it progressed, and finally succeeded in getting three of the pups back to their mother.

But one puppy never found the courage to follow the others across the talus slope. It has returned by itself to the tall willows, where it lies very quietly in an unobtrusive shadow. This puppy has never been alone before. It's always been at least with its brothers and sisters. I write in my notebook that it looks scared and lonely.

Can wolves count? Do Pearl and the babysitter wolf know that there's a pup missing? Will Pearl go get the final pup,

now that the babysitter wolf has brought most of her puppies to her?

Somehow, the adult wolves are communicating again. The babysitter wolf appears to know that it should go and bring back the final pup, because the babysitter wolf rises, crosses the low willows, the talus slope, and the tall willows, and finds the missing pup in the willow clearing.

When the babysitter wolf arrives, the single puppy races over to it, wagging from tail to nose, and jumps all over the babysitter wolf. After a few minutes with the pup, the babysitter wolf walks slowly back to the talus slope, followed by the puppy. The babysitter wolf walks a few steps out onto the rocks, while the puppy waits on the soil nearby. As it did before, the babysitter turns to face the puppy, lowers its front shoulders, raises its hindquarters, wags its tail, and jumps up and down with its front paws extended, yipping. It jumps and yips over and over again for a minute and more. But never does the puppy try walking onto the talus rocks.

Head drooping, the babysitter wolf gives up and walks back to the willows with the puppy. Both wolves lie down, a little ways apart. They remain lying for fifteen minutes. This is by far the longest the babysitter wolf has stayed at the willows during the attempt to get the puppies home. Has the wolf given up? Is it thinking of additional things to try, to get the puppy back to Pearl? Is it hoping Pearl will come and get her puppy herself? What would you do, if you were the

babysitter wolf?

Oh look, the babysitter wolf is up, slowly walking through the willows and sniffing the ground. The adult seems to be walking around aimlessly. The puppy, still lying down, watches it.

Scattered among the willows are a few pieces of bone and horn the wolves brought to the rendezvous site over the past week. The babysitter wolf picks up one end of a caribou leg bone in its teeth. The wolf shakes the bone, turns its body left and right, and growls softly. It looks to me like a dog playing tug-o-war with a bone.

It looks like that to the puppy, too, who bounds over, grabs the other end of the bone, and tries to pull and shake it away from the adult wolf. The two wolves play this way for a number of minutes, growling and shaking the bone. The adult, being larger, moves backward pulling the puppy left, right, uphill and downhill around the clearing and through the willows.

It slowly becomes clear to me, even though the wolves are moving in all four directions, and appear to be moving randomly, that the babysitter wolf is ever so slowly moving more toward the south (toward the talus slope) than in any other direction.

Sometimes while they are playing, the puppy lets go of the bone, bounds backward and then leaps forward to grab the bone again. When the two wolves are half way to the talus slope, the babysitter

wolf changes the game. Now, it moves mostly just south. But more significantly, when the puppy leaps up for the bone, the babysitter wolf lifts its head at the last minute, moving the bone just out of the puppy's reach. The younger wolf stares up at the bone and leaps again. Again, the babysitter wolf moves the bone up and away at the very last second. The puppy is unable to get the bone. It knows it had it earlier. Surely it can get it again?

All the while, the babysitter wolf is very slowly backing toward the talus. The puppy leaps again and again, with eyes looking only upward at the bone. The babysitter wolf shakes the bone close in front of the puppy's nose, growling softly, but each time the puppy leaps, the babysitter moves the bone just high enough so the puppy can't quite reach it.

The puppy acts completely mesmerized by the bone. It doesn't notice when the babysitter wolf very slowly moves out onto the talus slope. It's focus is completely upward, toward the bone it can't quite catch. In this way, the babysitter leads the puppy across the rough stones, then through the low willows, the puppy always watching and leaping toward the bone. When the puppy is close enough to notice Pearl, it abandons the bone, races over to lie next to its mother, and begins energetically nursing. The babysitter wolf wags its tail and lies down nearby.

I am stunned. Pearl had confidence that the babysitter wolf would succeed. During the two hours it took to bring her puppies home, she never intervened in any way. And I was overwhelmed by the babysitter wolf. It never gave up. It stayed focused on the task, and overcame one challenge after another. It even used a tool of sorts to distract the last puppy and lead it safely home. This glimpse into the behavior of a family of wolves taught me a great deal about how wolves interact and solve problems. It even taught me lessons to improve my own mothering skills.

This is the text of a presentation given by Arctic Refuge biologist Cathy Curby to the public. The story appears on the Arctic Refuge web site at <<http://arctic.fws.gov/wolfstory.html>>.