

\$6.95

INTERNATIONAL WOLF

A PUBLICATION OF THE INTERNATIONAL WOLF CENTER
SUMMER 2016



Wolf Dens 101: Location, Location, Location PAGE 4

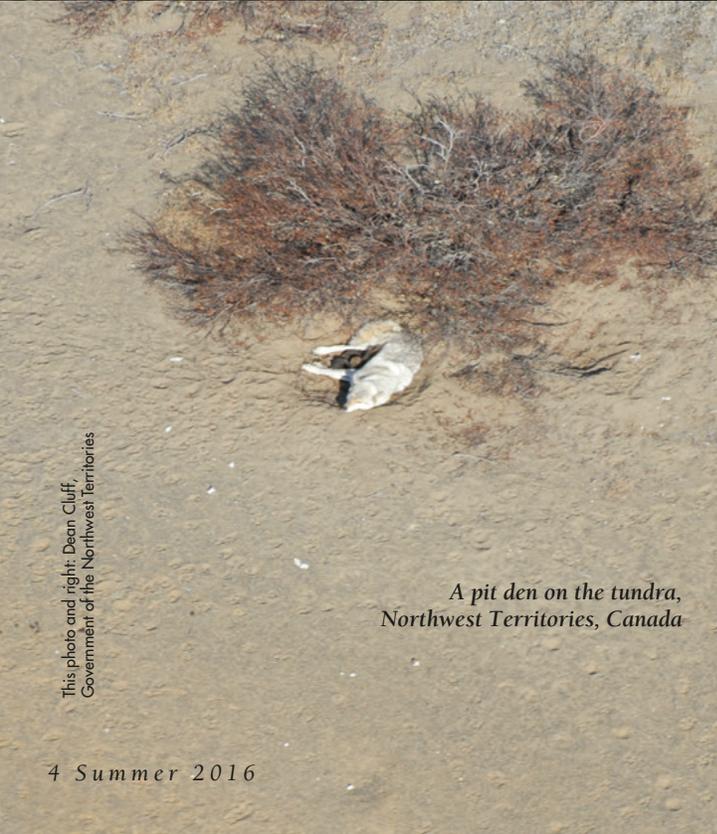
Native Americans and the Wolf—A Different Story PAGE 8

Watching and Learning PAGE 11

Wolf-litter sizes average six pups, except in the Arctic where they average four.

Dove Mech

Wolf Dens 101:



This photo and right: Dean Cluff, Government of the Northwest Territories

A pit den on the tundra, Northwest Territories, Canada



Two wolves at a den on the tundra, Northwest Territories, Canada

Imagine entering this world in a cold, unceremonious event, virtually blind and deaf. Such is reality for newborn wolf pups in late spring. However, nature does give wolf pups, and many other mammals born this way, a fighting chance to survive. A doting mom, an instinct to find her and a pervasive sucking reflex serve a pup well. But challenges abound. Sibling competition for nutrition starts day-one and affects each pup's development long after weaning. Survival of the fittest is only beginning.

A wolf pack usually produces an annual litter of five to six pups, but may yield more than one litter if food is plentiful. In the High Arctic, litter sizes tend to be smaller—around three to four pups. Wolf pups are usually whelped in a den

that offers a modest degree of security. A den may be an elaborate set of holes dug in the ground, a rock cave or crevice, under a tree stump, in a hollow log or even a shallow pit. A water source is usually nearby. Wolf pups can endure the cold ambient temperatures into which they're born no matter what type of den they're in—even an open pit—but more structured dens provide the survival advantage of protection from extreme weather events or exposure to predators.

Preparation of the den may begin in the fall before pups are born, partly because the ground may be still frozen when pups arrive in spring. Pack members of both sexes may participate in den-digging along with the breeding female.

Precisely when wolves breed varies by latitude and typically ranges from February in the south to March in the north. Pups are born 61 to 63 days later—well timed to coincide with the births of many other species, allowing enough vulnerable prey to meet the energy demands of growing pups.

Wolves may localize around a den for up to a month before whelping pups. Indeed, in my study area in the Low Arctic (mainland) tundra where there are no trees, wolves are usually at their den sites by May 1, often two to three weeks ahead of most barren-ground caribou. In this largely one-prey, one-predator system, caribou migrate north from their winter range in the trees to

their tundra calving grounds, presumably navigating a gauntlet of famished wolves eagerly waiting near their dens just past the tree line. It's an image worthy of a Gary Larson cartoon, to be sure, but that old adage, "location, location, location" is true for wolf dens. A den established near a caribou migration route would pay big dividends to wolves raising pups.

Because wolves are territorial, dens of other packs will not be nearby. In the Low Arctic tundra when caribou were reasonably abundant, I found that neighbouring dens were at minimum five to six miles (eight to ten km) apart. The average distance was close to 12 miles (20 km). Researchers in south central Alaska recorded inter-den distances that averaged 28 miles (45 km). A den may be located anywhere within the pack's territory but they are usually more central. Unless natural features in the periphery of a territory offer some huge advantage, locating there creates a greater risk of hostile encounters with neighbouring packs.

Several dens may be available to a pack, and some or all may be used in any given year. Having choices hedges the bet should a disturbance or threat persist at the current den. Fidelity to a given area and a specific den is variable among wolves, but seems relatively high for tundra-denning wolves. Still, den choice is probably the purview of the

Location, Location, Location.

by H. DEAN CLUFF

Caribou migrate north . . . presumably navigating a gauntlet of famished wolves eagerly waiting near their dens just past the tree line. It's an image worthy of a Gary Larson cartoon, to be sure, but that old adage, "location, location, location" is true for wolf dens.



Chris Senior



Dean Cluff, Government of the Northwest Territories

Dean Cluff, Government of the Northwest Territories

One can't help but grin when the head of one pup cautiously peers out of the den entrance, then another, and perhaps more, as they build their collective courage and begin to satisfy their intense curiosity.



Typical rock den on Ellesmere Island, Nunavut, Canada



Dean Cluff

denning female. Although her maternal experience probably influences her choice of den sites, that doesn't appear to determine her success in whelping pups. If a denning female dies prior to breeding season, her den could remain vacant that year as her male partner disperses elsewhere, unless a daughter assumes residency with a new mate.

Wolf pups open their eyes at 12 to 14 days of age—about the same time they become coordinated enough to stand and walk. Once the pups have explored their den, they begin venturing beyond

it, albeit slowly. Often a bold pup leads the way, closely followed by a sibling or two. When startled, pups scramble back to the safety of the den.

Watching the antics of growing wolf pups is amusing. One can't help but grin when the head of one pup cautiously peers out of the den entrance, then another, and perhaps more, as they build their collective courage and begin to satisfy their intense curiosity. Their survival can actually depend on their developing personalities. Boldness is useful in exploring surroundings and perhaps being first to get food. However, shyness can be good too, especially where wolves are exploited; there is a survival advantage in keeping a safe distance from threats.

The mother wolf remains with the pups most of the time during their first three to four weeks of life. After that pups

may be left alone for varying lengths of time. One might assume that when a pack goes hunting, at least one adult would remain at the den to guard pups, but wolf packs in the High Arctic have been observed leaving pups unattended for extended periods. While the pack may be hunting for most of a day or longer, the lactating mother usually returns within 12 hours to nurse her pups.

Clearly, wolf pups left alone at the den are more vulnerable to predation from the air by eagles or digging out by marauding bears or wolverines than when adult wolves are present. On a couple of occasions, I witnessed a grizzly bear encountering wolves at a den site on the tundra. I arrived via helicopter in the midst of the encounter, so I didn't see the previous events. I did see the wolves aggressively defend their den site. Although I had the helicopter set down immediately upon seeing the interactions, it was too late, as the heli-

copter likely caused the bear to run away both times. I suspect the grizzly had encountered the den opportunistically as it travelled along the esker—the ridges of gravel and sand left behind when glaciers melted. Still, the situation could have been different had I not come along, or if the pups had been alone.



Once pups reach their second month and start eating solid food, their mother may be absent for longer times, if necessary. While both parents hunt and bring food to the pups, the female tends to remain at the den site more. In the system I study—wolves following migratory, barren-ground caribou—den absence, especially for males, can be lengthy. With satellite collars recording a Global Positioning System location every 30 minutes over one summer, I documented extensive, multi-day journeys by denning wolves, which explained why fewer adult wolves were seen at the den site in mid-summer. Although caribou calved about a month earlier, post-calving aggregations formed far north of most denning wolves. Consequently, these wolves regularly left the den on extended hunting trips and would not return for up to five days. The Russian proverb, “A wolf is kept fed by its feet” certainly applies here.

In my study area, I seldom had the luxury of having all the adults at a den collared and therefore routinely monitored. However, I was fortunate to have keen observers watching wolves at their home site (a collective term for a den or rendezvous site) during summer daylight hours. A rendezvous site is simply a “den” above ground. It’s a meeting place where the pups, now much larger, stay together while the rest of the pack goes hunting. The rendezvous site, or

“RZ,” doesn’t have to be far from the natal den, but it can be. On the tundra, if an RZ is used at all, it is typically located near a stream sheltered by heavy willow growth and boulders that provide hiding places for pups.

During one memorable event in 2000, members of the International Wolf Center visited my study area in August on one of their field excursions, and we serendipitously watched an RZ with nine adults and 15 pups. It was the largest number of pups ever recorded at a home site in the Northwest Territories. We assumed that the number of pups represented more than one litter—maybe even three. This was reasonable because in June 1998, at a den site near this RZ, I captured and collared two female wolves, both of whom were lactating. Those females were among the nine adults we observed (and confirmed with their unique radio-collar beacons). As a group, we observed this RZ with spotting scopes from about a half-mile (800 meters) away. Even from that distance, we had a great view of the comings and goings of the pack. It was instructive to observe the arousal and departure of the pack for a hunt in the evening—and amusing to watch an eager pup follow the adults away from the den, only to be led back by one of them.



By three months of age, larger pups with bountiful energy often follow departing adults or explore on their own, leaving the home site temporarily. Sometimes a carcass site is near the home site, and pups may be taken there by adults. In areas where prey is not migratory, home sites may function as activity centers into autumn and even early winter. However, where prey is migratory, the home site is abandoned as autumn approaches and wolves follow their food source. Some pups may not survive to this stage, but those that do advance to the next round in nature’s survival game—keeping up with the pack in winter. ■

Further Reading

- Mech, L.D. 1998. *The Arctic Wolf: Ten Years With the Pack*. Voyageur Press, Stillwater, MN
- Mech, L.D., L.G. Adams, T.J. Meier, J.W. Burch and D.W. Dale. 1998. *The Wolves of Denali*. University of Minnesota Press, Minneapolis, MN
- Mech, L.D., and L. Boitani, eds. 2003. *Wolves. Behavior, Ecology, and Conservation*. University of Chicago Press, Chicago, IL

Dean Cluff is a wildlife biologist for the Government of Northwest Territories Department of Environment and Natural Resources in Canada. He has studied wolves since 1996, involving graduate students in wolf ecology in the central Arctic. A Canadian representative on the Canid Specialist Group of the International Union for Conservation of Nature, Cluff has accompanied Dr. David Mech on four occasions to Ellesmere Island (Nunavut) for wolf observations. He is currently developing a technique to index trends in wolf abundance on the tundra.