

An Ancient Wolf, *Canis lupus*, Den and Associated Human Activity in the Southwestern Yukon Territory

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The recovery of an ancient hunting artifact in an active Wolf den indicates that Wolf denning sites may be reused for many centuries. It also suggests that traditional practices of predator management by humans may have great antiquity.

Key Words: Wolf, *Canis lupus*, den, archaeology, bow and arrow, Yukon.

Yukon Wolves, *Canis Lupus*, typically dig dens in May to rear pups (Rausch 1967). They may occupy the same den for several consecutive years or intermittently over long periods; however, the long-term persistence of Wolf dens in the Yukon has not been explored. The recent recovery of an antler arrow point within a Wolf den provides evidence that Wolves may return to the same denning sites over many centuries.

In May 1995, during a routine monitoring visit to a Wolf den in a remote area of southwestern Yukon, DRD [Daniel R. Drummond] entered an entrance tunnel leading to the main chamber (Figure 1). Here, he found and extracted a barbed antler point that was embedded in the tunnel side-wall near the tunnel entrance. The projectile point is typical of a style of point used by Southern Tutchone hunters throughout the past 1200 years (Hare et al. 2004) (Figure 2). The artifact was



FIGURE 1. Photo of D. Drummond examining entrance of Kloo Lake den tunnel.

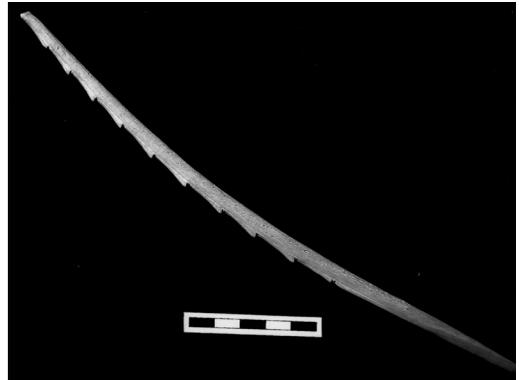


FIGURE 2. Photo of barbed antler arrow point (scale bar in centimeters).

submitted to Beta Analytic Laboratories for AMS radiocarbon dating and returned a date of 850 ± 50 B.P. (Beta-162350).

This date provides evidence that the den was in use by at least 1040 to 1270 AD (calibrated, 2 Sigma variation). While there was significant amount of bioturbation at the site, the excellent preservation of such a fragile, organic artifact indicates that the projectile point has remained in buried, dry conditions for most of that entire period.

The southwest Yukon den ($61^{\circ}\text{N } 5'$, $137^{\circ}\text{W } 54'$) is known as the Kloo Lake den. It was monitored annually for reproductive activity from 1992 to 1998 for a Wolf fertility control experiment (Spence 1998). The den characteristics are typical of those found in Yukon and Alaska (A. Baer, Yukon Department of Environment, unpublished data; Ballard and Dau 1983). The den site is well suited for Wolves. It has a southern exposure and is situated on an old elevated river terrace composed of very stable frost-free lacustrine soils. It is located in a mixed open stand of spruce (*Picea* spp.), Trembling Aspen (*Populus tremuloides*), and willow (*Salix* spp.). It overlooks a large valley composed mostly of wetland traversed by the Jarvis River which flows into Kloo Lake 13 km downstream. There is substantial prey available in the area as it is situated in close proximity to calving and summer habitats of Woodland

Caribou (*Rangifer tarandus caribou*) and Moose (*Alces alces*) (Hayes et al. 2003). Caribou in particular are known to have occurred in the area in large numbers for at least 8000 years (Farnell et al. 2004).

There are several possible explanations to account for a barbed antler projectile point at this Wolf den. An ancient hunter may have lost the projectile point while "Wolf denning" or attempting to kill a wolf to use the hide for clothing many centuries ago. Alternatively a Wolf or other predator or scavenger could have transported prey remains with the point embedded from a previously wounded animal. Likewise, a hunter could have wounded a Wolf that subsequently returned to the den site. There is also the possibility that a hunter may have inadvertently dropped the projectile point at this location.

It is possible that the Wolf den was recently constructed on top of an archeological site that contained an antler point but this situation is highly unlikely. Two site inspections (2002 and 2003) of the Wolf den demonstrated that despite large surface exposures and sediment upheaval there was no other archeological evidence at the site (e.g., lithics, burned bone, charcoal, fire cracked rock).

Knowledge of historical locations of Wolf dens and the cultural and the traditional practice of "Wolf denning" (e.g., culling or capturing Wolf pups at dens during spring) is documented in both Yukon First Nation oral history and ethnographic documentation (Johnson 1994*; Allen 1993*; LeGros 1981*; Art Johns, Carcross/Tagish First Nation elder personal communication to R. Farnell, Tom Smith, Kaska Dena elder, commentary in Northern Native Broadcastings, "The Come Back Trail" 1988; Percy Henry, Tr'on dek Hwech'in, elder testimony to Alaska Board of Game, Anchorage, Alaska 1998). If the recovery of an 850-year-old arrow point within a den is related to the practice of "Wolf denning", it indicates that it is a traditional practice of long standing. It is also possible that it resulted from an effort to obtain Wolf pelts for use in clothing. However this seems unlikely as Wolf pelts are in extremely poor condition during spring and summer.

In view of the persistence of Wolf den reuse, it is possible that native hunters could have used predictable denning behavior to reduce interspecific competition for common prey. There is a large body of evidence that Wolves limit Caribou and Moose numbers (Hayes et al. 2003). At the same time, Moose and Caribou were critical to the survival of subarctic Southern Tutchone. Reducing Wolf numbers at dens would have improved the likelihood of success in hunting.

Mech and Packard (1990) first reported evidence for possible use of a Wolf den spanning a period of 700 years or more on Ellesmere Island, Northwest Territories based on fossil prey remains. On Ellesmere, Wolves cannot dig dens because of permafrost. The Ellesmere denning site was a cave and there are few

in the area making it a uniquely suitable location. In Yukon, den longevity must rely on substrate stability and suitable regional prey availability—conditions that must have persisted at the Kloo Lake den for many centuries. At our latitude Wolves have many options for places to den; yet a surprising proportion of dens are reused. It may be that wolves are attracted to places previously used by other Wolves and this is an important factor in the continued use of some dens.

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