

Spatial organization

Carnivores this size require large territories. Each wolf family group occupies an area in which it hunts and moves. The size of the area depends on prey abundance, shelter availability and the degree of habitat transformation. In Poland wolf territory size varies from 150 km² in the Carpathians to 250-300 km² in lowland areas (250 km² on average) (Jędrzejewski et al. 2008, Nowak and Mysłajek 2008). The territories of different groups may overlap slightly. In order to avoid conflicts with others, wolves mark their territories with urine, scats and secretions from scent glands. The family groups actively defend their territories. Usually there are many temporary shelters within one pack's home range. The permanent breeding den is located in the core of the territory. Wolves build their own dens or adapt and enlarge dens made by other carnivores (such as foxes or badgers) which may serve as breeding dens as well as daytime hiding places.

The degree to which wolves use their territories is uneven. When members of the pack take care of their young, their activity is centered on the den. Approximately 75% of wolf annual activity takes place in the core of the territory, where the permanent breeding sites are located (approx. 20-30% of the territory). The peripheral areas are patrolled at regular intervals, but least frequent. The way the territory is used is directly related to spatial and temporal avoidance of contact with humans (Therekauf et al. 2003).

In Poland wolf population density may reach from 1,6 to 6,2 ind./100 km².

The distance travelled daily depends on the size of the territory, food availability and breeding status. On average, wolves travel 23 km a day, but this distance may reach 50-200 km (Okarma et al. 1998, Jędrzejewski et al. 2001, Wierzbowska 2010).

Being a social animal, gray wolves have developed an intricate system of behavior allowing them to maintain pack hierarchy. Domination or subordination are demonstrated through visual communication (body language) based on facial expression, body posture and position of certain body parts such as tail or ears. Wolves use a wide range of sounds (vocal communication) to communicate between the individuals of one family as well as among different packs (in order to show their presence in the territory). Scent remains a very important form of communication especially among different groups.