

The Importance of pack size in African Wild dogs.

Andrea Jenssen

The African Wild dog (*Lyacon pictus*) is in the Family of Canidae, and is found only in Africa.

They are 18-34 Kg, about 75 cm tall and 100 cm long. A tall, lean animal that shows little sexual dimorphism. They typically live in open areas like savannas, and prey on various species like gazelles, wildhogs, impalas and reedbuck.

Wild dogs are social hunting carnivores, and live in small packs ranging from 2-43 with the average of 8-11 dogs.

In the last 20 years the wild dog population has decreased dramatically, and an important reason for this can be explained by their pack size and behavior.

There are several reasons for their continuous decline over the last couple of decades.

Direct reasons are the consequences of human activities and natural enemies.

Their most important natural enemies are predators like lions, and competitors like other carnivores. Diseases are also important limiting factors for the wild dogs, such as anthrax, rabies and canine distemper virus.

Scientific researchers propose other factors as well for this rapid decline in population size.

To fully understand this, we must look into the structure and size of their pack-system.

Structure of the pack

The african wild dogs live in packs of 20 adults and their youngs. In average the pack size is typically 8-20 individuals in total.

They consist of male and female hierarchies that will split up if either of the alphas die.

The oldest female in the pack is the alpha, and amongst the males the eldest brother or father of other males will be dominant.

The pack members are usually related. If the alpha male or female dies, the packs can split up and join other groups of wild dogs that are not related. This is not a typical

pathern though.

The wild dogs show very little aggression towards each other, and work better as a group than single individuals.

The wild dogs have very specific hunting techniques, and they always work as a team. The importance of team-work must not be underestimated when trying to understand the life of the wild dogs.

Nearly 80% of their hunts end in a kill, for comparison with lions that have only 30%.

For this team-work to be successful, the pack size is of great importance.

To persist as a group, a minimum size of helpers are needed.

The helpers are of great importance

The helpers have many important duties, such as helping with foraging, breeding and survival.

When it comes to killing, the helpers isolate the prey, do simultaneous attacks, distract mother from calf, and coordinate tearing of carcass.

Since only alpha males and females will mate and produce offsprings, the helpers will carry parts of a kill to the pups. They will lead pups to a kill, feed them by regurgitation, and protect them from predators. Without the helpers, the pack will not succeed to survive.

The consequences of a small pack size can lead to extinction of the whole group.

Since the wild dogs depend so much on their helpers for many important tasks, it is beneficial to have a fine balance of individuals in a pack. Not too few, and not too many.

Research has shown that a minimum of 5 dogs is necessary for survival.

Obviously there will be an upper limit of pack size as well, because of internal competition of feeding and breeding. Researchers have suggested that an average pack size of ten individuals seems to be the optimal.

The African Wild dog was considered to be an endangered species from 1990, and they still are.

Loss of habitat, persecution from humans, road deaths and natural enemies are only a few of the reasons.

Even though legal protection of the species have been issued, there is still a decrease in the world population of wild dogs.

An estimate of 3000-5000 free-ranging wild dogs are remaining in Africa.

Some are kept in captive, such as zoos and wildlife parks. Attempts of setting captured wild dogs back to nature have so far not been successful.

The relationship between pack size and survival is not only specific to the African Wild dog, this concept could also be applied to other cooperative breeders, many of which are also vulnerable to extinction and currently endangered.

Sources:

<http://www.esu-psud.fr/epc/conservation/PDFs/Multipacks.pdf>

<http://www.esu-psud.fr/epc/conservation/PDFs/AlleeAWD.pdf>

<http://beheco.oxfordjournals.org/content/13/1/20.full>

http://en.wikipedia.org/wiki/Lycaon_pictus