THE EFFECT OF PARASITES ON WILDLIFE POPULATIONS CAUSED BY HUMAN FACTORS

Ranches with wildlife often experience difficulties to manage parasitic infestations in wildlife populations on the ranch. The factors causing these problems are mostly human related and a brief discussion follows below;

The introduction of wildlife species that is not endemic to the location of the ranch

Wild animals are currently domesticated as ranch animals and are introduced to ranches where they did not occur in the past. These introductions of species that are not ecologically compatible with the habitat often suffer severe stress and they may never adapt to the new habitat. These animals are often infected with parasites that did not occur naturally in the area. These parasites may cause problems in their new area such as brown ear ticks in the Free State.

Natural selection

Cattle and sheep farmers eradicated predators in the past to prevent losses of their livestock. Predators are nature's tool to select against weak genes in wildlife populations. These weaker animals will get heavily parasitized before they die off and become a reservoir of infection for other animals that occur in the region.

Contact between livestock and wildlife

Ranchers have introduced domestic livestock into historically farming regions. This practise has led to the introduction of parasites that is foreign to either one of these host groups. The introduction of zebra close to horse studs can cause an outbreak of African horse sickness.

The erection of game fences

During droughts natural game migrations took place in the past to obtain food and water. This natural movement allows animals to move from areas of high parasite contamination to areas that may have few or no parasites. The erection of game fences has interfered with wildlife migration patterns and their confinement kept them in contact with high parasitic burdens.

The construction of permanent water supply

The construction of large dams may lead to population explosions in insects (e.g. *Culicoides*) causing biting stress and diseases such as bluetongue in animals. Leaking troughs of permanent water points can be a reservoir for eggs or larvae to survive over longer periods in drier areas where they would not survive in the past.

Artificial feeding

Permanent water points as discussed above with additional artificial feeding will result that animals will concentrate in these areas for longer periods. This practise will provide a continuous contact with the hosts for the parasites.

Overgrazing and veld management

Overgrazing will lead to a disturbance of the preferred habitat of wildlife on the ranch. The practice of removing sheep from the mountainous veld in autumn and winter and placing them in plains camps to avoid contact with *Ixodes rubicundus* (Karoo paralysis tick) has led that springbok and gemsbok are leaving the plains for the hills. The latter then become paralysed.

Absence of veldfires

Traditionally ranchers do not burn their sweetveld that is a source of food for their game. Excessive heat from fires kills the eggs and larvae of parasites. Under natural conditions veldfires would burn faecal pads and destroy larvae and eggs of parasites that used the faeces as a shelter to “survive” on the veld. The built up of faeces on the veld will directly lead to the built up of the parasitic load.