Name any declared problem animal in your region. Give reasons for the problem animal status of this animal, and discuss and compare the efficiency of different control measures.

The leopard or *Panthera pardus* is a well-known problem animal throughout the world. The cape south coast is no exception. This animal is known for stock theft and it's primary target is young sheep, impala, bushbuck, springbok, steenbok, reedbuck, duiker, and the young of or females of kudu, waterbuck, wildebeest, and zebra. Research has suggested that the problem animals are primarily males, there is little evidence that the animals are inexperienced young or old animals. Research also suggests that females are more cautious and will not risk an approach into human inhabited areas.

In South Africa's history, around the turn of the 19$^{th}$ century, many problem animals were controlled by bounties. Many animals, including the leopard, were on this list and were exterminated as vermin. There are many ways of controlling these animals, all which bring about various amounts of controversy. These methods are classified as lethal and non-lethal methods of control and include:

- Population control- this method involves bounty hunting as mentioned earlier. It was assumed to be able to reduce predator numbers but only proved that it was only surplus animals that were removed and not the problem animals. Harvesting was also used to control numbers. This was deemed to be a selective control but very time consuming.
- Trapping and removal – this was done with cages, live traps, or steel leg-hold or gin traps. These were designed for use on both small and large animals. When cage traps are used the animals, i.e. Leopards, can be removed to other areas. This is a problem animal specific solution although the translocations are not always successful. Gin traps are unselective and if not used by well trained people, animals are seriously hurt and are put down.
- Chemicals – Poisons are used to kill problem animals by either poisoning indirectly (poisoning a carcass that the animal feeds on) or directly. Poisonings also have uncertain results upon populations. The problem is not the poison but rather the people who use them. Therefore the poisons are only to be used by well-trained people and they need to carry a permit to carry the poisons. Amongst the chemicals used are strychnine, compound 1080, coyote-getter (cyanide gun), and M44. Poisons have a varied amount of success regarding target animals, some being poisonous to

humans as well as the target animal and were often unsuccessful with regards to the target animal.

- Fencing – fencing can be used with various amounts of success depending on the type of fencing. Game-proof fences are not completely predator proof as predators will often climb under or jump over the fence. Electric offset fencing will keep most predators out with more wires increasing effectiveness. Fencing is often expensive to build and maintain.
- Habitat alteration – this is the most ecologically acceptable method of controlling problem species. It also has the most permanent effect in controlling problem animals in the long term. Predators, especially ones that are stealth hunters require large quantities of cover to be successful hunters. Having thickets and forests on and around farm property would create the perfect hunting environment for leopards. Use of habitat alteration will be very dependent on the target animals individual hunting habits
- Biological control and management – this involves the use of parasites, predators of the problem animal, other food resources in order to prevent or reduce damage. This method is mostly used to control insects, birds and ungulates and rarely used against predators.
- Other methods – these methods often involve more effort by the owners of the cattle but will effectively reduce the amount of livestock loss. This includes corralling of sheep during the evenings and this can be combined with lighting up the corrals and predator deterrents like loud horns can be used. Toxic sheep collars can be used such that a when a predator attempts to attack an animal, it will ingest poison (or a taste aversive conditioning agent) and the poison is directly transferred to the specific problem animal. Shepherds and guard animals like donkeys, llamas and dogs have also been very effective in the protection of stock animals.

Although there is no one fool-proof method of controlling problem animals, multiple methods of deterring the animals should be utilised. In the end the problem animals are only working their home range and the fact that people have settled in their area should not mean that they should be persecuted for their natural actions and decision to take easy prey. In a way it would be like what spear fishermen call ‘paying the taxman’. Farmers should take into account a certain amount of loss to predation and work this into their farm management plan.