

SUSTAINABLE HUNTING: **CONSERVING NAMIBIA'S LEOPARDS**

LCMAN

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No one wishes to see the disappearance of a species – especially hunters and farmers who rely on animals for their day-to-day survival.

In an ideal world, leopard hunting would require no rules or regulations and the major problem of policing hunting would disappear. But, each individual leopard within a population has an important role to play in the survival of that population, and leopard as a species has a very important place within the ecosystem. Through research and communication, leopard can be better understood and conserved by all those involved in the fate of this species.

Through the study of natural leopard behaviour from the individual level upwards, it is possible to follow certain guidelines when removing a leopard whether for hunting purposes or where a confirmed problem animal is encountered. It is the guidelines developed through the research into natural leopard behaviour that will ensure “SUSTAINABLE HUNTING”. It is this sustainability which will provide socio-economically benefits to a country like Namibia and all its inhabitants without jeopardizing the future survival of the leopard as a species.

The key to sustainable harvest is “KNOW YOUR ANIMALS”. For farmers dealing with proven problem leopards regarding livestock & game, it is still thought to be best for the problem animal to be removed to benefit the farmer rather than the animal being captured and kept in a cage for the remainder of its life.

LCMAN members do not support captive kept problem animals and members do not have unlimited resources to place all problem leopards in captivity indefinitely. Relocation of problem leopards can cause them to return to the place of origin or can lead to the death of the individual due to the strong territorial instinct of the species. Relocation seems only to be an option if a leopard is placed in an area free of other leopards.

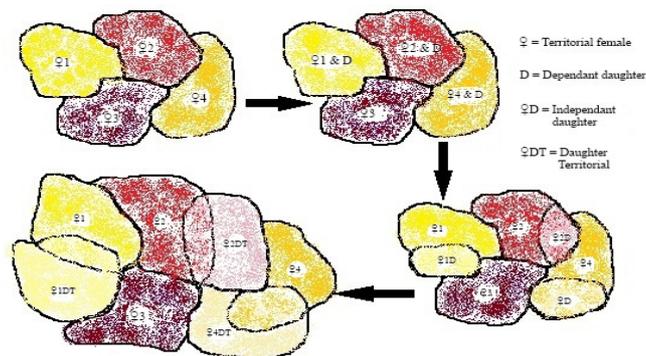
Again it should be stressed that all hunters and farmers put effort into getting to know their animals and to be aware of the repercussions of removal of individual leopards within a population.

NATURAL LEOPARD BEHAVIOUR

FEMALE LEOPARDS

Female leopards in an area are all related due to the fact they give part of their territory to each daughter that survives to independence. Strong female leopards are able to extend their own territory into neighbouring territorial female areas to make space for their daughters. Territories are fluid &

constantly move, but each remains defended by the same female. All adult female territories are about the same size within a population.

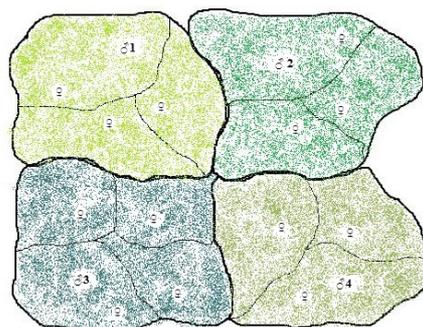


Overlapping territory where mothers give daughters “land” remain life-long and both adult females will appear in the overlap for up to 15 years (period recorded). Unrelated females have no territorial overlaps. When a female dies, territory is taken over by a daughter within weeks and not by an unrelated female.

MALE LEOPARDS

Male leopard territorial boundaries do not overlap at the same time but are fluid & move back and forth. Male leopard territory may encompass as many as 6 female territories. Dispersal males (males without territory) move between territorial males often on the boundaries. Territorial males attempt to keep dispersal males out with audio & olfactory marking.

When males establish territory, females and males adjust their boundaries over time to fit within each other. This adjustment prevents more than one male overlapping a female which could otherwise lead to infanticide.



When a territorial male is removed, a gap or “vacuum” occurs in the vacant territory. This “vacuum” is quickly filled by dispersal male leopards in the area. For each single territorial male removed, numerous dispersal males fill the vacuum.

LEOPARD POPULATION CLASSES

Individual leopards can be categorised into POPULATION CLASSES, and with reference to age, can be used to aid trophy hunters and farmers in better understanding individuals, and most importantly, the

repercussions of their removal. Male and female leopards play a very different role within a population and this must be taken into account.

Farmers may find value in prey selection of individual leopards of different population classes whereas trophy hunters need to be aware of a leopard's role within a population and long-term impacts on other individuals if harvested.

FEMALE LEOPARD POULATION CLASSES ♀

POPULATION CLASS	AGE	BASIC BEHAVIOUR	HUNTING BEHAVIOUR
DEPENDANT	0 - 1 ½/2 YRS	~ Cub / juvenile dependant on mother for food. ~ Dependant on mother & father for protection.	~ Cubs & juveniles do not learn hunting from parents but learn alone while mother is away hunting. ~ Mother collects young & leads them to & from kills
INDEPENDENT	1 ½/2 YRS - 3 YRS	~ Daughters remain in portion of mother's territory.	~ Opportunistic hunter trying a variety of prey species.
TERRITORIAL	3 - +/-17 YRS	~ Establishes own territory in portion of mother's territory & expands from there.	~ Often specialise in certain prey species and majority of kills are the same species.
♀'s die as territorial individuals within their defended area. AGE 16 – 17 YRS			

MALE LEOPARD POULATION CLASSES ♂

POPULATION CLASS	AGE	BASIC BEHAVIOUR	HUNTING BEHAVIOUR
DEPENDANT	0 - 1 ½/2 YRS	~ Cub / juvenile dependant on mother for food. ~ Dependant on mother & father for protection	~ Cubs & juveniles do not learn hunting from parents but learns alone while mother is away hunting. ~ Mother collects young & leads them to & from kills
DISPERSAL	2 – 5/6 YRS	~ Males remain within father's territory for a time. ~ Then begin moving long distances in search of territory ~ Kept moving by presence of territorial ♂'s. ~ Infanticide: Kill young leopards they did not father	~ Opportunistic hunter trying a variety of prey species. ~ Dispersal males most often become the problem animals due to long-term distant travels, often passing through farms and coming into contact with livestock & game.
TERRITORIAL	5/6 YRS – 10 YRS	~ Hold territory. ~ Actively defend territory & keep dispersal ♂'s out. ~ Protect cubs from other males & ensure survival	~ Often specialise in certain prey species and majority of kills are the same species.

		of own offspring.	
DISPLACED	11+ YRS	~ Territory lost to stronger ♂. ~ May wonder new areas for a time. ~ Often mortally injured or killed in territorial disputes.	~ If not replaced by younger ♂, may have tooth problems leading to poor condition. ~ May become problem animals if unable to hunt game.

It appears to be a daunting task to age a leopard but help is always available for this through LCMAN. The best method to KNOW YOUR ANIMALS is through photographs from remote camera traps. With good guidance and practice, aging leopards well enough to categorise them is certainly possible and will aid in knowing what repercussions may occur should a certain individual is removed.

REMOVAL OF FEMALE LEOPARDS FROM A POPULATION

Repercussions of the removal of female leopards are minimal, although a potential breeding adult is lost to the population. The youngest daughter of a removed female will move into the vacant territory within days.

REMOVAL OF DISPERSAL MALE LEOPARDS FROM A POPULATION

Removal of dispersal males causes the “repair period” of male territories to be lengthened considerably. Dispersal males naturally push out or kill old territorial males reaching displacement. If these dispersal males are constantly removed from a population, old territorial males beyond their prime remain in the population. Hunters themselves in Namibia have noted that these males develop tooth problems from old age which consequently leads to starvation & emaciation. These individuals can become “problem animals” on farms as they can turn to hunting the easiest available prey which is often livestock.

REMOVAL OF TERRITORIAL MALE LEOPARDS FROM A POPULATION

When a single dominant territorial male leopard is removed from a population, a gap or “vacuum” is created and numerous young dispersal males will begin to move into this vacuum. The presence of numerous leopards in the area gives the impression that harvesting has no negative impacts. The repercussions are that the many young dispersal males in the area overlap a single female territory leading to infanticide – male leopards kill and eat cubs up to 7 months of age that they have not fathered. Ongoing infanticide from constant removal of males in an area could eventually cause a population crash.

Dispersal male leopards that should disperse or move for 3-4 years over vast distances before establishing a territory (this dispersal ensures that males do not breed with their relatives in an area) may remain in their natal area causing serious genetic implications for the future survival of the species.

Although males die naturally, the system has a “repair period” of 4-6 years. During this time, dispersal males strengthen as individuals, begin to hold and extend territory, father cubs and protect offspring from other males until they reach independence.

REMOVAL OF DISPLACED MALE LEOPARDS FROM A POPULATION

These are old males at the end of their life and are the ideal individuals to harvest.

Trophy-wise, displaced males are old and often large individuals that could be mortally wounded or killed by younger males that, if removed, cause the least negative impact on a population.

GUIDELINES FOR HUNTING LEOPARDS:

PROBLEM ANIMALS

- Ensure correct ID of the species: Leopards scavenge and will visit carcasses killed by other predators. Leopard may not necessarily be the killer if found at a carcass.
- If the problem animal is confirmed to be a leopard, it is vital to ID the correct individual. REMOTE CAMERA PHOTOGRAPHS can be used as an aid & LCMAN members are always willing to help with ID from photographs to ensure that the correct individual is identified.
- Adult leopard in their prime often “specialise” in hunting certain prey species. Removal of the incorrect female can create a vacuum for a young “potential” livestock hunter and removal of the incorrect male can lead to numerous younger males that are opportunistic hunters still learning to hunt. Livestock becomes the easiest prey for these young individuals.
- Take note of the repercussions of removal of different leopards from a population.
- KNOW YOUR ANIMALS.

GUIDELINES FOR HUNTING LEOPARDS:

TROPHY ANIMALS

- Attempt to ID old “dispersal” male leopards to harvest – these are the best trophy individuals and cause the least negative impacts on a population.
- Avoid hunting prime territorial leopards as this could lead to major genetic problems from infanticide causing future population crashes.
- If a prime territorial male is removed, it is vital to give the area at least a 6 year “repair period” to recover before harvesting in that area again. Rotation hunting can help in this regard but male territory sizes & individuals of the area must be known for this to be successful.
- Remote cameras can be used to ID and aid in aging leopards – contact LCMAN for further guidelines.
- Do not remove young dispersal male leopards.
- KNOW YOUR ANIMALS.

Practicing “SUSTAINABLE HUNTING OF LEOPARDS” will aid in ensuring that the species survives into the future. Most hunters will respect and choose an outfitter that puts the effort into ensuring harvest of the correct individual before any other. Hunting of the correct individual will also often ensure a good trophy from an animal that has had a full life and successfully raised strong offspring.

**CHECKLIST FOR REMOVING THE CORRECT LEOPARD
PROBLEM ANIMALS**

1	KNOW YOUR LEOPARDS	✓
2	PROOF OF PROBLEM ANIMAL: PHOTOGRAPHS	✓
3	CORRECT SPECIES IDENTIFIED	✓
4	CORRECT INDIVIDUAL LEOPARD IDENTIFIED	✓
5	UNDERSTAND REPERCUSSIONS OF INDIVIDUAL REMOVED	✓
	♀ LEOPARD: Younger (usually related) female will fill the vacuum & may choose the easiest available prey.	✓
	DISPERSAL ♂: Old displaced male leopards could become a problem animal in the future due to starvation	✓
	TERRITORIAL ♂: Numerous young dispersal males will move into the vacuum. Dispersal males still learning to hunt, may choose easiest available prey, ie livestock.	✓

**CHECKLIST FOR REMOVING THE CORRECT LEOPARD
TROPHY ANIMALS**

1	KNOW YOUR LEOPARDS	✓
2	REMOTE CAMERA PHOTOGRAPHS FOR AGE/ID OF ♂	✓
3	TARGET OLD “DISPLACED” ♂ LEOPARDS	✓
4	AVOID PRIME “TERRITORIAL” ♂’S (Infanticide & genetic repercussions)	✓
5	PREVENT HARVEST OF YOUNG “DISPERSAL” ♂’S	✓

6	6 YEAR "REPAIR PERIOD" FOR RECOVERY IF TERRITORIAL ♂ REMOVED	✓
7	UNDERSTAND REPERCUSSIONS OF INDIVIDUAL REMOVED	✓
	♀ LEOPARD: Illegal	✓
	DEPENDANT ♂: Not trophy / prevents population growth	✓
	DISPERSAL ♂: Old ♂'s not replaced & left to lose condition	✓
	TERRITORIAL ♂: Infanticide (young leopards killed) Major genetic repercussions	✓
	DISPLACED ♂: Trophy / correct individual to ensure sustainable harvesting	✓