

CONTENTS · INHOUD			
No.		Page No.	Gazette No.
	GOVERNMENT NOTICE		
Environmental Affairs and Tourism, Department of			
Government Notice			
251	National Environmental Management: Biodiversity Act (10/2004): National norms and standards for the managemer of elephants in South Africa	nt 3	30833

# **GOVERNMENT NOTICE**

## DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM

29 February 2008

NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, 2004 (ACT NO. 10 OF 2004)

# NATIONAL NORMS AND STANDARDS FOR THE MANAGEMENT OF ELEPHANTS IN SOUTH AFRICA

I, Marthinus van Schalkwyk, Minister of Environmental Affairs and Tourism, hereby issue National Norms and Standards for the Management of Elephants in South Africa in terms of section 9 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) as set out in the Schedule.

## SCHEDULE

## TABLE OF CONTENTS

# CHAPTER 1 INTERPRETATION, PURPOSE AND APPLICATION

1. Definitions

No. 251

- 2. Purpose and application
- 3. Guiding principles

## **CHAPTER 2**

## **GENERAL MANAGEMENT OF ELEPHANTS**

#### Part 1

#### **General provisions**

- 4. Restricted activities
- 5. Keeping of elephants
- 6. Management plans
- 7. Initial assessment
- 8. Duty of care
- 9. Adequate enclosure
- 10. Administration of scheduled substances and sedation
- 11. Capture of elephants
- 12. Translocation, import and export of elephants
- 13. Release camps

## Part 2

## Management of elephants in the wild

- 14. Composition of wild elephant populations
- 15. Control of wild elephant population sizes and distribution
- 16. Establishment of new populations of wild elephants
- 17. Contraception
- 18. Range manipulation
- 19 Culling

#### Part 3

## Hunting

- 20. Hunting of elephants
- 21. Hunting methods

#### Part 4

### **Captive elephants**

- 22. Provisions for captive elephants
- 23. Keeping elephants in captivity
- 24. Registration of captive facilities for elephants

## Part 5

#### **Escaped or Roaming Elephants**

25. Escaped or Roaming Elephants

## Part 6

#### General

26. Short title and commencement

#### ANNEXURES

Annexure I Management plans for wild elephants

Annexure II Management plans for captive elephants

Annexure III Security - when dealing with wild elephants

Annexure IV Requirements for release camps

Annexure V Electrification of perimeter fences

Annexure VI Flow diagram relating to management options

# CHAPTER 1 INTERPRETATION, PURPOSE AND APPLICATION

#### Definitions

1. (1) In these Norms and Standards, unless the context indicates otherwise, a word or expression defined in the Biodiversity Act or Protected Areas Act has the same meaning, and—

"adaptive management" means integrated research, planning and monitoring in repeated cycles of learning in order to better define and achieve objectives, and is built on the assumption that natural extensive wildlife systems are complex, our knowledge is imperfect but we can learn from purposeful, documented objectives and actions; "applicable legislation" means-

- (a) the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003);
- (b) the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004);
- (c) legislation and instruments mentioned in section 88(3) of the Biodiversity Act, 2004;
- (d) any regulations issued in terms of section 97 of the Biodiversity Act, 2004, or referred to in section 49 of the Protected Areas Act which apply to the implementation of these norms and standards;
- (e) these Norms and Standards and annexures thereto;
- (f) the Animals Protection Act, 1962 (Act No. 71 of 1962);
- (g) the Performing Animals Protection Act, 1935 (Act No. 24 of 1935);
- the Animal Matters Amendment Act, 1993 (Act No. 42 of 1993);
- the Animal Health Act, 2002 (Act No. 7 of 2002);
- the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);
- k) the Animals Diseases Act, 1984 (Act No. 35 of 1984);
- the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983);
- m) the Medicines and Related Substances Act, 1965 (Act No. 101 of 1965);
- n) the Meat Safety Act, 2000 (Act No. 40 of 2000); and
- the Veterinary and Para-Veterinary Professions Act, 1982 (Act No. 19 of 1982);
- p) the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972)
- the Animal Improvement Act, 1998 (Act No. 62 of 1998)

"Biodiversity Act" means the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004);

"biodiversity" means the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part and also includes diversity within species, between species, and of ecosystems;

"born in captivity" means an elephant conceived naturally and born to a captive elephant in a controlled environment;

"captive elephant" means an elephant that is kept in captivity in a controlled environment, including elephants kept in captivity for rehabilitation, but excluding wild elephants in temporary captivity for other purposes;

"captive facility" means a registered facility in accordance with the provisions of Regulation 27 of the Threatened or Protected Species Regulations, 2007 and paragraph 24 of these Norms and Standards;

"capture" includes searching, pursuing, driving, chasing, darting, lying in wait, luring, alluring, discharging a missile, catching, sedating, or exercising physical control by any other means, method or devise, with the intent not to kill;

"controlled environment" in relation to elephant management means an enclosure designed to hold an elephant in any way that -

- (a) prevents it from escaping; and
- (b) facilitates intensive human intervention in the form of provision of:
  - (i) food or water;
  - (ii) artificial housing; or
  - (iii) veterinary or health care;
  - and is less than 2000 ha;

"cow-calf group" means a cohesive group of females and their calves led by the matriarch or another older female, which associate regularly and closely with one another over time;

"culling" has the meaning as defined by the Threatened or Protected Species Regulations;

"damage causing elephant" has the meaning as defined by the Threatened or Protected Species Regulations;

"defined herd" means a cohesive group of elephants that exist in a limited or extensive wildlife system;

"destroy" means to intentionally kill an elephant for management purposes;

"ecologist" means a person registered as an ecologist under section 20 of the Natural Scientific Professions Act, 2003 (Act No. 27 of 2003); "elephant population" means a group of elephants freely associating in a given environment;

"escaped elephant" means-

- (a) a wild elephant that has escaped from a protected area, or an adequately enclosed or suitably fenced property, but has not become a damage causing elephant; or
- (b) a captive elephant that has escaped from captivity;

"extensive wildlife system has the meaning as defined by the Threatened or Protected Species Regulations;

"genuine orphan calf" means an elephant calf that-

- (a) is less than 2 years old;
- (b) its mother has clearly died of natural causes or poaching;
- (c) has been rejected by the elephant population of which it forms part; and
- (d) is likely to die if it is not taken into captivity;

"handler" means a trained person who is responsible for controlling, caring for, cleaning or managing a captive elephant;

"hunt" has the meaning as defined by the Threatened or Protected Species Regulations;

"institute" means the South African National Biodiversity Institute (SANBI), established in terms of section 10 of the Biodiversity Act;

"issuing authority" has the meaning as defined by the Threatened or Protected Species Regulations;

"kept in captivity" or "captive kept" has the meaning as defined by the Threatened or Protected Species Regulations, provided that the definition of "controlled environment" given in these norms and standards applies specifically in relation to the management of elephants;

"limited wildlife system" in relation to elephant management means—

(a) an area that is suitable for management of elephant populations of less than 15 animals, with minimal human intervention, except the provision of water and supplementation of food in times of drought; (c) is larger than 2000 ha and less than 5000 ha,

but excludes fenced land on which self-sustaining wild populations of elephants are managed in an extensive wildlife system;

"management authority" in relation to a protected area, means the organ of state or other institution or person in which the authority to manage the protected area is vested;

"management plan" means the management plan referred to in paragraph 6;

"preferred management density" means a stocking rate, or an acceptable range of densities within which a population may be allowed to fluctuate naturally;

"professional hunter" has the meaning as defined by the Threatened or Protected Species Regulations;

"Protected Areas Act" means the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003);

"protected area" means an area declared as such in terms of the Protected Areas Act;

"range manipulation" means the alteration of the natural range of an elephant population, whether through limitation, extension or expansion by using fires, provision or opening or closure of, watering points, feed, fencing, driving or other human activity;

"registered game farm" has the meaning as defined by the Threatened or Protected Species Regulations;

"responsible person" means the owner or manager of an elephant, the owner or manager of the land on which an elephant normally ranges or a management authority of a protected area;

"rehabilitation facility" has the meaning as defined by the Threatened or Protected Species Regulations;

"rehabilitation" means the keeping in captivity for the treatment and recovery of sick or injured elephant, or the rearing of genuine orphan elephants, for the sole purpose of returning them to the wild in a limited or an extensive wildlife system as soon as possible;

"roaming elephant" means an elephant from a known or unknown locality for which responsibility can not readily be determined;

"scheduled substance" means a medicine or other substance prescribed under section 22A of the Medicines and Related Substances Act, 1965 (Act No.101 of 1965);

"sanctuary" has the meaning as defined by the Threatened or Protected Species Regulations;

"temporary captivity" means a wild elephant that is kept in a controlled environment for a short period of time for the purpose of----

- (a) translocation, release camps, transfer or transport;
- (b) quarantine;
- (c) veterinary treatment; or
- (d) rehabilitation, in the case of injured or genuine orphan elephants;

"Threatened or Protected Species Regulations" means the regulations made by the Minister of Environmental Affairs and Tourism in terms of section 97 of the Biodiversity Act, relating to listed threatened or protected species published under Government Notice No.R.152 in Gazette No.29657 of 23 February 2007, as amended;

"translocation" means the removal by human and mechanical means of a wild elephant from its existing location to another area;

"veterinarian" means a person registered in terms of the Veterinary and Para-Veterinary Professions Act, 1982 (Act No. 19 of 1982);

"wild elephant" means an elephant that---

- (a) is not a captive elephant or is in temporary captivity, pending release into a limited or an extensive wildlife system; or
- (b) is in a limited or an extensive wildlife system;

(2) In these Norms and Standards, a word or expression which is a derivative or other grammatical form of a word or expression defined in subparagraph (1) or in the Biodiversity Act or Protected Areas Act, has a corresponding meaning unless the context indicates that another meaning is intended.

#### **Purpose and application**

2. (1) In terms of Section 9(1) of the Biodiversity Act, the Minister may, by notice in the Gazette—

- (a) issue norms and standards for the achievement of any of the objectives of this Act, including for the -
  - management and conservation of South Africa's biological diversity and its components;
  - (ii) restriction of activities which impact on biodiversity and its components; and
- (b) set indicators to measure compliance with those norms and standards.
- (2) The purpose is to set national norms and standards to ensure that –
- (a) elephants are managed in the Republic in a way that -
  - ensures the long term survival of elephants within the ecosystem in which they occur or may occur in future;
  - promotes broader biodiversity and socio-economic goals that are ecologically, socially and economically sustainable;
  - does not disrupt the ecological integrity of the ecosystems in which elephants occur;
  - (iv) enables the achievement of specific management objectives of protected areas, registered game farms, private or communal land;
  - (v) ensures the sustainable use of hair, skin, meat and ivory products; and
  - (vi) is ethical and humane and
  - (vii) recognises their sentient nature, highly organised social structure and ability to communicate,
- (b) the management of elephants is regulated—
  - (i) in a way that---
    - (aa) is uniform across the Republic; and
    - (bb) takes into account the Republic's international obligations in terms of international agreements on biodiversity management binding on the Republic; and

- (ii) in accordance with national policies on biodiversity management and sustainable development.
  - (3) These norms and standards are informed by the principles contained in paragraph 3.

(4) The provisions of these norms and standards apply to the management of elephants wherever they occur within the Republic or where a permit to import is applied for.

(5) The provisions of these Norms and standards must be read with the Threatened and Protected Species Regulations, 2007.

#### **Guiding Principles**

3. Any person executing a function or exercising a power or carrying out an activity that relates, directly or indirectly, to an elephant must do so with regard to the following further principles:

- elephants are intelligent, have strong family bonds and operate within highly socialised groups and unnecessary disruption of these groups by human intervention should be minimised;
- (b) while it is necessary to recognise the charismatic and iconic status of elephants and the strong local and international support for their protection, proper regard must be given to the impacts of elephants on biodiversity or people living in proximity to elephants;
- elephants are recognised engineers of habitat change and their presence or absence has a critical effect on the way in which ecosystems function;
- (d) the movement of elephants throughout their historical range has been disrupted by the activities of people over the last two centuries;
- (e) careful conservation management has led to the significant growth of elephant populations and human intervention may be necessary to ensure that any future growth occurs in a manner that does not result in the loss of biodiversity, ecosystem function and resilience or human life, or the compromise of key management objectives for protected areas, registered game farms or private or communal land;
- elephants often exist in close proximity to people, with the result that the elephants potentially pose a threat to the well-being of people and management measures must endeavour to limit these threats;
- (g) measures to manage elephants must be informed by the best available scientific information and, where the available scientific information is insufficient, adaptive management forms the cornerstone of the management of elephants and adaptive decision making tools must be adopted;

- No. 30833 13
- (h) management interventions must, wherever practicable, be based on scientific knowledge or management experience regarding elephant populations and must
  - take into account the social structure of elephants;
  - (ii) be based on measures to avoid stress and disturbance to elephants;
- where lethal measures are necessary to manage an elephant or group of elephants or to manage the size of elephant populations, these should be undertaken with caution and after all other alternatives have been considered;
- while efforts should be made to ensure that elephants continue to play an important role in an already well established nature-based tourism sector this should not occur in an inappropriate, inhumane or unethical form or manner;
- (k) in the context of objective-based management of complex ecological systems elephants should not be accorded preference over other elements of biodiversity;
- (I) every effort must be made to safeguard elephants from abuse and neglect; and
- (m) elephant population in the wild should be managed in the context of objective-based management of the complex ecosystem in which they occur.

## CHAPTER 2

## **GENERAL MANAGEMENT OF ELEPHANTS**

## Part 1

#### **General Provisions**

#### **Restricted activities**

4. No restricted activities in terms of the Biodiversity Act involving an elephant may be undertaken without a permit issued in terms of Regulation 18 of the Threatened or Protected Species Regulations.

## Keeping of elephants

- 5. (1) An elephant may not be kept unless it is:
- (a) a wild elephant that ranges in a limited or an extensive wildlife system that forms part of ---
  - (i) a proclaimed protected area; or
  - (ii) a registered game farm, private or communal land; or
- (b) a captive elephant kept at a captive facility; or
- (c) a wild elephant in temporary captivity; or

(d) an ill or injured elephant or genuine orphan calf kept in a rehabilitation facility; or

 (e) a genuine orphaned calf that could not be rehabilitated successfully to a limited or extensive wildlife system, and is therefore kept in a sanctuary; and

(f) kept in terms of an approved management plan.

(2) In the case of a limited and extensive wildlife system, the owner or person in control of elephants is responsible to provide for an ongoing assessment of the impact of the elephant on the habitat and ecological function of the area.

(3) A captive elephant may not be kept or handled without—

- (a) the elephant being fitted with two permanent internal microchips or transponders inserted one at the base of the tail and one in front of the left shoulder, the responsible person must submit the serial numbers of the transponders (microchips) to the issuing authority;
- (b) the responsible person creating and maintaining a system of identikits of each elephant as changes in tusks or ears occur, preferably by a set of photographs and forward these to the issuing authority for incorporation in the national register; and
- (c) there being a minimum of two trained elephant handlers permanently and exclusively allocated to the care of the elephant

(4) A permit to keep a captive elephant shall only be issued for a period of 36 months pursuant to which application must be made for the renewal in terms of regulation 38 of the Threatened of Protected Species Regulations.

#### Management plans

**6.** (1) The responsible person in relation to a protected area, registered game farm, private or communal land or in relation to a captive facility in which elephants are kept, is responsible—

- (a) to prepare a management plan; and
- (b) to submit the management plan to the issuing authority for approval.
  - (2) A management plan must-
- (a) comply with the following:
  - the process prescribed in the Protected Areas Act and the requirements in Annexure I for a wild elephant occurring on land that is declared as a protected area;

- (ii) for a wild elephant occurring on a registered game farm, private or communal land the requirements specified in Annexure I; or
- (iii) for a captive elephant, the requirements specified in Annexure II;
- (b) take into consideration the principles contained in paragraph 3;
- be consistent with any biodiversity management plan developed in terms of section 43 of the Biodiversity Act;
- (d) include a contingency plan that deals with the fate of the elephant in the event of the death, insolvency or any other event that impairs the ability of the owner or the responsible person to care for the elephant;
- (e) contain an initial assessment as described in paragraph 7 and provide for the ongoing assessment of the impact of the elephant on the vegetation structure and ecological function of-
  - (i) the area of enclosure; or
  - ii) any area from which the elephant is deliberately excluded;
- (f) identify the potential for conflict between people and elephants in or on the borders of the area of enclosure and provide for emergency plans in the event of the escape of an elephant, including measures to deal with such an emergency;
- (g) identify interventions likely to be made and management measures likely to be adopted, based on the principle of adaptive management; and
- (h) include a culling plan, if and when culling is identified as an intervention in terms of paragraph 15(1) and set out the conditions under which culling would take place.

(3) the management plan referred to in subparagraph (1) may be incorporated in one of the following plans:

- (a) in relation to a protected area, the plan that has been prepared by the management authority in terms of section 39(2) of the Protected Areas Act and the requirements for a management plan as described in Annexure I and approved by the Minister or the MEC as the case may be; or
- (b) a biodiversity management plan that has been developed in terms of section 43 of the Biodiversity Act.

(4) When preparing a management plan and/or a culling plan for a protected area, registered game farm, private or communal land the responsible persons must develop their management plan according to Annexure I and II of these norms and standards.

#### Initial assessment

- 7. An assessment in terms of paragraph 6(2)(e) must—
- (a) consider the potential impact of the elephants on the biodiversity of the area and structure of the habitat into which the population is to be introduced;
- (b) take into account-
  - (i) the availability of adequate food plants;
  - (ii) the availability of adequate shelter;
  - (iii) the availability of adequate water for drinking and bathing; and
  - (iv) the size of the land available to the population;
- (c) be based on the following population parameters:
  - (i) a cow-calf group;
  - the possibility that two adult bulls may need to be introduced if juvenile males become troublesome; and
  - (iii) an initial stocking density for the population that must equal or be less than 50% of the future maximum preferred elephant density for the land;
- (d) determine if the responsible person can provide for the physical, physiological, social and natural behavioural needs of the elephant; and
- determine if the responsible person will meet and be capable of meeting the long-term financial commitments of owning or managing elephants.

#### **Duty of care**

- 8. The responsible person is obliged to---
  - (a) provide responsible veterinary care;
  - (b) remain abreast with new monitoring and research information on the management of elephants, especially captive elephants;
  - (c) submit to the Institute all information that may be relevant to the development of properly planned monitoring and research programmes, a national and international database on elephant management and the development of best practises;
  - (d) share information and experiences with other responsible persons;
  - (e) provide for the safety of people, including guests and staff, interacting with the elephants in accordance with the requirements of Annexure III; and
  - (f) not neglect or allow any neglect or abuse of the elephant.

## Adequate enclosure

- 9. (1) An elephant should be kept in an area that is adequately enclosed.
  - (2) An area will be deemed to be adequately enclosed in terms of sub-paragraph (1) if it
- is—
- (a) a new protected area, newly registered game farm, private or communal land and a perimeter fence has been erected; or
- (b) a limited or an extensive wildlife system around which a perimeter fence has been erected.
  - (3) The minimum standard for a perimeter fence is-
- (a) a minimum height of 1.8m; and
- (b) electrified on the side occupied by the elephant in accordance with the requirements of Annexure V.
  - (4) The perimeter fence must be properly maintained.
  - (5) The provisions of sub-paragraph (1) shall not apply to-
- (a) an elephant in the process of translocation; and
- (b) that portion of a boundary that extends beyond an international border of the Republic.

## Administering of scheduled substances and sedation

**10**. (1) The administering of scheduled substances to an elephant must be in accordance with the Medicines and Related Substances Act, 1965 (Act No.101 of 1965).

- (2) An elephant may—
- (a) only be sedated as an extraordinary measure;
- (b) not be sedated repeatedly; and
- (c) only be sedated for the purpose of temporarily immobilising or tranquillising it -
  - to carry out a disease control procedure, scientific research or for management purposes;
  - (ii) for treatment by a veterinarian; or
  - (iii) to translocate or transport the animal.

(3) Sedation, or any administration of scheduled substances or veterinary procedures in terms of the Veterinary and Para-Veterinary Professions Act, 1982 (Act No. 19 of 1982) in terms of subparagraph (2) may only be carried out by a veterinarian and may be carried out from a motorised vehicle or aircraft.

#### **Capture of elephants**

- 11. (1) A wild elephant may only be captured under the following conditions:
  - (i) The capture is for the purposes of temporary captivity;
  - The capture must comply with all relevant permitting requirements and conditions;
  - (ii) The capture must be effected in accordance with the provisions of the Biodiversity Act; and

(iv) The capture must take place in compliance with the relevant provisions of the Animal Protection Act, 1962 (Act No. 71 of 1962), and the Translocation of Certain Wild Herbivore (SABS Protocol SABS 0331), as amended.

- (2) A wild elephant may be captured for introduction into a rehabilitation facility only if-
- (a) in the case of a sick or injured elephant, it is for treatment and recovery purposes and subsequent release into a limited or extensive wildlife system; or
- (b) it is a genuine orphan calf captured or to be captured on private or communal land for the purposes of rearing and subsequent release into a limited or extensive wildlife system; and
- (c) a permit authorising the removal of the elephant from the wild has first been obtained from the issuing authority in terms of the Threatened or Protected Species Regulations.

(3) A wild elephant may be captured to be kept in captivity with the approval of the Minister, only in exceptional circumstances, including but not limited to:

- (i) international agreements; or
- (ii) Scientific or research purposes.

#### Translocation, import and export of elephants

- 12. (1) An elephant may not be translocated if it is—
- (a) a wild elephant that is intended to be kept in captivity in controlled environment, other than in terms of paragraph 11;
- (b) a wild elephant with a history of crop raiding, fence breaking, damaging property or aggression towards humans or livestock unless it is to be translocated to an area where there is no risk of damage from similar behaviour;

- (c) a wild elephant that has been previously translocated, except under extraordinary conditions; or
- (d) a wild or captive elephant from another country that is intended to be kept in captivity in the Republic.
  - (2) An elephant may only be translocated if it is—
- (a) part of a cow-calf group, and -
  - (i) the entire cow-calf group is translocated; and
  - (ii) the calves are more than 2 months old;
- (b) a bull to be introduced to an area where there is a cow-calf group and the cow-calf group has successfully established a natural range for a period of three months; or
- (c) for purposes of temporary captivity.
  - (3) An elephant may only be translocated on the following conditions:
- (a) the translocation must comply with all relevant permitting requirements;
- (b) the translocation must be effected in accordance with the provisions of the Biodiversity Act;
- (c) the translocation must comply with the relevant provisions of the Animal Protection Act, 1962 (Act No. 71 of 1962), and the Translocation of Certain Wild Herbivore (SABS Protocol SABS 0331), as amended;
- (d) if elephants are captured within a protected area for the purpose of translocation, the capture must be in accordance with an approved management plan for the protected area within which the elephant occurs;
- (e) if the elephants are to be introduced into a protected area, the introduction must be in accordance with an approved management plan for the protected area to which the elephant is to be introduced;
- (f) at the point of destination, the elephant must initially be released into a release camp constructed in accordance with the provisions of Annexure IV;
- (g) immediately prior to offloading into a release camp, the matriarch, other adults and juveniles must, if necessary, be tranquilized with short or long-acting tranquilisers; and
- (h) when there is an agreement or exchange programmes between state institutions for exhibition or scientific purposes.
  - (4) No wild or captive elephant may be—
- (a) imported into the Republic; or

(b) exported from the Republic,

for the purposes of keeping it in captivity in a controlled environment, except in terms of paragraph 11 (3) or 12(5).

(5) Captive elephants which are part of a bona fide circus may be temporarily imported or exported for a limited, specified period, not exceeding the period of performance, for the sole purpose of use in the circus.

#### **Release camps**

13. (1) A release camp must conform to the requirements of Annexure IV.

(2) Except for the required management actions and in an emergency, there must be no interaction between a human and an elephant whilst the elephant is in a release camp.

(3) An elephant may not be kept in a release camp for a period exceeding 6 months except for veterinary treatment.

(4) Elephants are highly social animals and, other than in extraordinary circumstances, should not be housed separately from all of the other members of their immediate family.

(5) Subparagraph (3) does not apply in the case of an elephant in quarantine or as prescribed by a veterinarian.

#### Part 2

#### Management of Elephants in the Wild

#### Composition of wild elephant populations

- 14. (1) An elephant population in the wild must be managed with proper regard for—
- (a) the highly social nature of elephants;
- (b) the organised matriarchal system in which they normally operate;
- (c) the division of the population into different herds;
- (d) the division of a herd into cow-calf groups each under a matriarch;
- (e) the existence of adult bulls in a herd outside of the cow-calf groups; and
- (f) the role of adult bulls in dominating and controlling juvenile males.

(2) Bull elephants, between twenty-five and thirty-five years old must be introduced into areas where the only male elephants present are juvenile bulls.

## Control of wild elephant population sizes and distribution

**15**. (1) Should it become necessary, within the objectives of the management plan of the area concerned to manage the size, or the composition or the rate of growth of a wild elephant population it must—

- (a) take place in terms of the management plan applicable to the area in which the population occurs and to the population;
- (b) use one or a combination of the following management options:
  - (i) Contraception in terms of paragraph 17;
  - (ii) Range manipulation in terms of paragraph 18;
  - (iii) Translocation in terms of paragraph 12(2) and (3);
  - (iv) Introduction of elephants in terms of paragraph 16 or 12(1);
  - (v) Hunting in terms of paragraph 20 and 21; or
  - (vi) Culling in terms of these Norms and Standards as well as the Threatened or Protected Species Regulations.

(2) Should it become necessary, within the objectives of the management plan of the area concerned to manage the spatial distribution of a wild elephant population within the boundaries of the area, it must—

- take place in terms of the management plan applicable to the area in which the population occurs and to the population;
- (b) use one or a combination of the following management options:
  - (i) Contraception in terms of paragraph 17;
  - (ii) Range manipulation in terms of 18;
  - (iii) Translocation in terms of sub-paragraphs 12(2) and (3); or
  - (iv) Introduction of elephants in terms of paragraph 12(1) or 16(1)(b).

(3) The flow diagram in Annexure VI may be used as a guideline to determine the appropriate option.

## Establishment of new populations of wild elephants

- 16. (1) A new population of wild elephants may be established by—
- (a) translocation of elephants from an existing population of wild elephants; or

(b) introduction of captive elephants into a limited or an extensive wildlife system only after the issuing authority is satisfied that the elephants have been fully rehabilitated.

(2) A new population of wild elephants may be established subject to the following conditions:

- The prior approval of a management plan for the population;
- (b) The prior assessment of the suitability of the land to which the population is to be translocated in terms of paragraph 12;
- (c) Adequate enclosure in terms of paragraph 9;
- (d) Stipulation of the initial population structures taking into account-
  - (i) the matriarchal society of the animals;
  - the initial population should not be less than 6 suitable animals, and should consist of a cow-calf group; and
  - (iii) that adult bulls may only be introduced once the cow-calf group has successfully established a natural range;
- (e) Identification of the long term population structure in view of the management objectives of the population;
- (f) Written notification of the intended establishment to adjacent landowners, communities and any other person who may be directly affected by the intended establishment and requesting written comments within a period of thirty days; and
- (g) The issuing of a permit by the issuing authority.

#### Contraception

17. (1) The responsible person undertaking a programme to control the size of an elephant population by reducing the rate of reproduction of the elephant population using contraceptives must take into account that—

- (a) contraception is---
  - undesirable if it requires regular sedation of an elephant;
  - (ii) difficult to implement in a large population;
  - (iii) most appropriate in a small elephant population of 20 or less and has an uncertain or limited ability to reduce the number of elephants within a large population; or
  - (iv) not effective in providing immediate control of an elephant population or dealing with the immediate need to reduce the size of an elephant population;

- (b) the use of vasectomy procedures in elephants are currently complex and until scientific knowledge improves, should only be considered in small populations; and
- (c) in publicly and privately owned protected areas, contraception should only be used in the context of approved research projects that are adequately designed to ensure meaningful conclusions regarding the efficacy of the techniques.
  - (2) Contraceptives must be---
- (a) administered by a registered veterinarian; and
- (b) applied in accordance with the Medicines and Related Substances Act, 1965 (Act No. 101 of 1965).

(3) A monitoring programme must be implemented to evaluate the effects of a contraception programme on the elephants.

- (4) Vasectomy procedures must be -
- (a) undertaken by a veterinarian; and
- (b) applied in accordance with the Veterinary and Para-Veterinary Professions Act, 19 of 1982 and the Medicines and Related Substances Act, 1965 (Act No.101 of 1965).

#### **Range manipulation**

**18.** The movement of an elephant in the area in which it normally ranges may be altered by using one or a combination of the following methods, without compromising biodiversity objectives:

- (a) Management of the water supply of the elephants;
- (b) Management of the feed supply of the elephants;
- (c) The controlled use of fire in appropriate situations;
- (d) Preventing the elephants from entering or leaving a particular area of the land by:
  - (i) erecting of enclosure fences; or
  - (ii) erection of exclosure fences;
- (e) The creation of corridors of movement between different areas; or
- (f) The expansion of the range by acquisition of additional land.

## Culling

**19.** Culling may be used to reduce the size of an elephant population subject to the following conditions:

(a) Culling may be undertaken only in terms of a culling plan prepared by the responsible person with the assistance of an ecologist who is a recognised elephant management specialist and approved by the relevant issuing authority that sets out the conditions under which culling would take place and the manner in which the cull would to be implemented;

- (b) The culling plan must provide the issuing authority with the following information relating to the culling operation:
  - evidence that the actual or projected elephant numbers at a specific location are incompatible with the agreed land use objectives spelt out in the management plan and that a reduction in population numbers is therefore necessary;
  - evidence that all other population management options, referred to in paragraph 15 have been rejected by the ecologist referred to in 19 (a) after appropriate consideration and evaluation;
  - (iii) proposed number of elephants to be culled;
  - (iv) proposed method of animal selection;
  - (v) proposed time frames;
  - (vi) proposed culling methods; and
  - (vii) intended use of products;
- (c) An elephant may not be culled if it is—
  - part of a cow-calf group unless the entire cow-calf group, including the matriarch and juvenile bulls, is culled; or
  - (ii) part of a group comprising only juvenile elephants, unless the entire group is culled;
- (d) Culling must be done with-
  - (i) quick and humane methods;
  - (ii) a rifle with a minimum calibre of .375 inches; and
  - a bullet of a full metal jacket monolithic construction with a minimum weight of 300 grains and shall not include bullets of soft-nosed construction; and
- (e) The use of suxamethonium (Scoline) in culling is prohibited.

#### Part 3

#### Hunting

#### Hunting of elephants

- **20.** (1) Only the following elephants may be hunted:
- (a) Solitary males;
- (b) Females, in terms of regulation 14(2)(b) of the Threatened or Protected Species Regulations and paragraph 25 of these Norms and Standards; and
- (c) Females on private or communal land according to the management plan.

(2) Subject to the exceptions in subparagraph (1) no elephant may be hunted in the immediate proximity of any female/calf group.

(3) A professional hunter registered with the issuing authority must be present for the full duration and supervise each hunt, when the hunter is a non South African citizen.

(4) A hunt must be carried out in compliance with the provisions of the Threatened or Protected Species Regulations and paragraphs 20 and 21 of these Norms and Standards.

#### Hunting methods

**21.** In addition to those methods regulated in terms of Regulation 26 of Threatened or Protected Species Regulations; the following methods of hunting elephants are prohibited:

- (a) driving an elephant by any means;
- (b) hunting within 500 metres of a water hole or watering point;
- (c) using a pitfall; or
- (d) hunting with—
  - (i) a rifle with a calibre of less than .375 H&H; and
  - (ii) a bullet with a full metal jacket or monolithic construction with a weight of not less than
    286 grains or heavier bullet of monolithic or full metal jacket construction.

#### Part 4

#### Captive elephants

#### **Provisions for captive elephants**

22. (1) The provisions of the Animals Protection Act, 1962 (Act No. 71 of 1962), the Performing Arimals Act, 1935 (Act No. 24 of 1935) and these Norms and Standards will apply to the general management of captive elephants as prescribed.

(2) The Minister shall within 12 months of these Norms and Standards coming into effect, publish an Annexure VII that provides Minimum Standards for the management of captive elephants, and compliance with these Minimum Standards shall be a requirement of the Management Plan and a condition of permits for keeping of elephants in captivity.

#### Keeping elephants in captivity

- An elephant may only be kept in captivity if -
- (a) it was already permitted to be kept in captivity on the date that these Norms and Standards came into effect; or
- (b) it was conceived naturally and born in captivity in a controlled environment to captive elephants as per the approved management plan.

#### **Registration of captive facilities for elephants**

- 24. The owner of captive elephants is responsible to -
  - (a) apply to register the facility in terms of regulation 27 of the Threatened and Protected Species Regulations, 2007 and keep a register / stud book of each captive elephant at the facility;
  - (b) submit to the issuing authority a management plan complying with the requirements as set out in Annexure II; and
  - (c) comply with any other relevant policy, procedure or framework that provides guidance for the management of elephants and that is approved by the Minister.

# Part 5 Escaped or Roaming Elephants

#### Escaped or roaming elephants

**25.** (1) The obligation to control an elephant that has escaped from a protected area or an adequately enclosed area lies with the responsible person and issuing authority.

(2) The issuing authority is responsible to act as facilitator between the responsible person and the owner of or manager or other person in control of the property onto which the elephant has escaped to identify appropriate steps that may be taken to deal with the escaped elephant and the consequences of its escape.

- (3) The responsible person is responsible to apply to the issuing authority for permission
- to—
- (a) capture the escaped elephant and return it to its normal range; or

- (b) subject to the written approval of the owner of or manager or other person in control of the property onto which the elephant has escaped—
  - (i) hunt or arrange for the escaped elephant to be hunted; or
  - (ii) destroy the escaped elephant or arrange for the escaped elephant to be destroyed.

(4) Should the responsible person fail to take steps in terms of sub-paragraph (5), the owner of the property onto which the elephant has escaped may---

(a) apply for a permit in terms of the Threatened and Protected Species Regulations, 2007 to-

- (i) capture and—
  - (aa) return the elephant to its normal range; or
  - (bb) keep the elephant; or
- (ii) hunt or arrange for the escaped elephant to be hunted; or
- (iii) destroy or have the elephant destroyed; and

(b) recover the cost incurred in terms of sub-paragraph (a)(i) or (iii) from the responsible person.

(5) An application in terms of subparagraph (4) must be accompanied with proof that the responsible person has been notified that the elephant has escaped from its normal range and the area in which it is currently ranging.

(6) The obligation to control a roaming elephant whose origin can not readily be determined lies with the issuing authority or the owner of or manager or other person in control of the property onto which the elephant has roamed, in consultation with the issuing authority.

(7) The responsible person, the owner of or manager or other person in control of the property onto which the elephant has roamed, must report such an incident to the issuing authority within a period not exceeding 24 hours after the incident has occurred.

(8) In the case where the origin of the elephant can not readily be determined, the owner of the property onto which the elephant has roamed may -

(a) in terms of the Threatened and Protected Species Regulations, 2007 apply to the issuing authority for a permit to----

- (i) capture and keep the elephant;
- (ii) hunt or arrange for the roaming elephant to be hunted; or
- (iii) have the elephant destroyed at his own cost and for his own account; or

(b) request that the issuing authority take responsibility for the elephant.

(9) The issuing authority is responsible to immediately take such steps as it deems appropriate to deal with the escaped or roaming elephant if---

- (a) notwithstanding the provisions of sub-paragraphs (3), (4) or (5), it is of the view that the elephant poses an immediate threat to people or may become damage causing;
- (b) the responsible person fails to expeditiously take steps pursuant to a permission granted in terms of sub-paragraph (6)(a); or
- (c) the owner of or manager or other person in control of the property onto which the elephant has escaped or roamed fails to expeditiously take steps pursuant to a permission granted in terms of sub-paragraph (6)(b).

## Part 6

#### General

#### Short title and commencement

26. These norms and standards are called the National Norms and Standards for the Management of Elephants in South Africa, 2008, and take effect on 1 May 2008.

## ANNEXURE I

## MANAGEMENT PLANS FOR WILD ELEPHANTS

## A management plan for a wild elephant shall contain at least all the following information:

## Section A. General information and inventory

- 1. General
- 1.1 Names of owner and manager.
- 1.2 Postal address.
- 1.3 Telephone and fax numbers.
- 1.4 Farm name (including all registered farm names, numbers and portion numbers in the fenced area).
- 1.5 Precise extent of the property and the specific enclosure where the elephants will be kept.
- 1.6 Description of the land uses and activities on all neighbouring properties. Description of land uses must be specific such as irrigation farming.
- 1.7 Name, contact details and qualifications of an ecologist or compiler of the plan or person who did the survey.
- 1.8 Proximity to settlements, rural communities and tribal land.
- 1.9 Information as to whether there is potential for enlarging the property.
- 1.10 Specifications of the perimeter fence.

## 2. Ecological

- 2.1 General climatic and hydrological data (e.g. rainfall, temperatures).
- 2.2 General description of the geology.
- 2.3 General description of the soils.
- 2.4 Detailed description of the vegetation.
- 2.5 Preferred management density of elephants.
- 2.6 Game species and numbers present on property.
- 2.7 Sensitive habitats and species.
- 2.8 Disturbed or degraded areas such as bush encroachment and soil erosion.
- 2.9 Description of all available water bodies and distribution thereof described.
- 2.10 Maps:
  - (a) Location map.

- (b) Topographic map of property (boundary of farm(s) and camp(s), roads, water points, infrastructure, etc.).
- (c) Vegetation communities.

Ecological information should be collected and analysed by an ecologist. Methods used should be scientific and described in detail. The scale of the maps should be at least 1-50 000.

## Section B. Management goals and objectives

#### 3. Habitat

- 3.1 Veld condition monitoring methods and time schedules.
- 3.2 Rehabilitation programme for degraded areas.
- 3.3 Fire management plan.
- 3.4 Water provision.
- 3.5 Population management of other wildlife species.
- 3.6 Preferred management density.

## 4. Information pertaining to elephants

- 4.1 Purpose of introduced elephant.
- 4.2 Public participation reports, where there is contractual arrangements between the management authority of a protected area and a private land owner(s).
- 4.3 Specifications for the release camp.
- 4.4 Control of elephant population size.
- 4.5 If and how sex and age ratios will be manipulated.
- 4.6 Measures to prevent poaching.
- 4.7 Provision for adequate insurance.
- 4.8 Contingency plans to deal with elephant problems (including contact details of responsible manager, veterinary practitioner and capture operator/s)—
  - (a) in the case of the fence being unable to contain the elephants.
  - (b) in the case of the alteration of the habitat beyond acceptable limits.
- 4.9 Feeding scheme in case of a natural food supply shortfall.
- 4.10 Threat analysis and security plan.

# Section C Information to be provided after approval for the introduction of elephants, but before a permit may be issued

## 5. Details of the elephants

- 5.1 The complete translocation history of each individual:
  - (a) Origin of the elephants (e.g. location, habitat, fencing and size of reserve/farm); and
  - (b) The age of elephants and selection of elephants to be translocated (e.g. exposure to tourists, fences and borna).
- 5.2 Serial numbers of transponders (microchips) to be inserted where appropriate.
- 5.3 The management of the capture, transport and keeping in boma (including sedation) of elephants, as well as the name of the acting veterinary practitioner.

Two hard copies of the management plan must be handed in at the provincial authority. The applicant will be informed in writing if the plan has been accepted/rejected or if the plan has to be amended.

#### **ANNEXURE II**

## MANAGEMENT PLANS FOR CAPTIVE ELEPHANTS

A management plan for captive elephants shall contain at least all of the following information:

#### Section A. General information and inventory

- 1.1 Names of owner and manager.
- 1.2 Postal address.
- 1.3 Telephone and fax numbers.
- 1.4 Farm name (including all registered farm names, numbers and portion numbers in the fenced area).
- Precise extent of the property and the specific enclosure details where the elephants will be kept.
- 1.6 Description of the land uses and activities on all neighbouring properties. Description of land uses must be specific such as irrigation farming.
- 1.7 Name, contact details and qualifications of an ecologist, should one have been consulted, who did the survey.
- 1.8 Proximity to settlements, rural communities and tribal land.
- 1.9 Information as to whether there is potential for enlarging the property.
- 1.10 Specifications of the perimeter fence and / or adequate enclosure.

#### Section B. Specific information relating to elephants

- 2.1 Purpose of keeping captive elephants and proposed uses of the elephant.
- 2.2 Projected elephant numbers for next 5, 10 and 20 years.
- 2.3 Control of elephant population sizes management options to be used if required.
- 2.4 Proof of notification of neighbours.
- 2.5 Measures to prevent poaching, unnecessary and/or deliberate disturbances and harassing.
- 2.6 Provision for adequate insurance.
- 2.7 Contingency plans to deal with elephant problems (including contact details of responsible manager, veterinary practitioner and capture operator/s)-
  - (a) in the case of the fence being unable to contain the elephants.
  - (b) in the case of the alteration of the habitat beyond acceptable limits.
- 2.6 Description of housing facilities.
- 2.7 Description of activities, training methods and tools used.

- No. 30833 33
- 2.8 Identification characteristics of individual elephants to be provided to the issuing authority within30 days after approval.
- 2.9 Serial numbers of transponders (microchips or any other current form of tracking for elephants more than two (2) years old) to be inserted, to be provided to the issuing authority within 30 days after approval.
- 2.10 Description of provisions to minimise stress and trauma to the elephants.
- 2.11 Description of provisions to cater for the social structure of the elephants.
- 2.12 Description of projected growth patterns and measures for population management.
- 2.13 Description of provisions relating to veterinary care.
- 2.14 The complete history of each individual:
  - (a) Origin of the elephants (e.g. location, habitat, fencing and size of reserve/farm).
  - (b) The age of elephants.
- 2.15 Emergency procedures describing the following:
  - (a) Reactive and preventative procedures for elephants out of control, injured or sick elephants;
  - (b) Personnel emergency procedures including reactive and preventative procedures aimed at stabilizing elephants out of control and managing injured staff, guests or elephants; and
  - (c) Guest emergency procedures.

Two hard copies of the management plan must be handed in at the provincial authority. The applicant will be informed in writing if the plan has been accepted/rejected or if the plan has to be amended.

#### ANNEXURE III

#### SECURITY – WHEN DEALING WITH WILD ELEPHANTS

- 1. Bephants are wild animals and can be very dangerous if not treated with respect and caution.
- 2. The responsibility of safe encounters with elephant lies entirely in the hands of the field guides and land owners.
- 3. High standards of guest and staff safety should be maintained at all times.
- 4. Guides should be adequately qualified and experienced to protect the guests.
- 5. The following are recommended specifically:
- 5.1 All tourist facilities and amenities should be ring fenced with an electric fence, so should staff villages;
- 5.2 Where river frontage occurs an electrified cabled fence must be erected to keep elephant out of tourist camps; and
- 5.3 Fencing of sewage ponds and rubbish pits with electrified fence.
- 6. Regarding vehicles, the following is recommended:
- 6.1 Expanded mesh should be attached to vehicles to at least cover the height of the legs of guests and doors must be present in the cab to protect the driver and his passenger;
- 6.2 All vehicles must be reliable and in a good running mechanical condition and be fitted with adequate spare wheels and repair kits;
- 6.3 Functional radios are essential;
- 6.4 Well-prepared emergency action plan;
- 6.5 When guests drive on their own the following should be supplied:
  - 6.5.1 Information on the potential dangers of elephants (i.e. cows with calves);
  - 6.5.2 Information on how to identify, approach and behave near bulls in must; and
  - 6.5.3 Strict regulations of how to behave near wild elephants:
    - (a) Not to drive off road;
    - (b) Not to follow the elephants;
    - (c) To respect the elephants at all times;
    - (d) To always allow them the right of way;
    - (e) To drive off slowly if they get too near;
    - (f) Not to cut off their path especially when more than one vehicle present;
    - (g) Not unnecessarily increase the noise emitted by the motor vehicle engine; and
    - (h) Not to leave the vehicle.

#### **ANNEXURE IV**

## **REQUIREMENTS FOR RELEASE CAMPS**

The purpose of the release camps is to teach the elephants to respect electricity; and to enable the group to re-bond following the disruption of translocation.

- 1. The release camp must-
- 1.1 be prepared well ahead of time;
- 1.2 be inspected and approved beforehand by the issuing authority;
- 1.3 be easily accessible by large, low-bed transport trucks with access roads able to adequately carry such vehicles, due consideration be given to all bridges and culverts and large trees;
- 1.4 be located adjacent to the centre of the protected area or registered game farm;
- 1.5 have access and use of a water source;
- 1.6 be a minimum width of 100 metres;
- 1.7 be a minimum area of two hectares for every six elephants;
- 1.8 have adequate clean drinking water;
- 1.9 include a possibility for mud-wallowing with a solid cement or rock floor and supplied with water to prevent small calves from becoming trapped; and
- 1.10 is sufficiently vegetated to provide security and shade for the elephants.
- 2. The fence of the release camp must—
- 2.1 have a minimum height of 2,4 metres;
- 2.2 be constructed using steel railway tracks lines or steel poles filled with concrete as uprights set in concrete ten metres apart;
- 2.3 have a minimum of five strands of steel cables, each having a minimum diameter of 16mm, one placed at ground level and thereafter at minimum intervals of 500mm. The cable must be strung on the inside of the poles except at the corners, where it must go around the outside of the corner post;
- 2.4 have a galvanised veldspan fence erected from ground level to the top of the fence with steel droppers, each having a minimum top width of 100mm, placed at intervals of one metre apart;
- 2.5 be electrified in the following manner:
  - (i) five strands of wire;
  - (ii) the offsets must be to the inside;

- (iii) a voltage of 6000 9000 V should be maintained;
- (iv) the bottom strand must be 300mm above ground level. The second strand must be 1,0m above ground level and the remaining strands are to be spaced approximately 500mm apart. The top strand must be placed at the top of the fence with an additional earth strand. Double offset brackets should be used for all strands, especially when bulls are introduced;
- (v) the offsets must be five metres apart to prevent the elephants from causing a short when they push against the fence; and
- (vi) if elephants are ranging on the property outside the release camp, it is essential that the paddock is also electrified with three strands on the outside.
- 2.6 where adult bulls are to be introduced, be reinforced with the following:
  - additional earthing that can be obtained by wetting the area directly inside the fence prior to the animals arriving;
  - a second inner electric fence erected two metres inside the perimeter of the paddock fence using Y metal standards or using good quality offset brackets;
  - (iii) spanning electrified strands across the corners of the release camp. It is advisable to construct a paddock of 2 hectares, so as to ensure that the elephants do not run through the fence in panic, and so that they have sufficient food during their stay. Additional re-enforcement of the gate can be achieved by using horizontal steel poles; and
- 2.7 not be near large trees that the elephants may push onto the fence and cause a short.
- The offloading ramp must—
- be placed outside the fence;
- 3.2 be at least 2, 4m wide and 1m high;
- 3.3 have containing walls that are
  - three metres high;
  - (ii) reinforced;
  - (iii) constructed with steel poles that are concreted into the ramp; and
  - (iv) are sufficiently strong to prevent the elephants from pushing them over when offloaded; and
- 3.4 have a gate that----
  - (i) separates the offloading ramp from the release camp;
  - (ii) is constructed of heavy steel;

- (iii) is electrified when closed;
- (iv) is reinforced by thick horizontal poles pushed through steel brackets after the elephants have been offloaded;
- (v) is additionally reinforced if bulls are to be introduced; and
- (vi) is six metres wide;
- (vii) is of a sliding design; and
- (viii) can be opened remotely with a cable or rope, if necessary.

#### **ANNEXURE V**

### **ELECTRIFICATION OF PERIMETER FENCES**

A perimeter fence to an area in which an elephant population is kept must be electrified in accordance with the following requirements:

- 1. The fence must have at least three strands of electrical wires that are structured in the following manner:
- 1.1 each strand must have a minimum diameter of 2.24mm;
- 1.2 a minimum of two electrified strands, one at 1.0 1.5 m and the other at the top. In situations where electrification cannot be relied on, the fence must be strong enough to contain elephants without electrification;
- the second strand must be 1.5m above ground level with 225mm or 450mm double offset brackets;
- 1.4 the top strand must be on the top of fence with 450mm double offset brackets; and
- 1.5 an earth strand must be affixed to the double offset brackets 10cm on the inside of each live wire strand; ideally earth pegs should be every 100 to 200 metres apart to achieve minimum voltage.
- 2. A minimum voltage of 6000 V must be maintained on the whole perimeter.
- Energisers must be large enough to maintain at least 6000 V over a distance of 8km and should not release less than 6 Joules.
- Danger signs indicating electrified fencing and elephants must be erected on the fence at regular intervals and all likely points of human contact.

#### **ANNEXURE VI - FLOW DIAGRAM RELATING TO MANAGEMENT OPTIONS**

