

**STANDARD OPERATIONAL PROCEDURE  
FOR USING PAINTBALL MARKERS AS BABOON DETERRENTS  
WITHIN THE CAPE PENINSULA  
Revised, 17 June 2021**

## **1. INTRODUCTION**

PBMs (PBMs) have been used predominantly for recreation and in military simulations, but have also been used in mark-recapture studies of free-ranging wildlife populations and in deterring problematic wild species (e.g. coyotes) from urban environments. Currently, PBMs are used to deter baboons in KwaZulu-Natal, Sun City and in the Overberg Region (Hermanus) to deter baboons from tourist- and residential areas.

Essentially, a PBM fires gas-propelled spherical pellets which for the purpose of this Standard Operating Procedure, are filled with environmentally friendly paint and the pellets are fired at an approximate speed of 90 m per second. No PBM may fire a paintball exceeding a speed of faster than 300 foot per second. This should be checked against a chronograph every month.

## **2. AIMS AND OBJECTIVES**

The **aim** is to humanely deter baboons from entering urban areas where there are known high risks of injury and mortality often associated with extreme suffering. The aim is thus to keep baboons safe and not to cause unnecessary pain or suffering to the baboons.

The **objective** of this SOP is to regulate the use of PBMs in achieving the stated aim while not causing any unnecessary harm or suffering to baboons.

This Standard Operating Procedure does not substitute any regulatory requirements and should where applicable, be read and applied in conjunction with all relevant laws, by-laws, regulations and compulsory specifications including the following:

- Animal Protection Act (Act no 71 of 1962)
- Nature Conservation Ordinance (Ordinance 19 of 1974)
- Criminal Procedure Act (Act 51 of 1977)
- Firearms Control Act (Act 60 of 2000)
- Occupational and Safety Act (Act 85 of 1993)

## **3. CONDITIONS OF USE**

- 3.1. PBMs for deterring baboons from entering urban areas may only be used in accordance with this SOP.

- 3.2. The indiscriminate use<sup>1</sup> of PBMs fired at point blank range at baboons is not permitted.
- 3.3. In some specific instances it may be justified to shoot directly at a baboon with a PBM in the “green” and “red” zones described in sections 3.9 below. Such instances include:
  - 3.3.1. Self-protection and/or the protection of people and/or other animals;
  - 3.3.2. For protection of baboons from urban-related threats, be they human or other, and/or for the prevention of baboons becoming injured.In such instances, the PBM may only be directed to the flank and rear portion of a baboon.
- 3.4. Any operator tasked with using a PBM must undergo adequate training from a competent instructor to ensure sufficient understanding of:
  - 3.4.1. Baboon behaviour;
  - 3.4.2. Aversive conditioning;
  - 3.4.3. Humane usage of PBMs.
- 3.5. Any operator will need to demonstrate sufficient accuracy (hitting a 30 cm target at a range of 10 m with a frequency of 90% or more) before being allowed to use the PBM in the field.
- 3.6. Caution must be exercised when operating in wind velocities exceeding 40 km/h or more (operators will have to use some degree of their own discretion in this regard) or in situations (e.g., heavy rainfall) where external factors will compromise accuracy.
- 3.7. While markers are being used in the field, a veterinarian is required to be on call to attend to any unforeseen injuries to baboons. The proposed method of firing (see below) will minimise the probability of injury, but the ability of baboons to move quickly (and sometimes unpredictably) will introduce some degree of unpredictability.
- 3.8. When not in use, the markers will be concealed within a bag or carried on a shoulder strap and with the barrel sock in place
- 3.9. Two approximate zones will be designated, namely Green and Red:
  - 3.9.1. Green zone (buffer zone) includes all areas estimated between 100 m and 200 m from the nearest inhabited area. Specific areas will be established for each baboon troop, based on topography of any human area.
  - 3.9.2. Red zone (no go zone) includes all human inhabited areas and all land to the green zone.

#### **4. GREEN ZONE (BUFFER ZONE) PROTOCOL**

- 4.1. The operator of the PBM will position him/herself between the troop and the nearest urban edge, with potential firing directed towards natural areas.
- 4.2. Once the baboons cross into the Green zone (approximately 100 — 200 m away), the monitors will be instructed to make an effort to deter them by

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<sup>1</sup> The indiscriminate use of PBMs is defined as the use of PBMs in contravention of the SOP.

- clapping their hands, shouting or shaking the marker in order to push them from the human area.
- 4.3. If the baboons fail to respond, the operator will begin to fire.
  - 4.4. Only adult baboons will be targeted.
  - 4.5. The operator will only target adult baboons that are within a safe distance from juvenile and infant baboons but within 20 m of the operator (so as not to compromise accuracy).
  - 4.6. NO adult females carrying infants will be targeted.
  - 4.7. At the discretion of the Field Manager, large juvenile males that are at least the size of an adult female AND a known raider, can be targeted.
  - 4.8. The operator may aim at the ground 2 m in front of the targeted adult to give a warning shot.
  - 4.9. No more than 2 warning shots are to be directed at any time.
  - 4.10. From this point, troop members will either begin to retreat from the human area or will continue their approach. If the baboons approach the urban area purposefully the red protocol will be initiated.

## **5. RED ZONE (NO GO ZONE) PROTOCOL**

- 5.1. From this point, troop members will either begin to retreat from the human area or will continue their approach. If the baboons approach the urban area purposefully, the red protocol will be initiated.
- 5.2. The operator of the PBM will position him/herself between the troop and the nearest urban edge, with potential firing directed towards natural areas.
- 5.3. Once the baboons cross into the Red zone (approximately <100 m away), the operator will only target adult baboons that are within a safe distance from juvenile and infant baboons but within 20 m of the operator (so as not to compromise accuracy). No adult females carrying infants will be targeted.
- 5.4. At the discretion of the Field Manager, large juvenile males that are at least the size of an adult female and a known raider, can be targeted.
- 5.5. Caution should be used when firing on baboons moving directly towards the operator in order to avoid the risk of hitting the baboon.
- 5.6. Should the adult retreat from the operator, towards natural land, targeting of that adult will cease once it is beyond the green zone.
- 5.7. If the troop moves back into the green zone, the firing protocol will be adjusted accordingly.
- 5.8. Within human areas, efforts will be directed primarily towards keeping local residents safe, firing as little as possible and moving the troop out of the human area as quickly as possible.
- 5.9. In built-up areas, when monitors are herding the baboons out, firing must be used as a support to the monitors by targeting adult males/females that break ranks with the troop. If the troop is moving in a general direction, herded by the monitors, then firing should be guided by the Supervisor monitor so as not to scatter the troop.

- 5.10. No firing will be allowed where the visibility of the trajectory of the pellets is obstructed.
- 5.11. No firing will be allowed in the direction of people, houses and other buildings, domestic animals, windows or vehicles of any description.
- 5.12. No firing will be allowed into isolated trees where baboons are sheltering and where no escape route is available. The operator will need to retreat in order to allow the baboon/s to come down. The operator may fire again in order to drive the baboon/s in the desired direction once they are safely out of the tree.
- 5.13. Any firing must attempt to be maximally effective (i.e. a minimum number of clear shots).
- 5.14. If there are multiple operators, a predetermined direction in which to push the baboons must be decided prior to entering and firing in human areas. If baboons are located on roof tops, trees or dead-ends, the operators must devise an operational plan prior to firing. Baboon escape routes must be determined and operators must allow baboons the opportunity to escape in the direction away from the operator. No other operators or monitors should hinder this escape route.
- 5.15. No firing may take place from a moving vehicle.

**Approved by:** Dr Ernst Beard, Executive Director: Conservation Operations,  
CapeNature



**Signed:**

**Date:** 22 June 2021