

## **Annex F**

### **Overview of the post mortem examination procedure for badger carcasses submitted to the animal and plant health agency (APHA) as part of the monitoring of controlled shooting in year two of the badger culls**

#### **Purpose of the post mortem examination in year two**

1. The main aim of the post mortem examination was to identify and record bullet-induced tissue injuries in eligible badger carcasses. The data collected were used as part of an assessment of the accuracy and compliance with the Best Practice Guidance of controlled shooting of badgers. In this respect, the scope of the post mortem examination was as follows:-
2. To determine the number and type of bullet-induced skin wounds on the carcass and the location of any internal bullet-induced injuries. In addition, to classify the severity of any bullet-induced injuries present in the thorax (chest). The number of bullet entry wounds identified in the skin was used to indicate the number of shots that hit the badger.

#### **Differences between the post mortem examination procedures used in year one and year two**

3. The main differences in the procedure were as follows:-
4. In year one, the post mortem examination was supported by the availability of radiographs (x-rays) of the badger carcass. Radiographs were not available in year two.
5. In year two, the post mortem examination procedure included an assessment by the examining veterinarian of the severity of any bullet-induced injuries present in the thorax. This assessment was not made during year one.
6. In year one, the post mortem examination procedure included systematic recording of any old firearm-induced injuries identified. No such injuries were identified on any of the carcasses examined during year one. The method for recording this type of injury was modified in year two.

#### **Summary of the post mortem examination procedure adopted in year two**

- The carcass was skinned using a standardised methodology.

- Bullet-induced skin wounds were identified and, where possible, classified as entry wounds or exit wounds.
- Subsequent to skinning, the thoracic and abdominal cavities were opened.
- The thorax and its contents were examined in a systematic manner for bullet-induced injuries.
- If bullet-induced injuries were identified in the thorax, these were classified according to their severity. Bullet-induced injuries present in the thorax were classified as 'Major' (severe) if, in the opinion of the examining veterinarian, they had caused damage to the heart and/or thoracic major blood vessels resulting in significant intra-thoracic haemorrhage (bleeding within the chest).
- The rest of the carcase (the head, the neck, the front legs, the abdominal/pelvic region, the hind legs and the tail) was examined in a systematic manner for bullet-induced injuries.
- The post mortem examination findings were captured on a standardised post mortem data capture form.
- The post mortem data were entered into a purpose-built database.

## **Recording the impact of post mortem change**

7. After death, a sequence of changes occurs in a dead animal's body. A number of factors may accelerate or retard this decomposition. In both year one and year two of the badger culls, the veterinarian performing the post mortem examination had the option to record a carcase as 'uninterpretable due to post mortem change'. This option was available to record cases where, in the examining veterinarian's opinion, the post mortem decomposition that had occurred made it impossible to obtain meaningful results for that carcase. A number of factors may affect the degree of decomposition of a carcase when presented for post mortem examination, including the interval between death and commencing the examination.
8. No carcasses were categorised as 'uninterpretable due to post mortem change' during the post mortem examinations carried out in year one. A single carcase was categorised as 'uninterpretable due to post mortem change' in year two.

## **Reporting of the post mortem findings to Natural England and Defra during year two**

9. Subsequent to appropriate data quality checks, daily reports summarising the year two post mortem findings were produced automatically from the APHA database and forwarded to Natural

England and Defra. These reports included information on two key observations from each post mortem examination:-

- 9.1. Whether the examination had revealed evidence of multiple bullet 'hits' (as indicated by clear evidence of more than one bullet entry wound in the skin).
  - 9.2. Whether the examination had revealed an absence of severe ('Major') bullet-induced injuries in the thorax (the recommended target area).
10. If the post mortem examination revealed clear evidence of multiple bullet 'hits' and/or an absence of severe bullet-induced injuries in the thorax, the report for the carcase was flagged with a recommendation for Natural England to further investigate the history of the shooting event.