

Protocol for scoring body condition in captive elephants in zoological collections (UK & Ireland)

Introduction

The Elephant Welfare & Focus Groups worked with a veterinary student and elephant care professionals to adapt and develop a system of routinely scoring the body condition of captive elephants from Wemmer *et al.* (2006). The outcomes of this research project are captured below in a simple protocol, to be employed at all participating BIAZA collections.

The data generated will allow collections to monitor the nutritional status of their elephant objectively over time, thus providing a tool to 1) assess the welfare and progress of any individual within the cohort and 2) the long-term effects of any environmental changes such that future recommendations on husbandry are evidence-based.

Protocol

1. Scoring is carried out by a visual, non-invasive assessment of body condition for each animal. All individuals should be viewed from multiple angles - minimally required are profiles of left and right sides, and both front and rear profiles, with the addition of viewing from above where facilities permit (Figure 1). Visual scoring of body condition is possible for all management regimens.
2. Where elephants can be weighed, the recommendation is to first body condition score, then collect weight data.
3. Scores are assigned to six body regions (Figure 2), based on the prominence of skeletal structures and the fat and muscle covering.
4. Scores are recorded in a tabular format along with essential details (date, zoological collection and animal ID) (Figure 3).
5. From the visual assessments in person, each body region is scored 0, 1 or 2 according to guidance provided (see UK EWG_Elephant Body Condition Record & Key_2012).
6. For all animals at each scoring session, photographs of the whole body are to be taken from a variety of angles to provide a record of current condition that can also be used for future reference. The protocol can be employed on any animals in any management system.
7. All scores are recorded (an example sheet and blank sheet are attached) and saved electronically. Include weights where facilities exist.
8. The transfer of this data to an electronic dataset (preferably in Excel) that includes all elephants in the collection is essential. It is hoped that in the future a central database covering all elephants in the UK & Irish cohort will be available.
9. All photographs must include essential details (date, zoological collection and animal ID) either on a handheld card or electronically in the title of the saved image.
10. All photographs must be saved electronically in a format and library such that they are readily accessible, and linked to an animal's medical records (ideally in ZIMS) in order they can be related to any other variables (e.g. change in husbandry, season, weight, foot score, locomotion).
11. Scoring foot health, locomotion and **body condition** should take place on a monthly rotation such that each score is performed once every three months.

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Figure 1. Standardised views required for body condition scoring.

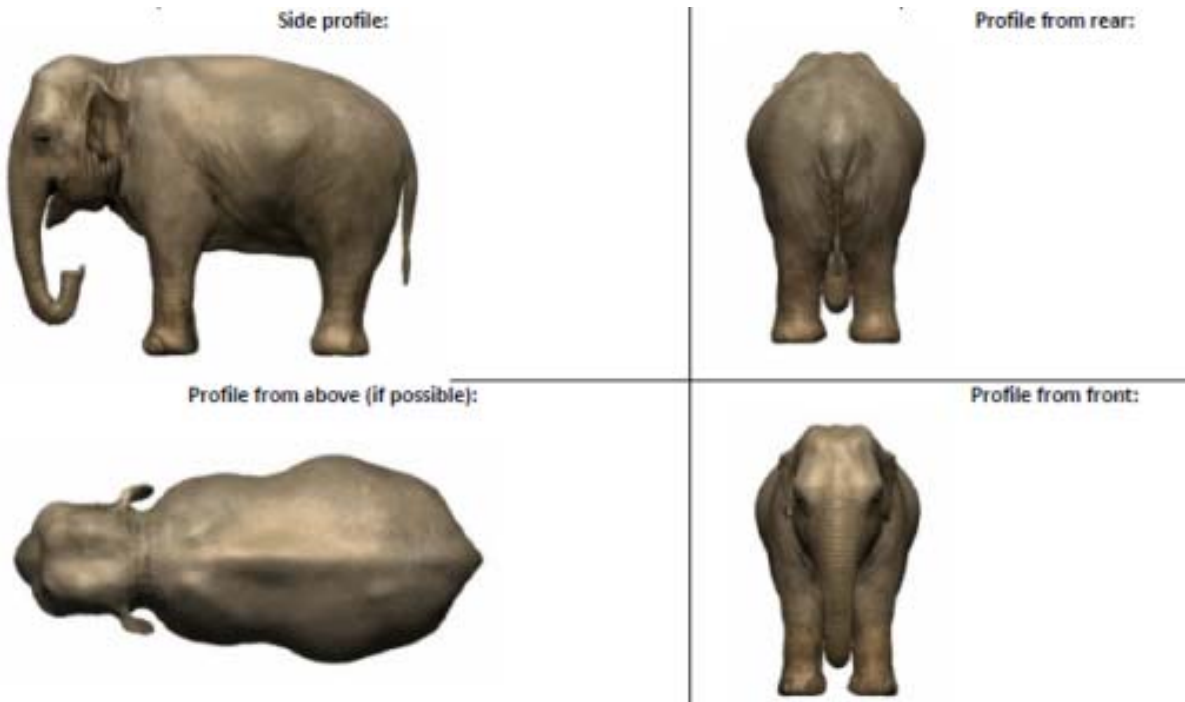


Figure 2. Body condition scoring regions, descriptions and suggested viewing points (cf. Figure 1).

For recording body condition scores:

Using elephant body condition scoring guidance, score body regions 0, 1 or 2 overleaf.

Body Region	View point
① Head: temporal depression	Multiple
② Scapula (dorsal part of shoulder)	Side
③ Thoracic region (ribs)	Side
④ Flank area	Side and behind
⑤ Lumbar vertebrae	Behind and above if possible
⑥ Pelvic bones (external angle of ilium)	Multiple

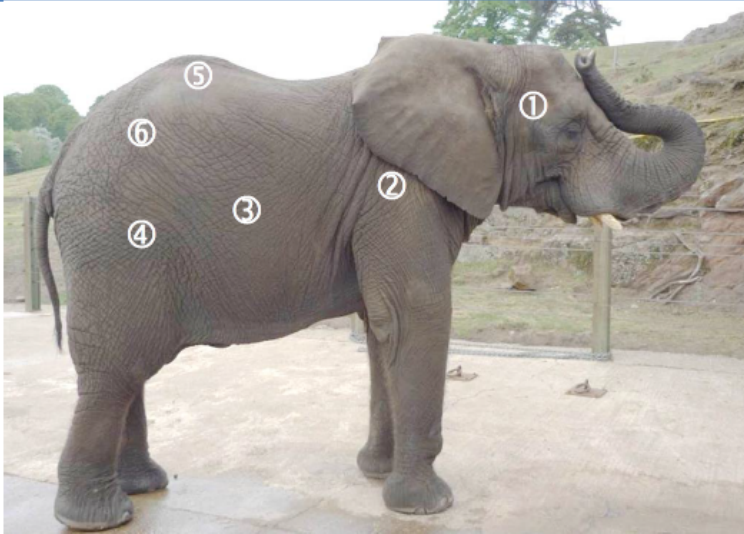


Photo courtesy of West Midlands Safari Park

Figure 3. Example of elephant body condition scoring sheet.

Elephant ID	Date/ Observer ID	Head	Scapula	Thoracic Region	Flank Area	Lumbar Vertebrae	Pelvic Bones	Total	Weight (Kg)
Chester Zoo <i>Ugali</i>	5/12/12 Andrea Fidgett	2	1	1	1	1	1	7	4500