

## Body Condition Score evaluation for Arabian Oryx

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Reintroduction projects involve close monitoring efforts to assess the survival and establishment of the reintroduced species. In case of antelope reintroductions this task becomes relatively harder due to the vast ranges covered by the animals the relative difficulty of approaching the animals to distance enabling visual assessment. A scheme for body condition scoring is adopted as an approach to provide measurable, quantitative and informative indicator of the fitness of the Arabian oryx herd in AOPA. The scheme is modified after (Gilbert and Woodfine, 2003) using the dairy cattle body condition scoring developed by University of California (Davis) veterinary medicine extension. The system is based on visual assessment of the back posture of the animal and defining the body condition score according to presence or absence of some features and like musculature, fat deposition, spinal vertebrae and caudal vertebrae. The system adopted after Gilbert and Woodfine have a scale of 6 integer scoring grades where the animals are evaluated using the visual appearance of the spine, musculature and fat deposition (see figure1). However, it is probably general and have a some bias for observer effect especially when used to assess reintroduced animals by different staff members. Personal variations among different observers is expected to significantly affect the final result.

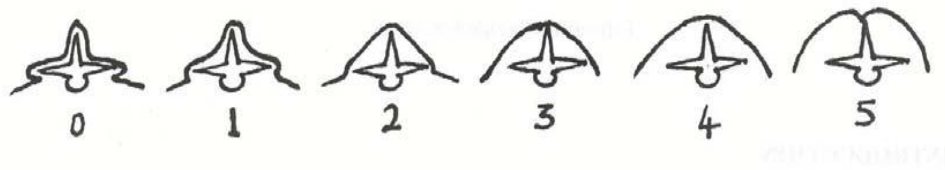
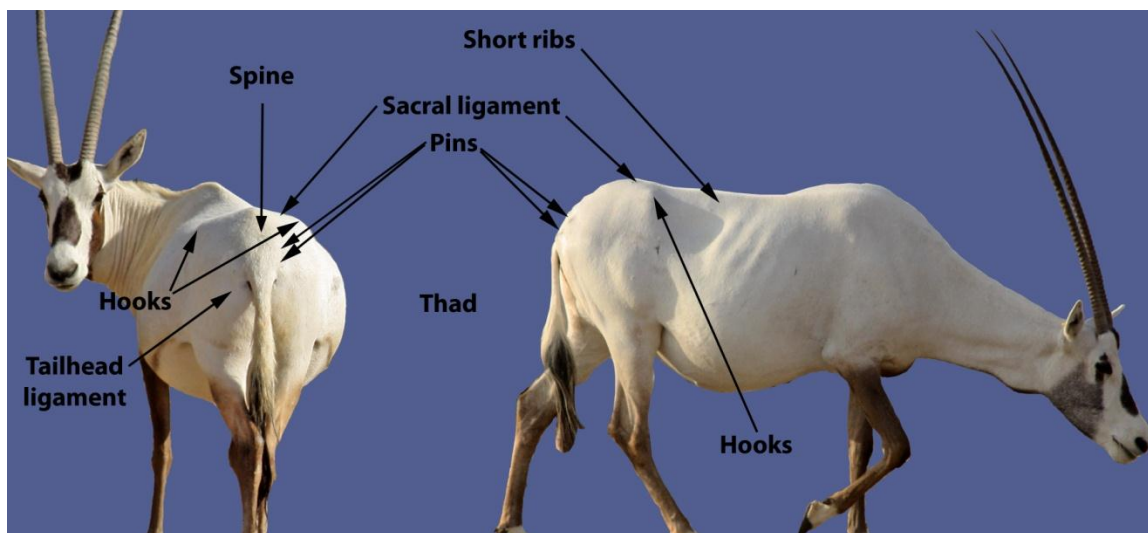


Figure (1) The body condition is assessed over the lumbar spine using a scoring system similar to those for cattle and sheep which subjectively estimates the degree of muscle and fat covering the lumbar vertebrae - **EDMUND FLACH in The biology, husbandry and conservation of scimitar-horned oryx (*Oryx dammah*)**  
**Edited by Tania Gilbert and Tim Woodfine MARWELL PRESERVATION TRUST**

The parts used in the scheme are illustrated in the following picture :



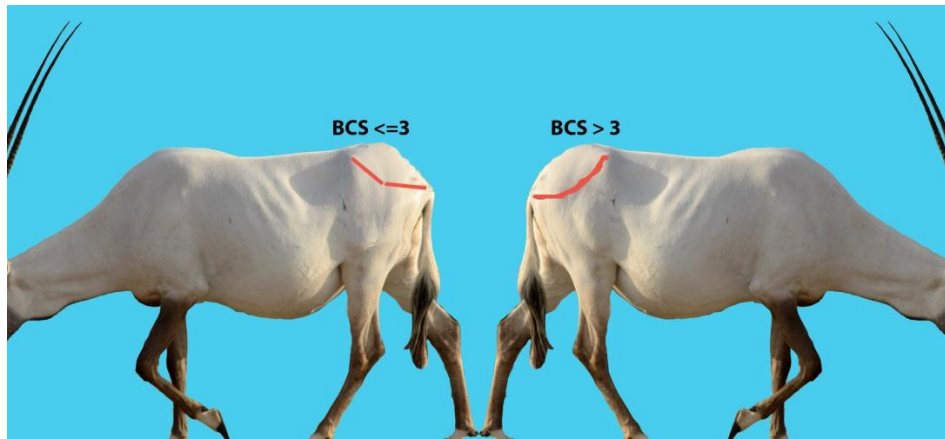
An average grade of a group of animals around the value of 3 is optimum expressing a fit and healthy population. On the other hand a value around 4 indicates fattened population and 5 is for obese animals. The other end of the scale shows animal in poor condition where 0 means emaciated condition, 1 is thin animal and 2 is an indication of malnutrition.

**Method:**

A key using those parts and features is formulated to be used along with photographs to assign values of body condition scores.

1- Assess thurl line (line between hooks, thurl, pins picture1)

- Thurl line is circular forming a crescent.....BCS>3.....(2)
- Thurl line is V-shaped .....BCS<=3.....(3)



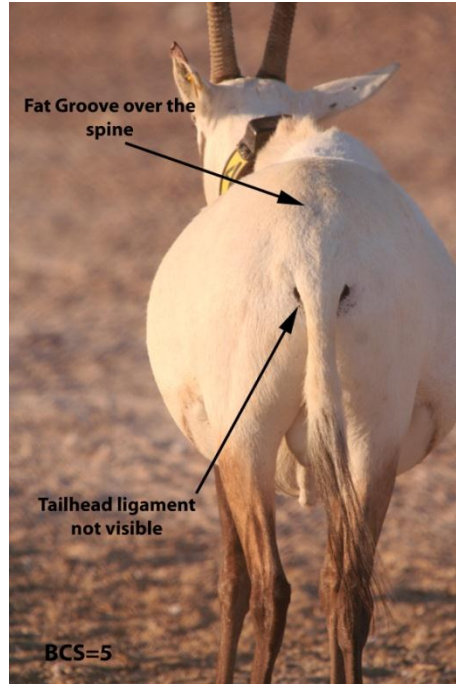
Picture (1) assessing the thurl line.

2- Assess the fate deposits at the spine over the tail head (see pictures 2 &3)

- Spine is fully covered in fat but tailhead ligament is visible .....BCS=4
- Spine is covered with fat forming a groove over the spine & tailhead ligament is not visible.....BCS=5



**BCS=4**

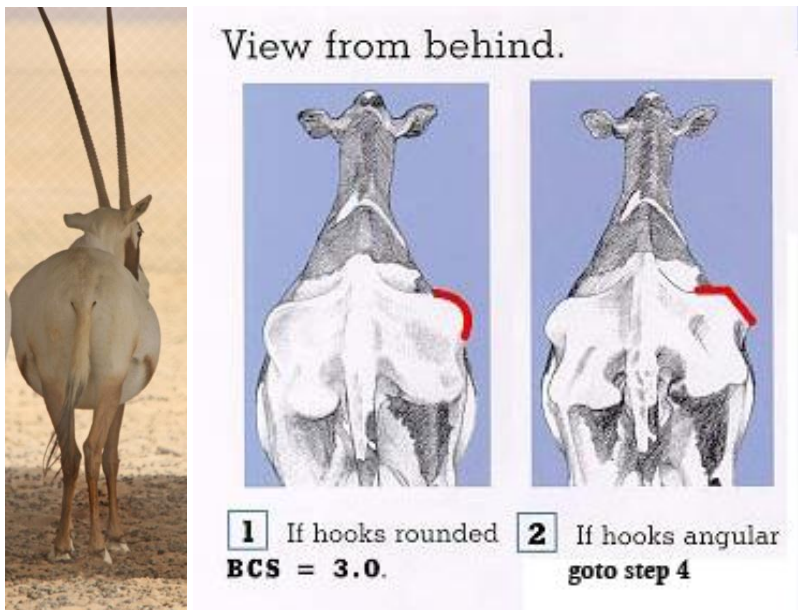


**BCS=5**

Picture (2) left & Picture (3) right

3- Assess the hooks (pictures 4)

- If the hooks are circular in outline.....BCS=3
- Hooks are angular in outline .....(4)



Pictures 4(left circular oryx, middle circular and right angular)

4- Assess the fat cover over the pins

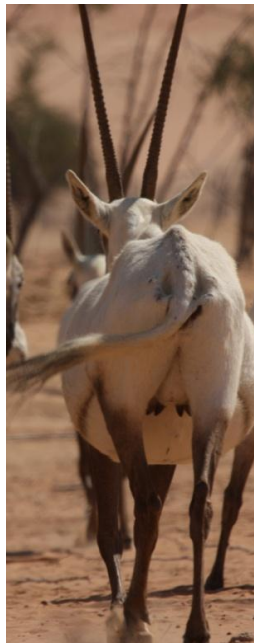
- If the fat cover is poor and only upper pins are visible or slightly visible.....BCS=2
- Fat cover over pins is poor and 2 pairs of pins are visible.....(5)



Picture 5 body condition score =2

5- Assess the fat cover over the pins

- Spine showing, 2 pairs of pins visible and shallow groove around tailhead ligament bu caudal vertebrae not visible.....BCS=1
- Spine strongly visible, 2 pairs of pins prominently visible, deep grooves a round tailhead ligament, and caudal vertebrae are visible.....BCS=0



Picture 6 emaciated animal with a condition score of "0"

EXAMPLE:

The method was applied to Arabian oryx herd reintroduced to Arabian Oryx Protected Area , AOPA in Abu Dhabi, UAE. Assessment was done on a monthly basis. Photographs of animals were taken using a 500mm lens and assessment was conducted using photographs not direct observation. Scores recorded for 2010 in AOPA. A pattern of decline in condition during the peak of breeding and nursing season (Feb. to April) was observed. Following, a pattern of pick-up of condition is observed during early summer. Sample size was 90 ( $\pm 5$ ) animals (see figure 2).

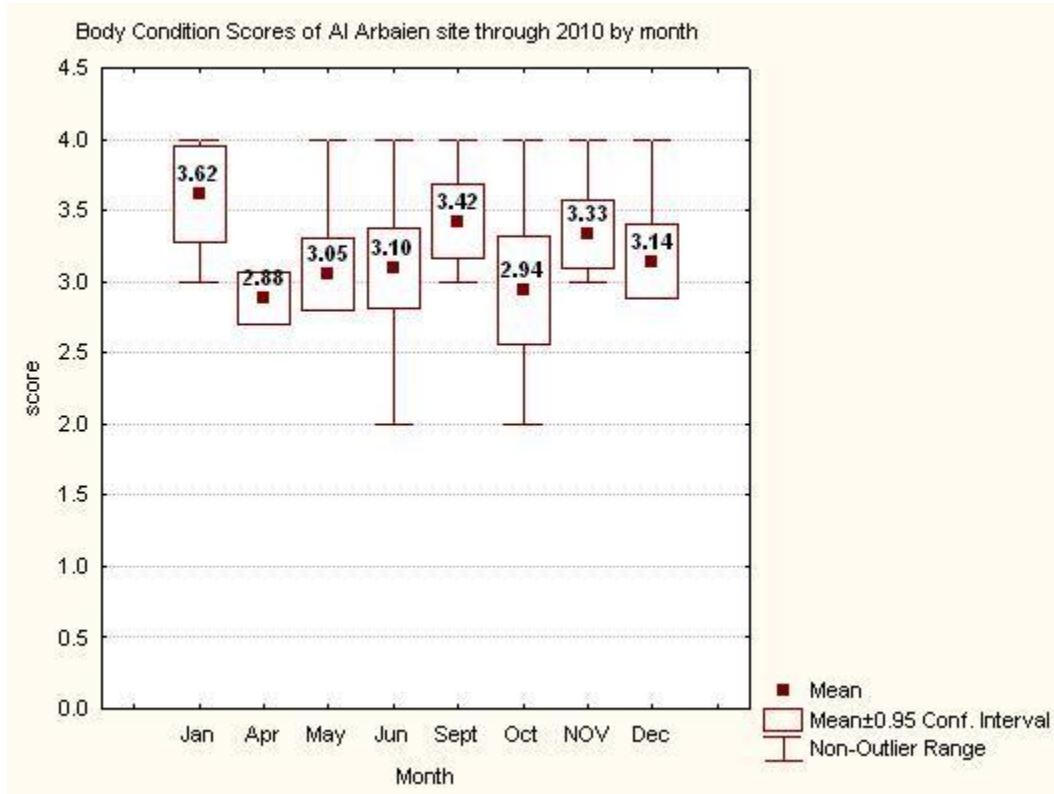


Figure (2) body condition scores of Arabian Oryx in AOPA during 2010 shoeing a pattern of declining score in breeding an nursing season (Feb. to April) followed by an increase in body condition score in early summer.