Body Condition Scoring for the Arabian Oryx of the Dubai Desert Conservation Reserve

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Introduction and Aim

Medium-sized antelope, the Arabian Oryx is an indigenous species to step and desert areas of the Arabian Peninsula.

This mammal was first introduced in 1999 in an area of 27 km2 in the Al Maha hotel complex situated 60 km South East of Dubai, and then relocated throughout a larger superficie of 225 km2 end of 2003, in what has been called since then "Dubai desert conservation reserve". Following this major change, the population started to grow, and what was at first a herd of 70 endangered Arabian oryx in 2003, is now 400, making DDCR the largest free roaming herd of its kind in the UAE (DDCR).

It was however noticed that the body condition of the Arabian oryx throughout the years deteriorated, naturally explained by a larger population and therefore a lack of food. A new feeding management strategy was then adopted, in order to improve the health of the herds, assessed and measured by the body condition scoring.

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 (Gilbert and Woodfine, 2003). The BCS was in that case, measured by a visual perspective of the fat cover of the animal, its back posture, appearance of musculature and spine. The scores vary from 0 to 5; 0 being emaciated and 5 being Obese.

The Body condition scoring can be used as a health or nutritional deficiencies indicator, in order to control the feeding management of the herd and therefore its longevity but also reproduction rates. A new feeding program was implemented in 2013 and has overall remained the same since then. The purpose of this study is therefore to assess the efficiency of the 2013 feeding program, determined by the average score of the oryx population. It will also work as an indicator to the management, if there should be any adjustment to the feeding strategies or not, in order to keep the population as healthy as possible. The correct feeding strategy would give us an ideal score of 3.



Figure 2 : Map of DDCR Source : DDCR

Methodology

Feeding points, photographs and data entry

This study has taken place in the 225km2 area of Dubai Desert Conservation Reserve. A sample of pictures was taken at each feeding point site (see figure n.3) of each animal present. They were then marked as numbers (see figure n.4), differentiated by their gender and age and a body condition scoring was then assessed for each of them. Those data were then gathered into an organized excel file (see table n.1)

BCS

The body condition scoring can go from 0 to 5, depending on their fat coverage, the visible appearance of spine and/or musculature;

- 0 =Emaciate Condition
- 1 = Thin Animal
- 2 = Malnutrition
- 3 = Fit & Healthy
- 4 = Fattened Anim
- 5 = Obese Animal



Figure 3 : Map of DDCR Source : DDCR

		A	Arabian Oryx BCS r	eport					
	Date	Site n.	Name	Arabian Oryx	Gender	Age	BCS		
	07.08.2018	1			1	Male	Adult	3	I
			Mubarak	2	Male	Adult	3	Ī	
				3	Female	Adult	3	1	
				4	Male	Adult	3	I	
				5	Female	Juvenile	2.5		
				6	Female	Adult	3		
				7	Male	Adult	3		
				8	Male	Adult	3		
				9	Male	Adult	3		
				10	Female	Adult	3.5		
				11	Female	Adult	4		
			1		12	Male	Adult	3	
				1.06.2018		13	Male	Juvenile	2.5
						14	Female	Adult	3.5
					15	Male	Adult	3.5	
					16	Male	Adult	3.5	
				17	Male	Adult	4		
				18	Male	Adult	2.5	l	
					19	Female	Adult	3	ſ
				20	Male	Adult	3		
					21	Female	Adult	2.5	I
			Female Average BCS				3.12		
			Male Average BCS				3.1		
			Average BCS				3.12		





Figure 4 : Photograph of Oryx; Site N1 August 2018

<u>Results</u>

Sites	Female	Male	Total	
S1		3.37	3.37	
S2	2.92	3.25	3.11	
S3	3.6	3.23	3.31	
S4	3.66	3.48	3.5	
S5	2.91	3.22	3.14	
S6	3.16	3.21	3.2	
S7	3.37	3.1	3.2	
Boma	3.16	3.32	3.27	
N1	3.12	3.1	3.12	
N2	3.06	3.31	3.17	
N3	2.83	3.23	3.17	
N4	3	3.16	3.12	
N5	3.16	3.12	3.13	
N6	N6 3.38		3.48	
N7 3.27		3.48	3.42	

Table 2 : Results of BCS



Figure 5 : Graph of Male Vs. August score



Figure 6 : Graph of July 2013 Vs. August 2018 score

An overall of **3,2** BCS was scored during the month of August which demonstrates a fit and healthy population of the Arabian oryx in DDCR.

Slight differences between males and females were observed, where females overall scored slightly less than males (see figure n.5). This phenomena is seen as females with calves will have to use extra reserves to feed their babies, explaining the smaller scores. On a smaller scale, however, looking at every single feeding points, it can be seen that females scored higher; in 3 of the southern sites and 2 of the northern site (see figure n.5, green circles).

Even though every sites overall scored the same BCS, there is still some fluctuation in BCS score from feeding points to feeding points, which can be explained by the natural dynamism occurring in the reserve, the herds move, some don't get to eat as much as other, especially the calves who sometimes will be chased away by adults.

Concerning 2013 compared to 2018, a good improvement can be observed as the score increased by 100%; from 2,2 in July 2013 to 3,2 in August 2018.

Conclusion

The data collected show that the herds reached an ideal score of 3,2. It can be concluded that the introduction of the new feeding management strategy implemented in 2013 remains a success until today. Small adjustments have been made, some feeding points have been moved, the quantity of the food, however, overall remained the same, resulting in the presence of fit and healthy Arabian Oryx.

Evaluation

First of all, even though it is likely required for this study to be operated by one person only because of the inevitable subjectivity, it remains still subjective. Indeed, one animal with a BCS of 3 for one person could be 3,5 for another one, the data might have been different if someone else did the task.

Second of all, it is impossible to get to photograph every single oryx of the reserve. Indeed, those are wild animals, and are quite difficult to approach as they could react aggressively at times (as well as all looking similar), which might have given some inaccuracy in the data collection during the process of body scoring, it might sometimes be difficult to differentiate one oryx from another.

Finally, I believe the results would have been more accurate if the study lasted for more than a month, as more data would have been collected.

<u>Bibliography</u>

Arabianoryx.org. (2018). *Home*. [online] Available at: https://www.arabianoryx.org/En/UAE/Pages/ default.aspx [Accessed 30 Aug. 2018].

Ddcr.org. (2018). *Dubai Desert Conservation Resort*. [online] Available at: https://www.ddcr.org/ FloraFauna/Detail.aspx?