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ARABIAN ORYX REINTRODUCTION IN ABU DHABI – UAE

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Three years ago and under the patronage of HH Sh. Mohamed Bin Zayed, the Environmental Agency – Abu Dhabi embarked on a new project to bring the Arabian oryx back to the deserts of UAE. Arabian oryx reintroduction started in 2007 in the Arabian Oryx Protected Area (AROPA). The first release involved 98 animals in 3 different release sites in the eastern part of the Empty Quarter desert (Rubaa Al Khali) in the emirate of Abu Dhabi. The animals were selected from three different sources in an attempt to carry the highest possible genetic diversity into the reintroduced herd. The animals have been monitored since then on a daily basis. The monitoring strategy was devised in a way to provide discrete measurable indicators of the progress of the reintroduction. The population had a harsh first year where significant mortalities were recorded especially among new recruits. However, the herd has now started to cope well with its new habitat and has evolved into distinctive social groups. Survival rate increased in the second and third year, and improved fertility was reflected in the high rate of recruitment of new wild born calves. Here we report some of the most prominent indicators up to the end of 2009.

Indicator 1 - Births: A total of 91 deliveries were recorded in the project since the first release in 2007. These are distributed as 14 in 2007, 36 in 2008 and 41 in 2009. Details of annual births and their distribution over the calendar months are illustrated in Fig 1. These numbers show that fertility level is within acceptable limits. However, there was mortality among these recruits. During 2007, 5 calves were lost while 8 out of 36 lost in 2008 and only 2 calves were lost in 2009. The current population totals 154 individuals. Thus, the herd has a population growth of 21%. Such a steady growth in population and reproductive success is considered to be the first indicator of success and shows that the reintroduced animals are adapting well to their new habitat.

Indicator 2 - Survival rate: The first year of reintroduction showed a low calf survival rate. Only 64% of the calves survived their first year and grew into adults. This increased over the years and 77% of calves survived in 2008 and 94% of the calves survived their first year in 2009. Adult survival rate was 94%, 97% and 95% in 2007, 2008 and 2009 respectively (Fig 2). This is a second indicator of population establishment.

Indicator 3 - Population Growth Rate: There has been a varying, but steady increase in the rate of population growth in the herd. Growth rate was measured using two parameters. The instantaneous annual rate which gives indication of annual individual growth (r) and the second is the overall intrinsic growth rate (λ) that indicates growth over a period of several years. Table 1 (see web version) shows that the annual rate is increasing each year. The overall rate also shows an increase over the cumulative time period. When λ is over 1.00 this is interpreted as an increasing population and that available resources are still accommodating for future increase. Figure 3 (see web version) graphically illustrates the increasing rate of the population. Increasing population change rate is the third indicator reported for population establishment in the new habitat.

Image 1. Arabian oryx in the Arabian Oryx Protected Area (©Husam El Alqamy).

Indicator 4 - Habitat utilization: The locations and numbers of animals are monitored on a daily basis. Since the beginning, the herd divided into three main groups with some individuals remaining either solitary or in small isolated groups. The biggest group is the one in Al Arbaien forest. This group has grown now to about 67 animals. Movements of some individuals for considerable distances away from the forest are recorded but they tend to be seasonal and are not frequent. The second group has moved from the second release site to reside in Quessiwra forest and comprises 32 individuals. Movement of this group is more frequently observed. Movements are mainly confined to the colder months of the year. The third big group is found in the area of the northern shades and this group comprises 29 animals. This group of animals is more active in their movements. However, there is a noticeable reduction of their movements during summer. Though this group is considered to be more active compared to the other two and this may be attributed to the lack of forested areas in the vicinity and thus the animals are actively looking for resources of food and shade.

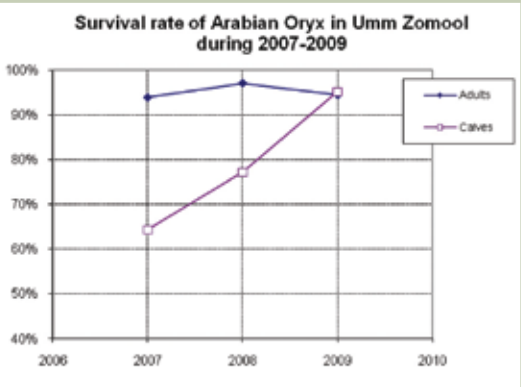

Fig 1. Survival rates recorded in the Arabian oryx Project.

This heat regulated pattern of spread is evident in all large groups of the herd. However, the northern group is thought to be isolated from the southern groups as no crossing between the two populations has been recorded. As the fourth indicator assessed to monitor the reintroduction process, habitat utilization has not yet been fully achieved by the reintroduced oryx as movement patterns are still sporadic and there are no long distance movements that are known to occur in other wild populations.

A version of this article with all the figures is available on WME website