

IMPACT OF PLASTIC BAGS ON ARABIAN ORYX IN MAHAZAT AS-SAYD PROTECTED AREA IN CENTRAL-WESTERN SAUDI ARABIA

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In Saudi Arabia the Arabian Oryx reintroduction program was started in 1986 by the National Wildlife Research Center (NWRC) under the Wildlife Conservation and Development (NCWCD). Concurrent conservation programmes for the protection of large areas within the former range of the Arabian Oryx, and the captive breeding of oryx at the NWRC in Taif have together enabled the restoration of the species in the Kingdom. The first reintroduction took place in the fenced Mahazat as-Sayd Protected Area in 1990.

For several years Mahazat as-Sayd has experienced a drought and we have found hundreds of dead animals, mainly sand gazelles, oryx and ostriches. Young animals are more vulnerable to this situation because they require more energy and water per body unit than adults to satisfy their high metabolic needs (Ostrowski et al. 2003; Ostrowski & Williams 2006). Most animals died near the fence of Mahazat that prevents natural movements of animals, and artificially concentrates the ungulate populations, possibly in an unfavourable habitat.

Another problem is plastic bags that are blown by the wind into the protected area from the road that connects Riyadh to Khurma city. This road is 50 meters distance from the fence which marks the western boundary of the reserve and runs alongside the fence for some 70 km. We observed that oryx lick the plastic bags as these bags might be salty tasting and many will ingest the whole plastic bag.

We observed that several Arabian oryx and sand gazelles were wandering in the reserve in search of food and were attracted to the supplementary food provided for the ostriches. Exploiting this behavior we offered supplementary food to attract individuals into an enclosure. In 2007, we captured 30 oryx by these means. In January 2007, we observed a recumbent male which despite our repeated attempts would not stand up. Clinical examination showed anemia, low body temperature (28 °C) and a slow heart-beat. Surgical rumenotomy showed obstruction of the rumen. Approximately five kilograms of plastic bags and indigestible material such as rubber and wood were recovered from its rumen.

Over a period of a month, a total of seven individuals from the enclosure, five males and two females died. Oryx died at a rate of two individuals per week. They were subjected to post mortem examination which revealed plastic bags inside the rumen as the cause of death. Between two and five kilograms of plastic bags and undigested food were recovered from each individual's rumen.

The large number of animal mortalities necessitated the urgent collection of plastic bags by rangers and field researchers near the fence of the reserve. Plastic bag removal is now carried out throughout the

year and during the census. We also requested the municipality to help remove plastic and other garbage from around the fence.

NWRC has also been working on an information program to inform both local people in the vicinity of the species release area (Mahazat as-Sayd Protected Area), and the public at large about the conservation of reintroduced animals, in order to gain their support. The local support has been vital to the long-term success of re-introduction of the Arabian oryx.

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Fig1. Dead oryx that died of plastic bag impaction (© NWRC).



Fig2. Plastic bags removed from the stomach of one oryx (© Z. Islam).