



Global Re-introduction Perspectives: 2011

More case studies from around the globe
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IUCN/SSC Re-introduction Specialist Group (RSG)





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The re-introduction of Arabian oryx to the Al Wusta Wildlife Reserve in Oman: 30 years on

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Introduction

Arabian oryx (*Oryx leucoryx*) is the largest endemic antelopes in the Arabian Peninsula that used to freely roam the entire region, and is uniquely adapted to survive in extremely harsh and arid environment. Recently, it has been re-classified as Vulnerable by the IUCN Red List. The final disappearance of this species from the wild in 1972 represented a significant loss for biodiversity worldwide, but the event also galvanized conservation efforts. These efforts have become a classic conservation success and serve as a model for similar programs worldwide. The first ever successful re-introduction of Arabian oryx to the wild took place in Oman in 1982 as an initiative from His Majesty Sultan Qaboos bin Said (Stanley-Price, 1989). The wild population at the Al Wusta Wildlife Reserve (formerly known as Arabian Oryx Sanctuary) thrived to more than 400 individuals in mid 1990s. Such increase seemed to attract poaching that lead to serious collapse of the wild population. Therefore, a captive breeding program was established in 1998 (Spalton, 1999). The captive group has increased to more than 380 individuals. As a measure to control poaching, the government decided to fence the reserve of an area about 2,824 km². In early 2011, more than 60 individuals have been released into the fenced area and more herds are planned to be released in the near future.

Goals

The initial and ultimate goals of the project are:

- Goal 1: To establish a self-sustaining free-ranging viable oryx population in the wild.
- Goal 2: To improve local livelihood through wildlife-based jobs.

However, after the start of poaching, the project concentrated its objectives to the following, in order to reach the ultimate goals (1 and 2):

- Goal 3: To secure Arabian oryx by establishing a viable captive breeding program until the poaching issue is solved.
- Goal 4: To solve the poaching issue and stop future illegal hunting by fencing the reserve and applying an integrated security system.

Success Indicators

- Indicator 1: Arabian oryx successfully thrived, breed and become independent in the wild to more than 400 individuals before the poaching challenge appeared.

- Indicator 2: To secure oryx from being poached in the wild, some were successfully captured and transported to Jaaluni enclosure for captive breeding.
- Indicator 3: The captive breeding of Arabian oryx at the Jaaluni enclosure was successfully monitored and the number increased frequently since 1998 to 2011 (from 38 to 381 oryx).



Arabian oryx at Al Wusta Wildlife Reserve

- Indicator 4: Zero breeding was applied to control undesired increase in numbers between 2005 - 2010.
- Indicator 5: A fence has been successfully established of about 230 km around the reserve to control poaching and it is nearly complete and 60 oryx so far have been released to the fenced area and more are prepared for release soon.
- Indicator 6: Arabian oryx re-introduction provides work for local people and integrates them in the oryx conservation and management context, besides enhancing the aesthetic and scientific value by providing a tourist attraction in the future.

Project Summary

The re-introduction of Arabian oryx in Oman is summarized in the following timeline:

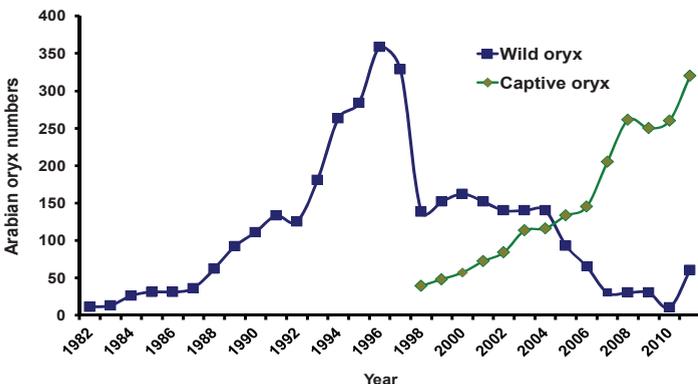
- **1963**: Establishment of the World Herd of Arabian oryx in the USA, with capture of some wild oryx near the Omani-Yemeni border.
- **1972**: Extinction of Arabian oryx in the wild in Oman.
- **1977**: Initiation of the Arabian Oryx Project (AOP) to re-introduce oryx to Oman.
- **1980 - 1982**: Captive breeding of Arabian oryx received from the World Herd in a 1 km² enclosure.
- **1982-1996**: Oryx released to the wild and high success in the wild until 1996.
- **1994**: The Al Wusta Wildlife Reserve was officially proclaimed as a protected area by a Royal Decree (4/94) and enlisted by the UNESCO as a World Natural Heritage Site.
- **1996**: Heavy poaching commenced and led to the wild population collapse.
- **1998**: Captive breeding establishment until now.
- **2002**: An anti-poaching force unit was established in the AOS and the security of the fence will be its responsibility.

- **2007:** AOS declared to resize the total area from 34,000 km² to 2,824 km² and then delisted from the UNESCO World Heritage List.
- **2009:** Fencing of the reserve started and is nearly complete now.
- **2011:** One hundred Arabian oryx was donated to the AOS and the first herd was released into the fenced area.

The feasibility study (1977 - 1978) concluded that Al-Wusta Region in the central desert of Oman and plains of Oman (21-23° N, 45-47° E; approximately 34,000 km² in size) is a suitable habitat for Arabian oryx (Stanley Price, 1989). The high success of the project until 1996 proved this conclusion. The re-introduction area is an open landscape desert consisting of flat and sometimes irregular plateau. It forms a discrete limestone unit characterized by different habitats such as shallow depressions called haylahs, sandy dunes, gravelly wadis with scattered vegetation patches. Climatically, it has many features of hyper-arid deserts including high summer temperatures (can reach up to 47°C in the shade) and low rainfall (AlJahdhami, 2010). Fog moisture from the Arabian Sea increases water amounts available to biodiversity elements in such an arid area. Common tree species in the area are *Acacia tortillis*, *Acacia ehrenbergian*, *Prosopis cineraria* along with other abundant grasses (e.g. *Stipagrostis* sp., *Dicanthium foveolatum*). Other wild animal species recorded include Arabian gazelle (*Gazella gazella cora*), sand gazelle (*Gazella subgutturosa marica*), Nubian ibex (*Capra ibex nubiana*), red fox (*Vulpes vulpes arabica*), Arabian wolf (*Canis lupus arabs*) and caracal (*Caracal caracal*). The Al Wusta Region is inhabited by local bedu of several tribes situated between three districts (Hayma, Duqum and Mahout). They are principally mobile pastoralists, camel-goat breeders and fishermen.

The biggest challenge to the project started in 1996, as intense poaching probably triggered by the increase in the numbers of free-roaming oryx in the area and assisted by the easy access to the area with absence of any physical boundary i.e. fence. This was partly because the reserve area was too large (34,0000 km²) to be fenced and to be covered by anti-poaching patrols. The area

Figure 1. The number of Arabian oryx at the Al Wusta Wildlife Reserve in Oman, in the wild (estimated by sight mark re-sight method, Arabian oryx project, unpublished data) and in captivity (counted) between 1982 and 2010.



of the AOS was reduced in 2007 to (2,824 km²) and the government decided to fence this smaller area. In the mean time, since 1998 a captive breeding program was initiated and the numbers of oryx increased in captivity as shown in Figure 1. Now the total number of oryx at the

AlWusta Wildlife Reserve exceeds 380 and this includes a donation of a 100 oryx from His Majesty the Sultan to the AlWusta Wildlife Reserve. In early 2011, about 60 Arabian oryx have been released to the fenced area. Fortunately, just after the release, the reserve received a good rain after a prolonged drought for several years. The released herd is being monitored. At the release site a water trough is regularly filled with water

and the captive-born released oryx come to drink during this hot summer. There is a plan in place to release several batches of Arabian oryx to the fenced area. The released oryx will be closely monitored by the biologists with assistance of patrolling rangers.



Rangers monitoring Arabian oryx

Fencing for conservation is a good solution for many conservation problems such as poaching, but it creates new issues especially in arid and hyper-arid areas where drought is not uncommon. We expect that the next major challenge for this re-introduction project is drought (Al Jahdhami, 2010). The area of the AlWusta Wildlife Reserve was reduced to less than 10% of its previous size. Despite the fact that oryx used to live in unfenced area with a range of more than 34,000 km², mortality and no reproduction were reported during prolonged drought (Spalton, 1995). In the current fenced area of 2,824 km², the effects of drought will be more pronounced as the fence is a physical barrier for oryx that is known of crossing long distances looking for better grazing which could be outside the fenced area. In Saudi Arabia, Arabian oryx and sand gazelles faced mass mortalities in the fenced Mahazat As Sayed Reserve (Islam, 2010). Most mortality cases occurred near the fence. We hope with preparing an action plan for feeding and provision of water in certain locations will help in keeping the wild population viable within the fenced area.

Major difficulties faced

- The large size of the unfenced reserve lead to spread of oryx to remote areas and this triggered local people to poach those animals and lead to the difficulty to protect free-roaming oryx by any patrolling force.
- The local community around the reserve should be involved in the reserve. For the last 30 years, one local tribe dominated the jobs within the reserve and therefore recruitment from other local tribes should be considered.
- The management of a captive group in a healthy condition while maintaining the numbers without sharp increase was a challenge, but a zero breeding was

introduced to control the numbers by separating males and females in different sub-enclosures.

Major lessons learned

- Without fencing the protected area, poaching proved very difficult to control.
- Captive breeding of Arabian oryx after intense poaching, helped in building a safe healthy herd of oryx and increasing their numbers with close monitoring.
- Fencing is a good solution for poaching but might create another problem during prolonged drought as the animals are restricted to an area and cannot travel beyond the fence seeking better grazing.

Success of project

Highly Successful	Successful	Partially Successful	Failure
		√	

Reason(s) for success/failure:

- The declaration of re-classification of Arabian oryx in the IUCN Red List to Vulnerable was a historical record for a species that used to be “Extinct in the wild” in 1972 and passed three categories to a low category of threatened. Oman is proud to be the first country in the world that led a re-introduction of a large mammal from the early 1980s and the species was re-introduced and is now away from the brink of extinction.
- The Omani Arabian oryx wild population is back on track by gradual release into a fenced reserve with close monitoring.

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