



Global Re-introduction Perspectives: 2010

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





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Re-introduction of roe deer at Ajloun Nature Reserve, Jordan

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Introduction

Roe deer (*Capreolus capreolus*) was extinct from Arabia due to increased hunting pressure and partly due to the deforestation in its former habitat (Harrison & Bates, 1991). It inhabited the forested regions in northern Jordan valley and in the hills of northern Palestine (Carruthers, 1909), and most probably disappeared from Jordan at the beginning of the 19th century (Amr, 2000).

The population in the Middle East is at risk, even though, it is considered as a Least Concern species according to IUCN (IUCN, 2008). The re-introduction program has take place in Ajloun Nature Reserve, which was established and managed by the Royal Society for the Conservation of Nature (RSCN) in 1989 and extends over 12km² of mountainous terrain in the northern part of Jordan.

Goals

- Goal 1: To establish a viable population of roe deer in its former habitat in Jordan.

Success Indicators

- Indicator 1: Population size and structure of the roe deer.
- Indicator 2: Distribution of the roe deer.
- Indicator 3: Habitat quality of the roe deer release site.

Project Summary

The captive-breeding program started in a 0.02 km² enclosure at Zubiya Nature Reserve. In August 2000, 14 individuals of equal numbers of males and females were transferred to Ajloun Nature Reserve. The reserve is characterized by the dominant evergreen oak (*Quercus calliprinos*), which is characterized by a maximum height of 5 m and classified as a Mediterranean shrub (Al-Eisawi, 1996). Other



Roe deer (*Capreolus capreolus*) © Khalid Al Masri

associated tree and shrub species include the Palestinian pistachio (*Pistacia palaestina*), strawberry tree (*Arbutus andrachne*), Hawthorn (*Crataegus azarolus*), buckthorn (*Rhamnus palaestina*), and deciduous oak (*Quercus infectoria*) (Al-Eisawi, 1996), and it resemble the same characteristics of Zubiya Reserve. Only nine individuals (5 males:4 females) survived during transportation and were placed into a 0.01 km² breeding enclosure. The herd was supplied with 25-40 liters of water daily (around 1.65-2.65 l/animal). As well as, 50 kg of feed (3.4kg/ animal) were provided twice per a day in rate of 25 kg at dawn and 25 kg in the evening. Faunal and floral surveys were conducted by the research and survey section of RSCN in order to identify species present at the site, their distribution and the major threats affecting them. All information was used to build up the management plan for the site.

The breeding program lasted almost 18 years, after that, a proposal was prepared in order to release the herd into the wilderness of Ajloun Nature Reserve. Accordingly; a set of operational objectives were established aimed to determine and prepare the releasing area, to select animals to be released, initiate the releasing program, establish a monitoring program and lastly to determine the preferable releasing time. On 19th of January 2006, 26 individuals (11 males and 15 females) were released in the reserve. As a follow up procedure, a rapid assessment survey was conducted, in order to draw a basic distribution map, collect data on feeding sources and habits and to find out threats on the herd as well as its effect on the reserve habitat.

During the survey, a global positioning system Garmin V with accuracy of +/-5m was used, and several methods were performed which included, a desktop survey of past reports and documents from the RSCN sections, which included data on the breeding and release program. Furthermore, a series of targeted visits through mid August and early September 2007 were performed and included several methods as visual census with counts in the early morning and at dusk at four main water sources and four vantage points. Methodical walks (spoor route) to record, any signs of deer through the accumulated droppings, footprints and deer paths, this method include areas ranging from dense to low vegetation cover. Opportunistic sightings, in addition to observations by rangers and/ or reserve staff. Lastly, local people and private landowners were interviewed in order to learn their views about the program and to obtain some feedback on the released deer.

The effective long-term management in the site will contribute to enhancing the conservation of habitat and species and reducing the main causes that led to the extinction of roe deer, also conducting several outreach programs targeted different stakeholders and local people. Periodic patrolling plans are accomplished by the reserve rangers inside and outside the reserve, and by the recent cooperation between the RSCN and the environmental police "Rangers". Lastly, constant monitoring programs, which target habitat and deer population at Ajloun Nature Reserve, will indeed increase the success of the program and conservation measures.

Major difficulties faced

- A lack of official records that would have provided valuable information on mortality, behavior, activity, reproductive female status, and death factors during the breeding program.
- Lack of a model defining the numbers of years required to establish a viable population and likewise conditions, optimal numbers and status of individuals to be released per year.
- No detailed study on the effects of the released herd on Ajloun Nature Reserve was performed, especially the effects of roe deer on the general biodiversity and habitat composition of the area.
- The lack of socio-economic programs has led to several compliance from local people toward the release program.



Roe deer in natural habitat © Ehab Eid

Major lessons learned

- The effective long-term management in the site have a major role in achieving the major goal of the program, through enhancing the conservation of habitat and species and reducing the main causes that led to the extinction of roe deer.
- Conducting several outreach programs targeted different stakeholders and local people facilitate increasing awareness toward the importance of protecting endangered species.
- Periodic patrolling plans by the reserve rangers and cooperation with the environmental police "Rangers" assisted in improving habitat and species conservation.
- Constant monitoring programs, which target habitat and deer population at Ajloun Nature Reserve will play a major role into identifying success indicators and to find out the herd status over time.

Success of project

Highly Successful	Successful	Partially Successful	Failure
		√	

Reason(s) for success/failure:

- RSCN has managed to establish a viable population living freely in its former natural habitat, in Jordan under effective long-term management at the site.

- Permanent outreach programs to the local population and different stallholders is an important tool used to make aware of the importance of protecting endangered species.
- Periodic monitoring program for the released herd is an important tool to show the population trend.
- Implementation of a socio-economic program for stakeholders to increase participation and contribute to the success of the release program is needed.
- Secure continued funding and training on the deer management is still needed.

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