

Practitioners should be clear on the purpose and aims of evaluation, as different methods are required to answer different questions. For example, those wishing to demonstrate and measure how successful a project has been to funders may prefer to use study designs that make use of comparisons to an unaffected site. Those looking to learn from their experiences and understand how and why impacts occurred may prefer a more thorough investigation of the causal processes using a theory-based design. These differences should be considered at an early stage in the design of evaluation. Interventions vary, not only in the resources, budgets and technical skills available, but also in their intrinsic attributes. The length of a project, and timescales of impacts, geographical scale, the availability of controls and the social, political and cultural contexts should all influence design of evaluation.

Whether you are a working conservationist trying to design an evaluation strategy or a funding body requesting evidence of impact, these guidelines will help you to make sense of the complex landscape of evaluation design and understand the methodological options that are available. The guidelines are freely available and can be found at <http://pubs.iied.org/14667IIED>. Feedback is welcome.

EMIEL DE LANGE *School of Geosciences, University of Edinburgh, Edinburgh, UK and Department of Life Sciences, Imperial College London, London, UK*  
E-mail [e.delange@ed.ac.uk](mailto:e.delange@ed.ac.uk)

EMILY WOODHOUSE *Department of Anthropology, University College London, London, UK*

E.J. MILNER-GULLAND *Department of Zoology, University of Oxford, Oxford, UK*

### **Confirmation of free-ranging Barbary sheep *Ammotragus lervia* in Dghoumes National Park and Boukornine National Park, Tunisia**

Like most of the wild ungulates that were once widespread in North Africa, populations of the Barbary sheep *Ammotragus lervia* have declined as result of over-hunting and habitat fragmentation, and the species is now categorized as Vulnerable on the IUCN Red List. The Barbary sheep, or aoudad, occurred historically in the mountains of central and southern Tunisia, but threats to its persistence across the country have been noted for more than half a century (H.W. Schomber & D. Kock, 1960, *African Wildlife*, 14, 277–282.). Today, a reintroduced population of Barbary sheep reportedly persists in the Chambi National Park, some individuals have been released into the protected confines of the Oued Dekouk National Reserve, and small numbers are held in captivity

at various locations. There is, however, little information about the status of the species across most of its supposed range in Tunisia, and at a workshop in May 2014, organized by the IUCN Centre for Mediterranean Cooperation, with the support of Tunisia's Forestry Directorate and Ministry of Environment, to discuss the conservation of Barbary sheep in Tunisia, participants acknowledged the need to gather more data about this species.

Previously, Barbary sheep were regularly seen in the mountains bordering the northern limits of the Chott El-Jerid, a large salt lake in southern Tunisia (A. Chetoui, pers. obs.; K. de Smet, 1997, In *Wild Sheep and Goats and Their Relatives: Status Survey and Conservation Action Plan for Caprinae*, pp. 45–47, IUCN, Gland, Switzerland). However, in surveys since 2012 we have noted a significant diminution in signs of the species. In response, personnel from Dghoumes National Park intensified surveillance in the mountains, reporting tracks of Barbary sheep in early 2016. Two camera traps were subsequently deployed for 66 days during March–May 2016. Barbary sheep were recorded four times, confirming the presence of at least five individuals: a mature male accompanied by a young adult of unknown sex, a second mature male and a juvenile, and a solitary mature animal of unknown sex recorded twice, 5 days apart.

We similarly increased survey effort in Boukornine National Park, near Tunis, in the northerly part of the species' Tunisian range. Barbary sheep were photographed on 10 occasions during 13 days of camera trapping in February 2016. Between one and eight animals were recorded in these images at two locations, adding to opportunistic sightings of at least three individuals within this protected area in 2015 (Marwell Wildlife, unpubl. data).

Confirmation of the presence of Barbary sheep of various ages in two locations in Tunisia is welcome news, particularly in light of the lack of other recent sightings and fears of local extinctions. However, questions about the size, distribution and connectivity of these populations remain. The mountainous habitats within and adjacent to protected areas such as Dghoumes and Bou Hedma National Parks are logical places to focus further attention. Through the continuing collaboration between Marwell Wildlife and the Tunisian Forest Directorate, we are working to improve conservation efforts in Tunisia's protected areas for the benefit of numerous threatened species, including Barbary sheep. Efforts to improve connectivity between protected areas is a key objective, although one that presents many problems, which we are working together to solve.

M. PETRETTO, A. CHETOUI, C. NAJJAR, T. WOODFINE and P. RIORDAN *Marwell Wildlife, Colden Common, Winchester, Hampshire, UK. E-mail [mariep@marwell.org.uk](mailto:mariep@marwell.org.uk)*