

Migratory species and desertification

At any moment somewhere in the world millions of migratory animals are on the move

Hoare B. (2009) *Animal Migration. Remarkable Journeys in the wild.*



Saker Falcon © Tony Hisgett

Migratory species come in all shapes and sizes, from tiny insects and birds to large buffalo and elephants, to sharks and dolphins or snakes. Whether their journey crosses thousands of kilometers, or just a few, migratory species play essential roles in ecosystems worldwide. But their diverse habitats are threatened by land degradation and desertification.

Over ten thousand species numbering millions of animals migrate every year, and they face some of the highest rates of extinction. Because they are integral to multiple ecosystems, migratory species serve as effective indicators of environmental changes.

Migratory species make many contributions to ecosystem structure and function. On land, by moving between areas they inhabit at different times of the year in search of food, shelter and safe places to breed, they act as fertilizers, pollinators and seed distributors. They provide food for other animals, and some are useful predators (e.g. by consuming agricultural pests like insects). Migratory species sustain multi-billion dollar economic activities such as large-scale commercial fishing and world-wide tourism such as whale and bird watching.

Prolonged drought leading to desertification is a key threat to dryland species and hampers the ecosystem services they provide. Animals fertilize the soil with their droppings and help plants germinate, and their movement loosens the soil to increase vegetation productivity. They consume biomass and so reduce fireloads. Many rural communities in the drylands rely on the annual influx of migratory wildlife for basic subsistence, and recreational and spiritual purposes, while conservation efforts contribute to poverty alleviation. Helping people move into alternative livelihoods such as ranger, farming or tourism activities ensures the active involvement of communities on the one hand and the sustainable use of natural resources on the other. However as desertification advances, migratory species are vanishing.

Habitats under threat

Migratory animals depend on several habitats along their journey and are therefore especially vulnerable to land degradation and climate change, which fragment habitats and alter migration patterns. To cross expanding deserts, migratory birds must embark on increasingly long non-stop

flights. The limited energy stores birds are able to accumulate might not be enough for them to accomplish these long journeys. Some migratory species can adjust to cope to some extent. For instance in Central Asia, the Saiga Antelope can endure severe temperature fluctuations ranging between -50 to +50°C and cover several hundred kilometres in a single day. Migratory ungulates in Central Asia face many threats, such as over-hunting, overgrazing by livestock, and fences that deny access to important feeding grounds, preventing the recovery of Saiga populations, Mongolian Gazelles, Kulan and Argali Mountain Sheep. Globally, populations of many migrating mammals including elephants, wildebeest, rhinos, guanacos and antelopes have fallen by 35-90 percent over the past decade.

The drylands offer important refuge for many migratory species. Often vast landscapes, they are interspersed with wetlands, oases, and other water resources, valuable stops for migrating species. However the ecosystem services provided by surrounding drylands are often undervalued. Areas like dryland forests and woodland patches provide seasonal refuge for migratory species as well as people, and each is host to biodiversity. In regions like the Sahel, desertification has reduced habitat ranges for migrating animals, forcing them to compete for fewer resources. Lower rainfall, higher temperatures and unsustainable irrigation further exacerbates desertification. This in turn can endanger entire migrations, because many dryland regions are only biologically productive during the wet season.

Combating desertification and saving migratory species

For migratory wild animals, ecological networks of critical habitat sites are urgently needed for their survival. Connectivity strategies, wildlife corridors, protected areas and buffer zones, all contribute to ecological networks. Other

efforts, such as research and conservation projects, ranging from population counts and identification of migration routes, to the improvement of habitats and the reduction of threats, protect migratory species. Also, assessing the impacts of infrastructure projects on migratory species before their construction can result in changes to mitigate or avoid their negative effects.

The destructive forces of desertification, climate change and biodiversity loss reinforce each other, but they can be reversed with targeted action. Sustainable land management can improve people's lives while restoring biodiversity and maintaining safe havens for migrating species. The Badia herders of the Syrian steppe, for example, are rehabilitating vegetation in nearly three million hectares of rangelands. They control animal grazing, taking seasonal conditions into account, and have reported up to a tenfold increase in the average productivity of the land. This has also led to the return of birds, insects and other wildlife.

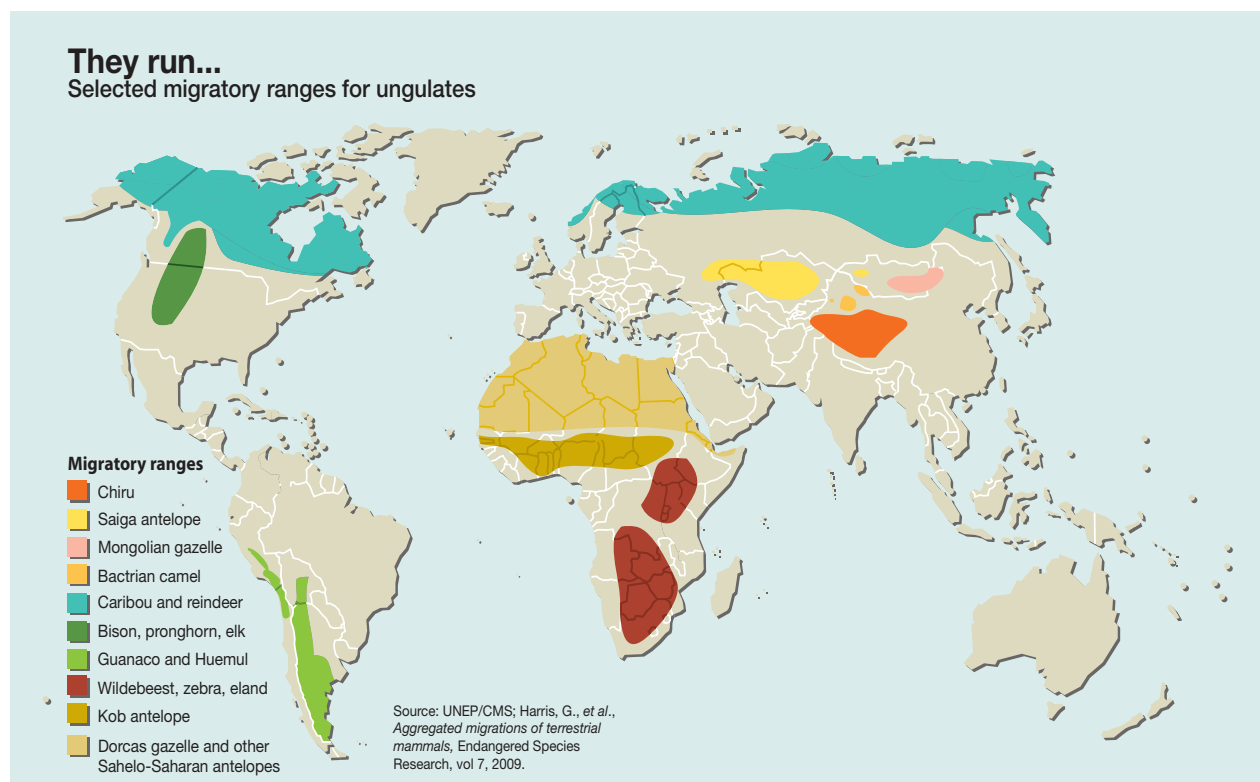
Maintaining the functionality and sustainability of dryland systems requires sustainable land management over large areas. Through seasonal migrations, people, livestock and wildlife have influenced the structure, composition, distribution and dynamics of natural habitats in large territories, and contributed to the creation of unique landscapes. Since ancient times, herders in dryland regions have developed mechanisms of mutual aid and collective management of natural resources. Land is often used communally, with community-wide access to grazing, water for agriculture, and harvesting in grasslands and forests. These communal arrangements are central to sustaining ecosystem services, enabling sustainable livelihoods in the drylands and, ultimately, conserving biodiversity.

At the United Nations Conference on Sustainable Development held in Rio de Janeiro in 2012, the international community recognized the economic and social significance of good land management and agreed to "strive to achieve a land-degradation neutral world in the context of sustainable development." Setting an ambitious global target on land use will strengthen ecosystems, and also help protect migratory species.

The role of the UNCCD and the CMS

The habitats of a significant number of migratory species listed as endangered by the Convention on Migratory Species (CMS) are found in drylands. The successful implementation of regional, sub-regional and national plans and programmes to combat land degradation are essential for the survival of these species. The 195 Parties to the United Nations Convention to Combat Desertification (UNCCD) are furthering their efforts to maintain and restore the land's productivity, and mitigate the effects of drought, which greatly contribute to the protection of migratory wildlife. Also, the Parties of CMS are making efforts to adopt strict protection measures to conserve the populations and habitats of migratory species, and cooperate with neighboring countries to protect the cross-border ranges of these species. Everyone can play their part in working towards the conservation of migratory wildlife and to improve the conditions of ecosystems affected by land degradation.

The map below shows the vast extent of some animals' ranges which can cross numerous countries:



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This fact sheet was prepared in cooperation
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