What can be done?

Mitigation 1: **Remove all non-essential fences**

While the practical value of fences to land managers is acknowledged, many fences become obsolete (e.g. due to change in farming practices) and can safely be removed, thereby eliminating the risk to birds and other animals.

Every second wire of this fence is smooth, making the fence safer for birds as well also reducing cost as barbed wire is more expensive than smooth wire.

Mitigation 2: **Replace at least the top two barbed strands with smooth wire**

This intervention focuses on the most problematic strands and could greatly reduce the risk of snagging. Covering barbs (e.g. with PVC piping) is a potential alternative for short spans in high risk areas such as wetlands.

Mitigation 3: **Routinely re-tension loose wires**

Birds can only get entangled between wires if they are slack enough to overlap. Maintaining fences and re-tensioning strands, especially after fires, will greatly reduce the snaring risk.

Mitigation 4: **Increase spacing between strands**

Increasing the spacing between at least the top two wires (to a minimum of 30cm) and ensuring they are correctly tensioned will further reduce the snaring risk.

Mitigation 5: **Make fences more visible**

Marking of fences has proven highly effective for reducing collisions in some species and research into affordable, durable and easily installed markers that are effective for local species under local conditions is encouraged.

Mitigation 6: **Reduce the barrier-effect**

Manage livestock rotation so that gates can be left open when and where necessary to allow movement of flightless birds between camps (e.g. breeding season for cranes and moulting period for certain waterfowl). Use of single electric strands rather than fixed, multi-strand fences to control livestock movement should also be investigated.

Priority areas

Routine fence maintenance should already be standard practise for all land managers, but fence removal and design modifications have cost implications and may require longer-term planning. Priority areas nevertheless need to be identified for immediate action. These should include fences:

- in areas where vulnerable species (e.g. owls, cranes and Secretarybirds) routinely occur;
- over water and adjacent to rivers, wetlands and other waterbodies;
- in areas where bird collisions have previously been reported;
- in formally protected areas such as national parks and nature reserves.

Legislation/ Policy

BirdLife South Africa recommends that all existing laws, regulations and policies relating to fences be reviewed and where necessary revised to ensure that the impact on birds is minimised.

Acknowledgements

Our thanks go to Dr Craig Whittington-Jones for his help with the analysis of the data and providing extensive comments on this document. The contribution of those who participated in the online project, who have submitted photos and data are also acknowledged.

Contact Details

Ernst Retief, BirdLife South Africa (*ernst.retief@birdlife.org.za*)

Visit *www.birdlife.org.za/conservation/important-bird-areas/iba-projects-other/fence-mitigation-project*

Sponsors This project was sponsored by Petra Diamonds and Airports Company of South Africa, through their financial contribution as BirdLife International Secretarybird Species Champions, Ford Wildlife Foundation and Rand Merchant Bank.

BirdLife South Africa
Giving Conservation Wings

FENCES & BIRDS

Minimising unintended impacts

Marsh Owl snagged by a barbed wire fence.

Fences – the other side

The use of fences for managing movements of livestock (and increasingly game and humans) is well-established and widespread in South Africa with 3-6 million kilometres of new fencing wire consumed annually. While the saying 'good fences makes good neighbours' may be true from a human perspective, the unintended and largely unnoticed impact of fences on birds and other wildlife may be severe. Mitigation is essential.

Which birds are affected?

In 2013 BirdLife South Africa launched an appeal for information on fence-related bird mortality and injuries. Members of the public were requested to provide information about birds killed or injured by fences including the identity and age of the specimen (adult or immature), the location and date of the observation, as well as details of the type of fence, the problem strand(s) and the habitat around the fence. The study revealed some concerning statistics.

Of the 36 species reported killed, 11 (i.e. African Grass Owl, Secretarybird, Blue Crane, White-backed Vulture, Cape Vulture, Martial Eagle, Lanner Falcon, Black Stork, Southern Ground Hornbill, Greater Flamingo and Black Stork) are threatened due to other human impacts. Other raptors (particularly owls), waterbirds and grassland birds were also found to be vulnerable.

How are birds impacted by fences?

SNAGGING

Snagging was the most commonly reported cause of bird mortality. Small and medium sized nocturnal species (e.g. owls) that hunt in flight were the worst affected. Snagging occurs when a body part (usually a wing) gets impaled on one or more wire barbs or razor points on a fence. It is virtually impossible for a bird to free itself and it succumbs to exhaustion and thirst. The top wire of the fence presents the biggest threat.

SNARING

Snaring occurs when a bird's leg or foot becomes trapped between two overlapping wires while it is attempting to pass through or jump over a fence. It is usually larger birds that forage on foot (e.g. large terrestrial birds such as Secretarybirds and cranes) which are caught in this way. The birds are unlikely to free themselves and even in instances where birds were released and taken to a veterinarian, they could not be saved due the severity of their injuries. Birds are usually caught between the top two wires of a fence and for this to happen the strands must be slack enough to overlap under the levering action of the birds limb.

A Secretarybird snared in a fence. This usually happens when the fence is not well maintained and strands are slack enough to overlap.

IMPACT INJURIES

A bird flying into a fence may be killed or injured by the force of the impact alone, even if not permanently transfixed by a barb. Such incidents are probably under-reported as individuals with minor injuries may recover without assistance while others with more severe injuries may move away from the fence before dying.

SNARLING

Snarling appears to be uncommon, but may occur when a bird attempts to push through wire strands or woven wire mesh and becomes trapped by the fence material. In some instances birds might be able to free themselves with minimal injuries, but others will die if not assisted.

BRENDA PIENAAR

Fences across wetlands are a hazard for waterbirds.

ELECTROCUTION

A bird flying into an electrified fence is likely to either be killed or severely injured. Impact injuries are exacerbated by electrical burns and may be fatal.

BARRIER EFFECT

Fences may limit the movements of flightless birds (e.g. young cranes or moulting waterfowl), potentially creating an impassable barrier between essential resources such as safe roost sites and feeding areas and/or reducing chances of escaping predators.

CRYSTELLE WILSON

Fences are barriers to Secretarybirds which walk long distances every day in search for food. Each fence, especially if it is not well maintained, poses a risk to a bird.