



Conservation of South Africa's near-endemic Endangered Black Harriers through the protection of breeding sites and reduced risk of wind farm mortalities.

PROJECT REPORT PREPARED FOR THE AFRICAN BID CLUB BY THE ENDANGERED WILDLIFE TRUST

Project summary

Black Harriers (*Circus maurus*) are endemic to southern Africa and are globally Endangered. There are less than 1000 birds left and their numbers are declining. Together with increasing loss and fragmentation of key breeding habitat, the species is facing a new threat from the rapidly-growing wind energy sector in South Africa. Black Harriers are prone to colliding with wind turbines and if nothing is done to reduce this emerging threat, predictions suggest we will witness the extinction of the species within our lifetime. Our project aims to avert this disaster. To do so, we will pioneer a new approach to improve the protection status of important breeding habitat in the harrier's last strongholds of South Africa. Here we will work with landowners at key Black Harrier breeding sites to develop conservation servitudes, guided by formal agreements and management plans. In addition, we will action work to support our partners at the University of Cape Town with the development (post project) of the first wind turbine collision risk map for the species, by assisting in the capture and fitting of GPS tracking devices to Black Harriers. We will use this tracking data to analyse the birds' flight behaviour and spatial use to develop highly robust collision risk models. We will work with key partners to use this information to guide developers and government authorities in the planning stage of new wind energy developments, post project, to avoid building turbines in locations that pose a high collision risk to Black Harriers.

Progress against objectives

Conservation servitudes: Securing priority breeding areas and improving habitat management across the Black Harrier range.

Background

Within known Black Harrier breeding sites in the Western Cape, we initiated site assessments to engage on the properties of at least three willing landowners. Here the aim is to facilitate the establishment of conservation servitudes (a novel form of legal protection for the target breeding areas) to improve the protection status of these sites and for their long-term conservation. We then present the target properties to the relevant Provincial Review Committee (CapeNature) for a recommendation and guidance regarding critical issues. The Conservation Servitude will then be drafted with the assistance of a notary public. After signing, the Endangered Wildlife Trust will undertake annual reviews of these sites to monitor progress against the approved Environmental Management Plan, and to provide management support as required. An Annual Plan of Operation will be drafted for this purpose and adjusted during review. The Conservation Servitude will provide that the Environmental Management Plan be revised and updated every five years, as required for other mechanisms within the Conservation Areas category. We will aim at "in perpetuity" servitude agreements as best practice, but at least a minimum of five years, with the option for renewal and extension.

The application of conservation servitudes provides an appropriate, cost-effective, strategy for the formal conservation of breeding sites in the proposed area. Importantly, a servitude may be registered over the entire property, with a zonation map indicating the conservation area, or over only a portion of the property

– a useful consideration when targeting the protection of small patches of natural vegetation such as wetlands or grass patches. This project's focus was on committing willing landowners to protect breeding sites.

Establishing robust conservation servitude guidelines and approach in alignment with the South Africa law systems and provincial conservation authorities

The first phase of our project involved a year of workshops and sessions with a panel of legal representatives, who offered pro-bona services, to fine tune the guidelines and legal approach around the establishment of conservation servitudes, to ensure that this approach aligned with the laws and context of South Africa. Notably, a conservation servitude is an agreement between a landholder and a third party, most typically a conservation NGO such as the EWT, in terms of which the landowner undertakes to set aside a section of his or her land for conservation purposes in favour of the third party. A conservation servitude differs from an ordinary biodiversity agreement in that the agreement is registered against the title deed of the relevant property and is therefore not only binding on the parties that entered into the agreement, but also on the landowner's successors-in-title. A management plan is attached to the servitude, providing support to landowners and identifying priority management interventions. The EWT (or similar NGO), then assists with the implementation of these interventions. Servitudes are not provided for in legislation but founded in the South African common law. They are legally complex, and it is therefore recommended that they are drafted with the assistance of a notary public. Practitioners should also refer to any further guidance on the matter as provided by the South African National Biodiversity Institute or the National Biodiversity Stewardship Technical Working Group. We have attached the draft document along with this report for your perusal. We also held sessions with CapeNature, who will play a vital role in the oversight and implementation of the management plans developed for each servitude site.

Identifying key sites for the establishment of conservation servitudes

The second step in our work towards this objective, was to consolidate existing breeding site data for Black Harriers across their South African range, to identify ideal sites that overlap this vital breeding habitat with willing landowners keen to implement conservation servitudes on their properties. We gathered data supplied by various stakeholders, including Dr. Rob Simmons from Birds & Bats Unlimited, Environmental Consultants and the FitzPatrick Institute, University of Cape Town, as well as breeding data from Dr Odette Curtis from the Overberg Renosterveld Conservation Trust. Importantly, we also looked towards dovetailing our servitude work with other initiatives being led by the EWT to protect habitat shared by a suite of other endemic, target threatened species. Addressing the anthropogenic threats and improving protection and management of Black Harrier breeding habitat, actioned through this project, will directly benefit a suite of species that share the same habitat. These include a handful of highly threatened mammals, such as van Zyl's Golden Mole; reptiles, including the Speckled-Dwarf Tortoise; several highly endemic Fynbos and Renosterveld butterflies, including Trimen's Opal; a suite of highly threatened amphibians including two *Breviceps* species; bird species such as the Grass Owl and Marsh Harrier; as well as a diversity of threatened plants including the highly threatened succulents from the genus *Conophytum*.

Breeding data was overlaid with various spatial layers, including farm layers, current EWT project sites, landcover and land use type, and known protected areas (Fig. 1). Our focus was on areas outside of protected areas where anthropogenic threats were most prevalent. Although we don't have access to the latest GPS tracking data, information on Black Harrier habitat niche/suitability models was also provided along with important foraging and migratory routes for the species, enabling us to fine tune selection for the ideal sites. From this, we selected two initial key areas to implement conservation servitudes, namely the Nieuwoudtville region and the Vredenburg area (Fig. 2). Within this region, we engaged with four priority landowners, and received commitment and consent to move this forward in the next two years.

Given the intensity and staff time needed for this scope of work and objective, our project partly funded by the African Bird Club focused predominantly on the setting up of the guidelines and legal framework to ensure this approach is robust and adapted to a South African context. Thus, unfortunately, less time was

spent on engagement with landowners. We will be ready to take this forward with the four landowners identified and engaged with over the first year of the project.



Figure 1. All known Black Harrier nesting sites and breeding habitat consolidated and mapped as part of this project. Note the high fidelity to breeding sites/habitat in the Western Cape of south Africa, in particular along the west coast region, where we are implementing our first servitudes.



Figure 2. The two core areas identified for the implementation of our conservation servitudes (see red arrows for locality). We have identified two initial key areas to implement conservation servitudes, namely in the Nieuwoudtville region and the Vredenburg area and have started to engage with four key landowners to take this work forward in the upcoming year.

Black Harrier Collision risk mapping

Background

We will provide specialist input and field expertise to assist our partners from the University of Cape Town to trap and fit GPS tracking devices to Black Harriers. We will deploy Debut Lego GPS/GSM tracking devices on Black Harriers which weigh 9g and will collect locations at five-minute intervals. The weight of the GPS is < 3% of even the lightest harriers previously tracked. We will track at least 15 adults (and up to 20). All trapping, deployment of GPS tags and blood samples will be undertaken by trained and experienced members of our team. The EWT's policies dictate that all bird handling and welfare procedures for this project must first be cleared by our formal, independent ethics committee – before working with birds. The EWTEC follows national legislation and standards. We will follow up in the field on any tags which indicate they are no longer moving over a period of two days to ascertain if and how a bird has died, or if the tag has fallen off. Following previous methods used to trap Black Harriers, trapping will be done using a Dho-Gaza net and a taxidermed Spotted Eagle Owl set up 20–30 m from active nests, minimising direct disturbance at the nest site.

We will tag equal numbers of males and females, whose contrasting behaviours may put them at differential risk of collision. Trackers will be deployed using a backpack-style harness, with a weak link on the sternum so that the tag will ultimately fall off the bird. Although beyond the scope of this specific project, post project the analysis of tracking data will follow an established framework used to analyse collision risk for Verreaux's Eagles, with adjustments made to account for the differences in the general habits of the two species. Most importantly, we will aim to develop the model at two levels: a nest-based model which will be relevant to Wind Energy Facilities (WEFs) with confirmed nest locations in their vicinity, and a migratory model which will be relevant to all WEFs within the range of the species. After this project, Dr Megan Murgatroyd and Prof Arjun Amar – both of whom have previous experience in developing raptor collision risk models – will conduct the data analyses.

Black Harrier tracking

Over the project period, the EWT initiated fieldwork in 2021 and 2022 to deploy a network of GPS tracked Black Harriers, with a focus on breeding adults in the Western and Northern Cape. Although we were unable to trap and tag birds ourselves due to significant challenges faced with a unusually dry winter and hot summer period leading to very few breeding pairs to target over our fieldwork, our partners from HawkWatch International, Birds & Bats Unlimited and the Overberg Renosterveld Conservation Trust were a lot more successful over the 2022-2023 period. The HawkWatch International team successfully deployed 17 units; we supported our partners from the Overberg Renosterveld Conservation Trust with their fieldwork and, along with the Birds & Bats Unlimited team, deployed a further 13 tracked birds. This data is already proving effective, detecting several deaths on windfarms, and is now being combined, and under the auspices of the Black Harrier Task Force, will be used collectively to develop a comprehensive collision risk model for the species across its range in the following year.

Establishment of the Black Harrier Task Force

Over the project duration, we have joined forces with key partners and stakeholders to formally establish the Black Harrier Task Force (BHTF). These partners include BirdLife South Africa, HawkWatch International, the Overberg Renosterveld Conservation Trust and Birds & Bats Unlimited.

Future steps

Our current plan is to work with the newly developed Black Harrier Task Force to coordinate and implement priority Black Harrier conservation action in southern Africa, with this expert team. This team will lead and coordinate high-impact conservation activities in collaboration with research institutes, conservation authorities, and leading organizations. Furthermore, a Black Harrier Biodiversity Management Plan (BMP) will be developed for adoption and gazetting by the South African Department of Forestry, Fisheries and the Environment (DFFE). Advocacy efforts will also focus on the establishment of an IUCN Species Survival Commission African Harrier Specialist Group. This group aims to raise the species conservation profile, connect experts, and gain global specialist support, ensuring a unified and effective approach to Black Harrier conservation efforts.