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THE NAMPOWER/NNF STRATEGIC PARTNERSHIP

Power line/wildlife conflicts in the spotlight

NamPower and the Namibia Nature Foundation (NNF) have joined forces in a strategic partnership in order to address power line/wildlife conflicts in Namibia. Launched in Windhoek in October 2008, this ground-breaking initiative is being funded by the European Investment Bank and aims to become financially sustainable after three years.

Why an industry-conservation partnership?

Namibia is a large country, covering an area of 823 860 km² and renowned for its rich diversity of wildlife and endemics (species that occur nowhere else in the world). Much of this wildlife is specially adapted to survive the dry, variable and harsh climate in landscapes that are often fragile. Birdlife is especially well represented with 676 species, 60 (9%) of which are currently under threat. Of these, 30% are birds of prey (raptors), 32% inland waterbirds and 25% coastal and marine species. The threats to these birds are cumulative and include habitat loss/degradation; development and over-utilization of resources; pollution and misuse of poisons; a lack of environmental awareness; and a lack of local ownership of biodiversity resources.

The power line network coverage across Namibia is increasing rapidly, especially in terms of new mining developments as well as many new private lines. A further threat of unknown but potentially significant extent is the mortality of birds on power lines through collisions and electrocutions, in particular to large birds of prey, bustards, cranes, storks and flamingos. At the same time, these wildlife-power line interactions may



Martial Eagle (Endangered in Namibia) on a 22 kV distribution pole (photo Chris van Rooyen)

cause inconvenient blackouts, with high maintenance and repair costs for both NamPower and regional electricity distribution agencies. Smaller birds including Sociable Weavers, Red-billed Buffalo-weavers and crows also use power line structures for roosting and nesting and are a further source of wildlife-related faulting. Both types of impact are cause for concern; both are preventable or could be reduced with appropriate planning and mitigation.

What are the main causes of these problems?

- A lack of awareness about the problems that power lines cause to birds, and that birds cause to power lines.
- A need for information on the impacts of existing power lines/structures on wildlife, and *vice versa*.
- A need for information on sensitive aspects related to the routing of new power lines, in order to mitigate the impacts of wildlife-power line interactions.



Electrocuted Cape Vulture (Critically Endangered in Namibia; photo Chris van Rooyen)



There is a growing concern about the Ludwig's Bustard power line collision problem (*photo Chris van Rooyen*)

What is being done?

Addressing the threats to raptor populations and their habitats in Namibia emerged as one of the key actions for the *Raptors Namibia* action plan (developed at Waterberg in February 2005; see website www.nnf.org.na/raptors.htm). These threats are outlined in the Red Data Book (Simmons & Brown 2006¹) and include electrocution and collisions with overhead lines. This proposed initiative coincided with discussions already taking place at NamPower. The launch of the NamPower/Namibia Nature Foundation Strategic Partnership was the culmination of months of preparation by representatives of NamPower, the Electricity Control Board (ECB), Namibia Nature Foundation (NNF) and *Raptors Namibia*, the Ministry of Environment and Tourism (MET), Vultures Namibia, Namibia Animal Rehabilitation Research and Education Centre (NARREC), NamRingers and other experts.

The mission of the partnership is to develop a multi-disciplinary mechanism in the form of a dynamic Geographical Information System (GIS) database and mapping system, indicating all power lines in Namibia in relation to biodiversity hotspots and sensitive areas. This comprehensive biodiversity information resource will assist NamPower with managing its impacts on the natural environment. It will eventually develop into an important environmental planning tool that will be in the public domain, free and with completely open access, that will assist all environmental and industry role players in Namibia to manage power line impacts on our biodiversity.

Birds will initially form the focus of the project, with the aim of expanding the scope to other natural resources. As a result, the conservation of Namibia's biodiversity, in particular its birdlife, will be actively promoted, thereby also benefiting tourism and the national economy. At the same time, costs from blackouts caused by wildlife-related faulting will be reduced.

¹ Simmons R.E. & Brown C.J. 2006. *Birds to watch in Namibia: Red, Rare and Endemic Species*. National Biodiversity Programme, Windhoek

ACTION PLAN

Many project stakeholders have contributed to developing a detailed action plan in order to achieve the project objectives, all of whom are thanked for their constructive inputs. The process included a workshop on 22 January 2009. The action plan is available on request. As it is a dynamic process, your ongoing inputs, suggestions and involvement are most welcome!

Objectives and actions

1. Promote awareness/communication amongst a wide spectrum of stakeholders about the risks that power lines pose to birds, and birds to power lines:
 - Promote reporting of wildlife-power line incidents, in particular by NamPower and Regional Electricity Distribution (RED) staff but also by landowners/managers and the general public
 - Promote better planning of power line routes and structures (see also No. 3 below)
2. Report, monitor and investigate power line/bird mortality incidents:
 - Create an incident register/database, in order to monitor and record the impacts of existing power lines/structures on wildlife, and *vice versa*
 - Train NamPower and Regional Electricity Distribution (RED) staff in the management of bird interactions with power line networks
 - Identify focal areas/hot spots for investigating power line/bird mortality incidents, as a basis for applying mitigation measures and to aid effective planning of future power lines
3. Incorporate bird/wildlife mitigation into the planning of future power line networks:
 - Design and implement a screening procedure with a checklist for new power lines
 - Incorporate bird/wildlife mitigation into the planning of future power line networks to reduce negative impacts on biodiversity and power provision costs in the long term
 - Develop a dynamic, integrated Environmental Information System indicating all power lines in Namibia in relation to biodiversity/environmental sensitivity, that will be available as a proactive planning tool to both NamPower and environmentalists in general

PROGRESS WITH PROJECTS

1. Awareness/communication

An awareness/communication strategy is being implemented, making use of a variety of mechanisms. These include a targeted training programme (see 2 below), together with a newsletter, media releases, literature and other resources. A project website has been produced (see footer, page 1). All stakeholders that are involved with the operation of power lines/structures (e.g. NamPower and RED staff) and landowners/managers that have power lines crossing their properties (e.g. the farming community, conservancies,

MET, other institutions, general public) are being informed and encouraged to participate in the project.

2. Report, monitor and investigate power line/ mortality incidents

Field investigation form and incident database

There is a specific need for detailed information on any forms of bird/wildlife interactions (e.g. mortality, injuries, roosts, nests, etc.) on power lines in any area in Namibia, both historic and present. A field investigation form has been designed in order to record information gathered from investigations. This information, together with relevant photographs, will be entered into a comprehensive database designed to register all details of incidents. The field investigation form is being sent out with this newsletter, and is also available on our website (see below).

The target bird species are:

- large raptors (e.g. eagles, vultures and Secretarybirds), bustards, cranes, storks and flamingos, which are likely to be electrocuted on, collide with, or roost or nest on structures; and
- smaller birds such as Black and Pied crows, Sociable Weavers and Red-billed Buffalo-weavers which are likely to nest on the structures.

Information on any other forms of bird and other wildlife interactions/conflicts not mentioned above is also welcome.

Training of NamPower and Regional Electricity Distribution (RED) staff and other stakeholders

A training programme in the management of bird interactions with power line networks is being designed for a target group, comprising power line staff and landowners/managers that have power lines/structures on their properties (e.g. farmers, conservancies, the MET, other institutions). The main focus will be the collection of information on power line/wildlife incidents (see above). Guidelines will be provided on what information is important, and how and where to report it. The programme will also include the identification of relevant bird species; technical aspects such as GPS operation and photography; sensitive environmental features; different power line structures/designs and their possible impacts on wildlife and *vice versa*; and types of mitigation measures.

The first one day training workshop for NamPower and RED staff on "The Management of Wildlife Interactions with Power Line Networks" is planned in Windhoek on 30 June 2009.

The programme will focus on the following aspects:

- Electrocutions of wildlife on electricity infrastructure
- Bird collisions with power lines
- Bird nesting on power lines
- Faulting caused by birds on transmission lines
- Procedures to address wildlife mortality on power lines



The HLPCD (horizontal line post compact delta) design is used widely for private power lines throughout the country; it provides a convenient perch for this Black-chested Snake Eagle in a habitat where trees are scarce, but represents a potential electrocution threat to colonially perching raptors such as Lappet-faced Vultures (*photo Ann Scott*)

3. Incorporate bird/wildlife mitigation into the planning of future power line networks

In order to avoid or reduce future conflict between wildlife (the natural environment), utility suppliers and power end-users it is necessary to be proactive in ensuring that proposed new lines are planned and routed effectively. It is therefore necessary to liaise with power line planners and builders (see 1 above). Section 3 incorporates the means to achieve this objective.

Screening procedure and checklist for new power lines

One of the key activities has been the development of a screening procedure with a checklist for new reticulation lines, in particular small lines not requiring EIAs. A list of high risk factors for birds has also been produced.

The development of a web-based Environmental Information Service (EIS)

A further key activity is to develop an Environmental Information Service (EIS), which will become a broad, accessible, useful 'one-stop-shop' for public environmental information in Namibia. It is proposed that access to the information should be free, that the system should be simple, and that its focus will be on providing the greatest volume and variety of information available, as an aid to sustainable development. The tasks below should be completed in Phase 1 (May to October 2009).

1. Design of overall system

Information will be sought and retrieved from the EIS in two ways: by topic and through a map interface.

2. Design and compilation of web interface

A web interface will present users with options for searching for data through key words or the map

interface. The web page will have an attractive appearance, and will provide suitable credits.

3. Design and assembly of a searchable database for topics

A MySQL (web database) will include a central table with core information for each data set. The core table will link to a series of hierarchical tables containing spatial and keyword information. Each data set entered into the database will be comprehensively and consistently assigned spatial attribute data and keywords to facilitate the development of efficient searching systems for spatial and keyword information.

Searching and retrieving information and data sets will be done through a menu driven interface and a simple map interface. The hierarchical nature of the key-wording will allow for 'smart' searching; if a user searches on e.g. vulture they will retrieve all information with 'vulture' as a keyword, while if they search on e.g. 'birds' they will automatically retrieve information on all bird-related data sets, including vultures. The map interface will allow users to define a spatial area, or to select/type in the names of a location e.g. Omaheke or Etosha and retrieve relevant information. An additional 'free text' option may be added to allow searches on the authors and title fields. For all search options the user will be able to restrict their search to selected data types (e.g. only GIS data or only pdf files) or to include all data types. In this way, it is intended that the search facility is as efficient and flexible as possible.

For each data set returned by a search, the results will include core descriptive information such as the document title or description, file name, file size and file type, source of the data. Each result will include a hyperlink to the data file which thus enables the user to download the datasets they require. These will typically be presented as zip files which include the data set and any metadata which are available.

4. The compilation of data

Initial work will focus on assessing and incorporating data such as the Atlas of Namibia, Bird Atlas and from CONINFO. Subsequent efforts will see the incorporation of information from other sources, including NamPower, and the creation of links to other established sources of data, such as the National Botanical Research Institute of Namibia (NBRI). Each data set will be assessed for its currency and completeness because different compilations of data covering the same topic are often available. Documents in word processing formats will be converted into pdf files. It is anticipated that most information will relate to the following themes:

1. Endemic species and endemism
2. Species distributions
3. Levels of biodiversity
4. Archaeological, historical sites and national monuments
5. Protected and conservation areas
6. Vegetation types
7. Vegetation cover
8. Plant production

9. Soil types
10. Rivers, pans, aquifers and artesian springs
11. Electricity
12. Pipelines, canals, dams and boreholes
13. Mines and mineral resources
14. Roads and railways
15. Schools
16. Health services
17. Land use and ownership
18. Farming systems
19. Towns and settlements
20. Population density
21. Rainfall – average, median and variance
22. Temperature, wind, frost, radiation, evapotranspiration
23. Topography
24. Geology and geomorphology
25. Environmental impact and assessment materials
26. Environmental legislation
27. Environmental organizations

Raptor Road Counts

Good news for Raptor Road Count addicts! An additional project, "Raptor road count data entry: 2009 to 2010", has been incorporated. Namibia's Raptor Road Count project ran initially from 1973 until 2000 and collected a substantial quantity of data on raptor distribution, numbers, breeding and other aspects. These records are now held in the Namibian Avifaunal database. In 2005 the Raptor Road Count project was relaunched in Namibia and since then there has been a steady inflow of completed data forms for this popular public participation project. *Raptors Namibia* funded data entry in 2005 and 2006, but there has been no funding for data entry since December 2006. The above new project provides for data entry of the backlog of road count data, including quality control and verification of data over a two year period; checking and responding to emails on the road count email account; and the generation of summary statistics on road counts. The forms for the road counts are available on the *Raptors Namibia* website (www.nnf.org.na/raptors.htm). For further information, please contact Alice Jarvis, email raptors@mweb.com.na.

HOW YOU CAN BECOME INVOLVED

Your assistance would be valued in promoting awareness about the project and involving stakeholders at any level; reporting and recording wildlife-power line incidents; and contributing to the Environmental Management System database. Any comments, suggestions, news items, reports or photographs would be most welcome!

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