NamPower/Namibia Nature Foundation Strategic Partnership

Newsletter No. 15: April 2015

IN THIS ISSUE

EDITORIAL
COLLABORATION & BROADER ISSUES
- **NP/NNF Partnership visit to Eskom/EWT Partnership (March 2015) …1**
- **World Migratory Bird Day …3**
- **Birds and renewable energy …4**
- **Is the electrocution impact of transformer structures being under-rated? …5**
- **Namibia's new Red Data Book goes to press …6**

PROJECT-RELATED REPORTS
- **Flamingo and power lines project …6**
- **Relative impact of power distribution faults due to Sociable Weaver nests …7**

POWER LINE SURVEYS: DECEMBER 2014 – APRIL 2015 …9
POWER LINE INCIDENTS: DECEMBER 2014 – APRIL 2015 …13

EDITORIAL

March 2015 saw an historic visit take place between two partnerships with a common goal: to address wildlife/ power line interactions in southern Africa. Our visit to the Eskom-EWT Strategic Partnership in South Africa was both informative and stimulating. A sincere thank you to our hosts!

World Migratory Bird Day on 9-10 May 2015 places the spotlight on ensuring that our energy is bird-friendly and sustainable, to promote the conservation of our migratory and other birds.

We revisit transformer structures on smaller distribution lines for a deeper investigation into their impacts in terms of bird electrocutions, and request all those who are interested to try and help us assess the extent of the problem.

An investigation of NamPower's monthly power outage data has provided insight into the contribution of Sociable Weaver nests to power outages in the country. These outages closely follow rainfall patterns.

Power line surveys have covered some 300 km during the past five months, recording 32 incidents at a rate of 0.1 incident per km. Incidental reports also continue to stream in, and we thank all those who are our eyes and ears out there for this ongoing support and interest.

The Eskom/EWT Partnership and associates and NP/NNF Partnership investigate a vulture electrocution incident near Lydenburg, South Africa in March 2015 (*photo Ann Scott*).

COLLABORATION & BROADER ISSUES

NP/NNF Partnership visit to Eskom/EWT Partnership, 9-13 March 2015

The Eskom-EWT Strategic Partnership falls under the Endangered Wildlife Trust Wildlife and Energy Programme (EWT-WEP; http://www.ewt.org.za/WEP/eskom.html) in South Africa.

Eskom is responsible for providing a reliable supply of electricity to meet the ever increasing needs of its end users throughout the country. As a result, infrastructure such as power lines, power stations and substations is continually being built, refurbished and upgraded. Negative interactions between wildlife and electricity structures take on many forms, including the electrocution of birds and other animals; birds colliding with power lines; birds and/or other animals causing supply interruptions; birds nesting on infrastructure, and large animals (i.e. elephants, rhinos and buffalo) causing damage to the power line poles when using them as rubbing posts.

The challenge for Eskom is to find a balance between the supply of electricity to grow the economy and the effective protection of wildlife from negative interactions with electrical infrastructure. In view of the problem, Eskom and the EWT entered into a strategic partnership in 1996 with the main aim of systematically addressing the above interactions through an integrated management system. The Partnership has in many ways pioneered an approach to Corporate NGO collaboration and remains highly respected both nationally and internationally.

The NamPower/Namibia Nature Foundation Strategic Partnership is funded by the European Investment Bank
Project management & newsletter: Mike & Ann Scott
Cell 081 284 5130, Tel. 064 404866, Email ecoserve@iway.na
Websites: http://www.nnf.org.na/project/nampowernnf-partnership/13/5/5; html http://www.nampower.com.na/Page.aspx?p=190

Namibia is experiencing similar challenges and established a strategic partnership between NamPower and the Namibia Nature Foundation in 2008, modelled on the above partnership. Following on a short visit by the Eskom/EWT Strategic Partnership to Namibia in June 2014 to promote further cross-border collaboration, an exchange visit by the NamPower/NNF Strategic Partnership was organised from 9-13 March 2015.

Our group for the trip below consisted of Constant Hoogstad (EWT - Wildlife & Energy Programme [WEP] Programme Manager); Rick Harness (Certified Wildlife Biologist, EDM International Inc., Fort Collins, Colorado USA) and ourselves. We also met up with several others involved in this field during the trip: Brian Jones (Director, Moholoholo Wildlife and Rehabilitation Centre); Scott Ronaldson (EWT field officer, Kruger National Park: Birds of Prey Programme); Matt Pretorius (Senior Field Officer for EWT-WEP); and local Eskom staff.

Programme

We arrived in Johannesburg on 9 March 2015 and left at 05h00 the following day to drive to Kruger National Park (KNP). *En route*, we took part in an investigation into a vulture electrocution on a high voltage pylon near Lydenburg (near the Steenkampsberg Cape Vulture colony), and visited Moholoholo Wildlife and Rehabilitation Centre and vulture restaurant near the large Manoutsa Cape Vulture colony (850 pairs). We slept at Phalaborwa for two nights, in tented accommodation kindly sponsored at a training camp belonging to Sefopane Lodge.

On 11 March 2015 we left at 05h00 to visit some of the Kruger Northern Lines. We were joined by Scott Ronaldson and took part in two power line investigations between Olifants and Satara. One Kori Bustard collision was found on the first investigation; two Kori Bustard and one vulture collision were recorded on the second – both on compact delta structures that had been marked and were highly visible – which was thought to indicate possible flushing of the birds on the service road beneath the lines. The next day Rick Harness demonstrated the Bird Strike Indicator (BSI; see below). We then took part in an investigation into a giraffe electrocution on a low voltage power line on a property neighbouring the KNP before returning to Johannesburg, then to Namibia.

Discussion points

Some of the topics we discussed include the following:

1. Collisions and marking of power line structures
2. Cross-border power line monitoring
3. Bird Strike Indicators (BSI): Rick Harness demonstrated the working of the BSI (contact details: RHarness@edmlink.com, www.edmlink.com).
4. Data-sharing on flamingo tracking
5. The Environmental Information Service (EIS)
6. Promoting information-sharing and collaboration to work towards a southern African Wildlife and Energy Partnership

Above: Constant Hoogstad of the Eskom/EWT Partnership investigates a Kori Bustard collision in KNP;
Below: Rick Harness demonstrates the Bird Strike Indicator (BSI) (*photos Ann Scott*).

Conclusions

It was apparent that there is much common ground between the challenges faced by both partnerships in mitigating the impacts of power line structures on wildlife and *vice versa*. The Eskom/EWT Partnership has been in operation for some 19 years and has a wealth of experience and resources. Constant and his colleagues are unstinting in their information sharing and support for our efforts, and much was learnt from this varied and thought-provoking trip. It is felt that ongoing collaboration between the above Partnership and its Namibian counterpart will be of invaluable benefit.

Our sincere thanks to both partnerships for making the trip possible, and especially to Constant Hoogstad, Rick Harness, Brian Jones, Scott Ronaldson, Matt Pretorius and Sefopane Lodge for their contributions.

ENDANGERED WILDLIFE TRUST

Eskom

STRATEGIC PARTNERSHIP

World Migratory Bird Day: 9-10 May 2015

Source: World Migratory Bird Day (see below for details)

Energy – make it bird-friendly!

In times of ever-increasing global demand for energy, developing new and expanding existing renewable energy technologies are key when striving towards a low carbon future. Yet energy cannot be truly sustainable and nature-friendly unless it fully takes biodiversity and, more specifically, migratory birds into consideration. With the theme "Energy – make it bird-friendly!", World Migratory Bird Day (WMBD) 2015 aims to highlight the importance of deploying energy technologies in a way that prevents, minimises and mitigates impacts on migratory birds and their habitats.

Every year, millions of migratory birds struggle with the massive expansion of various means of generating and distributing energy: collisions and electrocution due to power lines as well as barrier effects from energy infrastructure are causing mortality and displacement. In addition, the birds suffer effects from habitat loss and degradation and other disturbances from the deployment of hydropower, bio-energy, ocean, solar, wind and geothermal energy technologies. Sustainable renewable energy production is expected to have positive effects on migratory birds by mitigating climate change and its impacts. However, if certain energy technologies are deployed without proper planning, design and risk assessment, they can pose a grave threat to migratory bird species.

When expanding energy production, transition to wildlife-friendly methods is a vital step to protect life on the Earth. The conservation of migratory birds needs to be considered in all phases of energy development at multiple levels - locally, nationally and internationally. Therefore, concerted conservation actions by governments, nature conservation organisations, scientists and the energy sector as well as the general public are necessary. This way the benefits of sustainable energy can be realised without the risk of harming migratory birds and their habitats.

What is World Migratory Bird Day?

Launched in 2006, World Migratory Bird Day is an awareness-raising campaign that is celebrated annually and aims to inspire the worldwide conservation of both migratory birds and their habitats. This campaign is organised by two international wildlife treaties administered by the United Nations Environment Programme (UNEP) - the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA). World Migratory Bird Day is also supported by a growing number of partners and the generous contribution of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), without which the campaign would not be possible, is acknowledged with gratitude.

Take part in World Migratory Bird Day

Anyone can join in and take part in World Migratory Bird Day on 9 – 10 May 2015. However you decide to contribute - by organising educational programmes, lectures, bird-watching tours, visits to bird-friendly energy infrastructure, art exhibitions or other public events - every activity counts and will enrich this global celebration!

Migrant bird species and power lines in Namibia

In Namibia our two groups of birds most prone to power line incidents (collisions) are also migrants: Ludwig's Bustard is a partial migrant; and Lesser Flamingo and Greater Flamingo are both intra-African migrants. The striking Lesser Flamingo above was photographed by Ilka Schröer.

You can learn more about World Migratory Bird Day, register your event and order posters, stickers and postcards on the WMBD website (www.worldmigratorybirdday.org; E-mail: contact@worldmigratorybirdday.org) as well as share your activities with the growing community behind WMBD across the globe.

We look forward to celebrating World Migratory Bird Day 2015 with you!

World Migratory Bird Day

Birds and renewable energy

Source: BirdLife South Africa (see below for details)

The need for cleaner energy has resulted in a burgeoning renewable energy industry in South Africa. BirdLife South Africa acknowledges the predicted shortfall of energy supply versus demand. It also recognises the need to include more renewable energy in our energy mix if the threat of climate change is to be reduced. BirdLife South Africa therefore supports the responsible development of a renewable energy industry in South Africa.

Unfortunately, if poorly planned, renewable energy facilities can have negative impacts on birds and the environment. BirdLife South Africa is helping to minimise these impacts.

In Namibia the number of applications for both solar and wind energy projects is also on the increase. Proactive, wise decisions about energy development that is really clean need to be well informed. The following guideline documents can be downloaded at the website below:

1. BirdLife South Africa / Endangered Wildlife Trust best practice guidelines for avian monitoring and impact mitigation at proposed wind energy development sites in southern Africa

Compiled by A.R. Jenkins, C.S. van Rooyen, J.J. Smallie, J.A. Harrison, M. Diamond & H.A. Smit.

(Reviewed by Prof. Peter Ryan and Dr Rowena Langston)

The wind energy industry is poised for rapid expansion into many areas of southern Africa. While experiences in other parts of the world suggest that this industry may be detrimental to birds (through the destruction of habitat, the displacement of populations from preferred habitat, and collision mortality with wind turbines, guyed masts and power lines), these effects are highly site- and taxon-specific in operation. Raptors, large terrestrial species and wetland birds are thought to be most susceptible, and areas of higher topographic relief are often implicated in negative impact scenarios.

In order to fully understand and successfully mitigate the possible impacts of wind farms on the region's birds (and to bring the local situation into line with international best practice in this field), it is essential that objective, structured and scientific monitoring of both resident and passing avifauna be initiated as soon as possible at all proposed development sites.

The Birds & Wind Energy Specialist Group, convened by the Wildlife & Energy Programme of the Endangered Wildlife Trust, and BirdLife South Africa, proposes certain guidelines and monitoring protocols for evaluating wind energy development proposals, including a 3-4 tier assessment process. These are described in the above report.

2. Guidelines to minimise the impact on birds of solar facilities and associated infrastructure in South Africa

H.A. Smit

(Reviewed by Dr Phoebe Barnard, Dr Andrew Jenkins, Tania Anderson, Jon Smallie and Samantha Ralston)

BirdLife South Africa supports the use of solar energy generation in the reduction of greenhouse gas emissions in South Africa, which has been identified as amongst the top 10 developing countries that need to reduce their carbon emissions significantly. It is highly likely that solar holds amongst the highest renewable potential for South Africa.

In its position statement (1), BirdLife South Africa states that its main concern about both types of solar power generation – photovoltaic and concentrated solar power – is that they can potentially cause the displacement or exclusion from important habitats of nationally and/or globally threatened, rare, endemic or range-restricted bird species. Other potential risks include collision with the reflective surfaces. After discussions with authorities, NGOs and the solar industry, BirdLife South Africa has drawn up Guidelines to Minimise the Impact on Birds of Solar Facilities and Associated Infrastructure in South Africa.

For more information

Please contact Samantha Ralston at BirdLife South Africa
Cellphone: +27 (0)83 673 3948
Fax: +27 (0)11 789 5188
Email: energy@birdlife.org.za

http://www.birdlife.org.za/conservation/terrestrial-bird-conservation/birds-and-renewable-energy

The use of photovoltaic (PV) solar power as a source of renewable energy is expanding rapidly (*photo Ann Scott*).

Is the electrocution impact of transformer structures being under-rated?

Two Black Eagle incidents at Moltkeblick

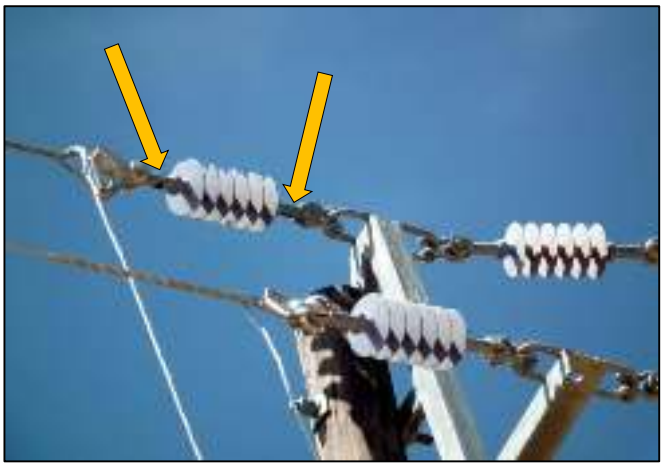
An electrocution of a subadult Black (Verreauxs') Eagle on a transformer structure at Moltkeblick was reported on 7 February 2011 by Dr John Mendelsohn. Apparently this was soon after the power line supplying the communications tower had been constructed. The discovery of a second electrocution of a bird of the same species and age on a nearby structure on 25 January 2015 was reported by Dr Jill Heaton this year.

On 4 April 2015 John and his son Rolf, and Dr Chris Brown visited the site to investigate. They have expressed concern about the configuration of the structures: both poles provide perches that are within range for a large bird (anything up from a Spotted Eagle Owl or Pale Chanting Goshawk) to touch two or more live components simultaneously. At least one Black Eagle has been electrocuted on each of these poles. A further concern is that poles of this structure are widespread throughout the country.

To date the majority of the Partnership's wildlife and power line incidents involve collisions. Additional electrocution incidents on record include eight White-backed Vulture; six Spotted Eagle-Owl, two Black-chested Snake-eagle; two Southern Pale Chanting Goshawk; three (Pied) Crow; one Martial Eagle, African Hawk-Eagle, Secretarybird, Giant Eagle-Owl, Brown Snake-Eagle and Helmeted Guineafowl; and seven smaller birds. Combined collision/electrocution incidents include two Lappet-faced Vulture, two Kori Bustard and one Osprey. Mammal electrocutions include ten genets and two giraffes. Most electrocutions take place on the smaller distribution lines, and usually result in an outage; these incidents thus have both conservation and economic implications.

Black/Verreauxs' Eagle is a Red Data species in Namibia and classed as Near Threatened. At 2 479 m, Moltkeblick is the second highest peak in Namibia and the mountainous habitat is ideal for the species, which feeds primarily on rock dassie (hyrax). The above incidents are of concern, both in terms of the eagles but also of any other species that might try to perch on the poles.

The power line belongs to the City of Windhoek. On 21 April 2015 we visited the site with its representatives Olavi Makuti (Dept of Economic Development & Environment) and Albert Melani and Victor Namgongo (Dept of Electricity); Karl-Heinz Wagner (NamPower); and John Mendelsohn. From a closer inspection of the structures it appears that the first-reported bird was electrocuted whilst trying to perch on the T-shaped cross-piece on the top bar, based on burn marks observed on the adjacent wooden pole; while the second-reported bird appears to have been electrocuted whilst perching on the top of the pole, based on burn marks seen on either side of the insulator. Both birds were subadults, and their inexperience might have been a factor.

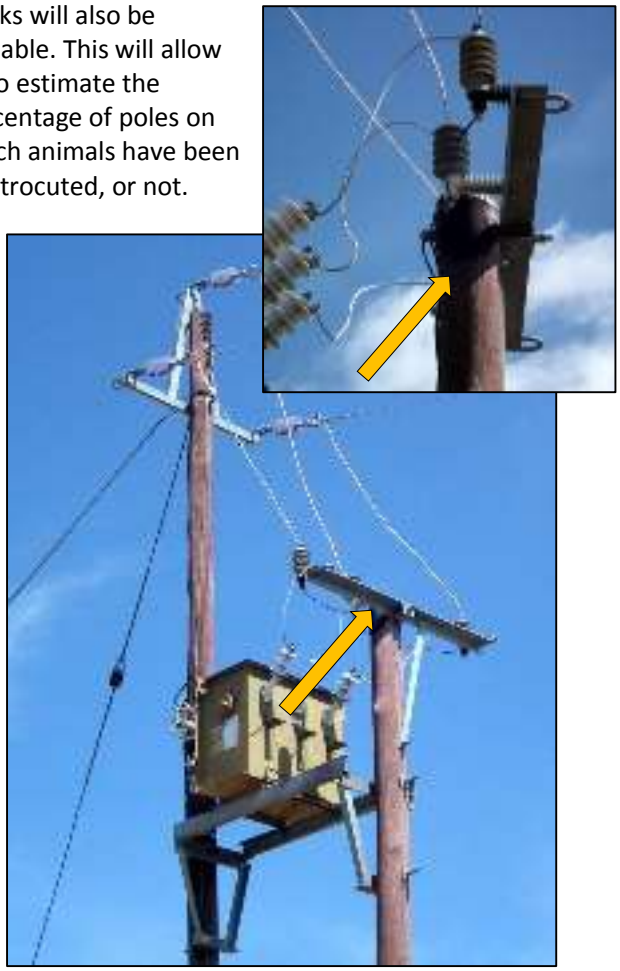


Top: The team investigates the site of the latest Black Eagle incident at Moltkeblick;
Centre: Flash marks on either side of the insulator indicate the suspected electrocution site;
Bottom: Remains of the electrocuted Black Eagle (*photos Ann Scott*)

The City of Windhoek is understandably concerned about these incidents and will mitigate the structures on the recommendations provided by the Partnership.
Special thanks to Constant Hoogstad (EWT Wildlife and Energy Programme) and to all those mentioned above who provided constructive inputs to this investigation.

We need your help

We need to determine how widespread this type of electrocution problem is in Namibia. Please can you try to check beneath transformer structures of this nature that you come across, for any signs of a dead bird? This applies to both urban and rural areas. A scavenger will often remove the carcass without much delay; but there may still be feathers and/or bones around. The best way to determine whether and where an electrocution has taken place would be to look for flash marks (black marks) on the jumpers/conductors (wires) or transformer, or burn marks on the poles. Please report such incidents to your power supplier, or else directly to the Partnership (contact details on bottom of page 1). Photographs of the incident (including the head of the bird) and flash marks will be invaluable, as well as GPS coordinates if possible. Even if a non-Red Data species is involved, we would like to include all records as electrocutions also cause outages, and this problem needs to be addressed. Records from poles that have been checked and do not have carcasses or flash marks will also be valuable. This will allow us to estimate the percentage of poles on which animals have been electrocuted, or not.



Burn marks on top of the pole supporting the T-shaped cross-bar indicate the suspected electrocution site for the earlier report (*photos Ann Scott*)

Namibia's new Red Data Book for Birds goes to press

Namibia's long-awaited new Red Data Book for Birds is being printed! According to this official updated list, 71 (10%) of our 687 bird species are threatened. Of these, one species is classed as Nationally Extinct, nine are Critically Endangered, 25 are Endangered, 13 are Vulnerable and 23 are Near Threatened.

About 75% of these threatened birds fall into one or more of the following groups:

- Wetland birds;
- Coastal and marine birds;
- Scavenging birds; and
- Large birds that collide with power lines (including Ludwig's Bustard [now classed as Endangered) and Kori Bustard [now Near Threatened]).

Full reference

Simmons RE, Brown CJ, Kemper J. In press 2015. Birds to watch in Namibia: red, rare and endemic species. Ministry of Environment and Tourism and Namibia Nature Foundation, Windhoek.

PROJECT RELATED REPORTS

Greater Flamingo still at Mile 4 Saltworks

According to the latest data (6-21 April 2015, see map above), our satellite-tagged Greater Flamingo (marked with a green ring NFL) is still at Mile 4 Saltworks, where the device was fitted on 16 November 2015. The rainfall over the past season appears to have been insufficient, or of unsuitable timing, to warrant movement inland for breeding. At the saltworks the bird shows strong and consistent habitat preferences for the "oyster pond" on the right, and the adjacent pond to the left. The fresh sea-water intake flows into this oyster pond and the water is clear, assisted by the oyster mariculture operations at this site. The water in the pond on the left is obviously different in quality, but still important for the flamingo.

Relative impact of power distribution faults due to Sociable Weaver nests

Julia Amukwa (email j.n.amukwa@gmail.com)

Introduction

Electrical outages caused by birds result from an electrical short circuit by physically bridging the air gap between live components and/or live and earthed components on a cross arm. While Sociable Weavers are relatively small birds, their large nests can bridge the air gap and form a short circuit, especially when wet. This could lead to major pole-top burns and power outages. Furthermore, since the insides of their nests are constructed from fluffy material, the nests are particularly flammable, and hot fuses and electrical conductors and occasional electrical sparks are able to ignite a nest. Bird streamers (wet excreta) also contribute to power failures, which is obviously significant to birds occurring in large colonies.

The main aim of this article is to provide an overview of the contribution of bird-caused outages relative to other outages in Namibia, at both an annual and monthly scale.

Methodology

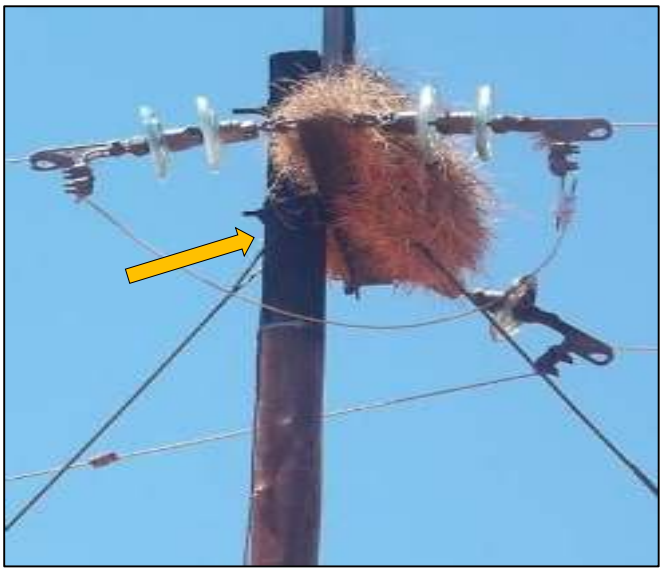
Records in the NamPower database on power outages were collated and analysed. All of the power outages related to bird nests were assumed to be from Sociable Weaver nests. Power outages were categorised by the cause of the outage, e.g. bird nest, lightning etc. The bird nest-related outages were tallied per month and year and compared to the total outages per period. Total yearly and average total monthly rainfall for Namibia were then correlated with the yearly and monthly outage data.

Results

A total of 8 128 outages were documented between 1999 and 2013, of which 3% were caused by bird nests. The number of nest-related outages varied from 2 in 2003 to more than 50 in 2006. The proportional contribution of nest-related outages showed inter-year variation, ranging from < 1% in 2003, 2007 and 2013 to 11% in 2000. According to these figures, lightning was the highest cause of outages (44%), followed by faults on the customer side (19%) and damaged equipment (20%). A total of 2 983 nests were removed from power lines in Namibia between 1999 and 2010. Wetter years had more bird-nest related outages, with a significant correlation between annual rainfall and the number of bird nest-triggered power faults. Power outages also showed a seasonal trend, with fewer outages reported in winter than in autumn, spring or summer. Nest-related power outages followed the same trend and were strongly correlated with rainfall on a monthly basis. The contribution of proportion of faults caused by nests ranged from under 1% to c. 6% per month.

Discussion

The contribution of nest-related outages to outages in general in Namibia is relatively low (3% of total outages), compare to other causes.



Example of pole-top burn caused by Social Weaver nesting (*photo Julia Amukwa*).

However, this contribution is likely an underestimate of the true number as nests are pre-emptively removed – a costly and time-consuming procedure. Therefore, despite the small proportion of faults attributable to bird nests, the impact of birds is still a major concern to the Namibian power industry.

Although power failures are a year-round problem, they increase during the wet months. Bird-related power outages also match rainfall patterns at a yearly scale, with more nest-related outages occurring in wetter years. While our data records the number of outages from different causes, data on the magnitude of outages (e.g. duration, repair costs, sizes of areas affected) are largely missing. It is therefore not possible to compare the total impact associated with outages from different causes. Lightning strikes on poles without nests usually result in shorter-lived power outages (NamPower has a built-in automatic recovery system to respond to these without causing power failure), whereas the presence of a nest often results in flames and power failure.

The financial implications of wildlife-related power outages can be considerable and can be a great economic loss to the power supplier and lead to poor service delivery to electricity users, such as industries, farmers, towns and cities, resulting in further financial loss.

Although the routine removal of bird nests is likely to reduce nest-related outages considerably, it is generally costly and often unsustainable. The use of lethal methods and chemicals to prevent nesting on utility poles is often not publically acceptable. Alternative solutions are therefore needed to mitigate nest-related power outages.

Postscript

As a means of reducing power outages due to bird nests, a study was conducted in Mariental to test the efficiency of "dummy poles" as alternative nesting structures, as opposed to power line poles. The result and full details will be presented in the next issue of this newsletter.

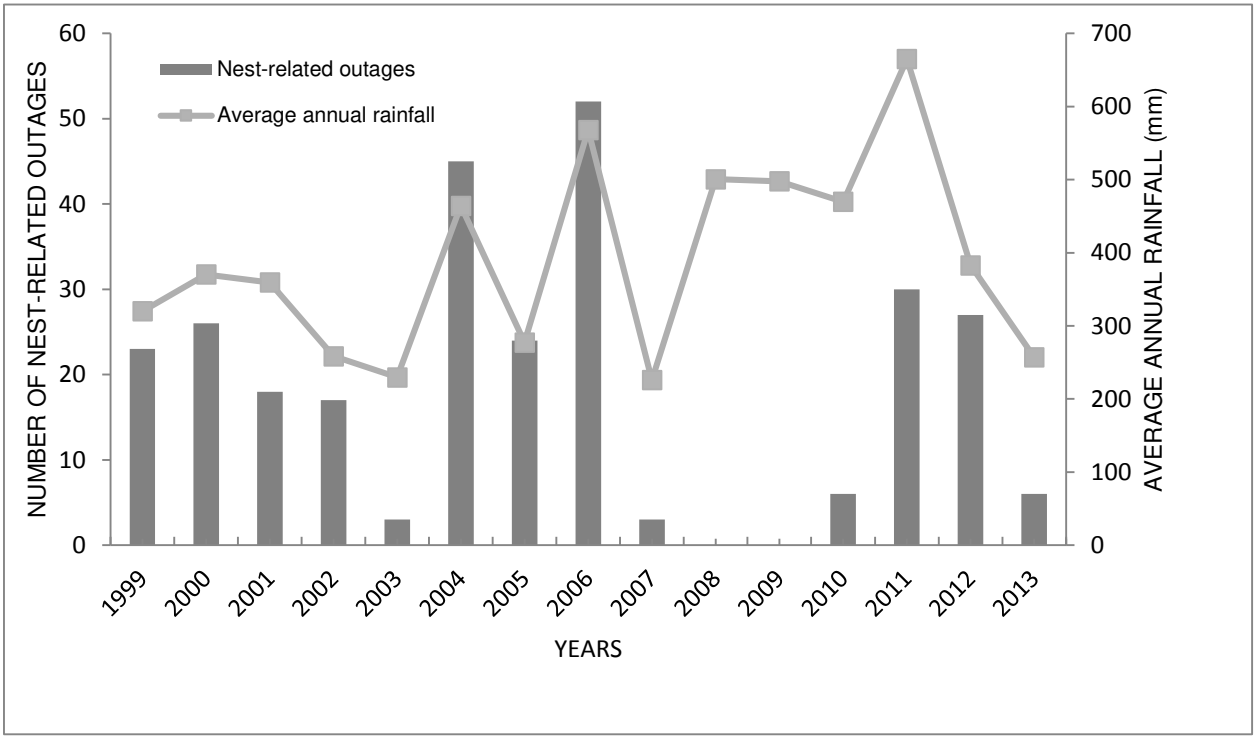


Figure 1: Number of nest-related outages and average annual rainfall between 1999 and 2013. Two years (2008 and 2009) are missing from the power outages database (Data: Julia Amukwa).

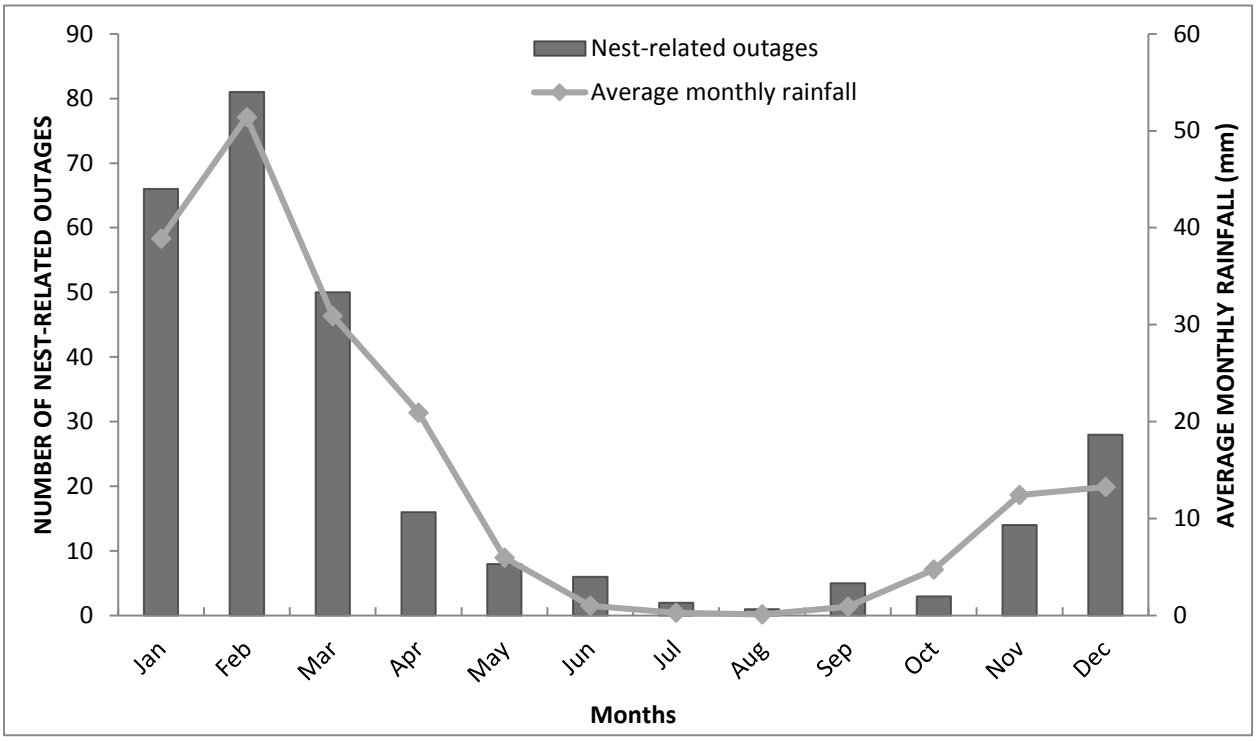
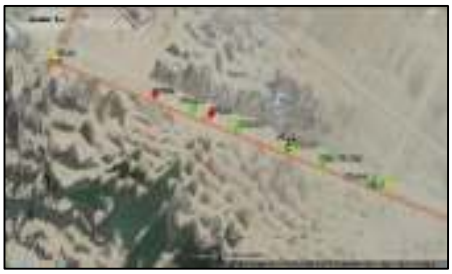


Figure 2: Number of nest-related outages per month and the average monthly rainfall (Data: Julia Amukwa).

POWER LINE SURVEYS: NOVEMBER 2014 – APRIL 2015

Over the past five months our team has completed 16 surveys, covering some 307 km. Relatively few incidents have been recorded: 32 or 0.1 incident per km, possibly due to the dry conditions over the past summer, and the lack of grass and associated food for nomadic species such as bustards. The highest number of incidents is still on the Walvis Bay-Kuiseb line in the Bird Paradise area (where the new line that is being built at present will be marked by NamPower as mitigation), and on the Trekkopje ByPass. Many thanks to all our faithful supporters for this sterling work, including those who help us identify the remains! It should be noted that much of these surveys is done on foot, sometimes under hot and windy conditions. Special thanks to Swakop Uranium, who have been doing two surveys per month at the Husab Mine since June 2014, and welcome on board to Rössing Uranium (Ltd).

Date	Line	Km	kV & marking	Participants	Results	Tot.
3/12/14	Walvis Bay-Kuiseb	2.5	Double 66 kV Kamerad (double steel monopole under construction; line will be marked as mitigation)	Ann & Mike Scott (Partnership)	3 flamingo 6 small wader	9



4/12/14	Trekkopje-Wlotzka	67	Double line to Bypass: guyed steel tower (220 kV) + Kamerad (66 kV); steel self-supporting tower to Trekkopje S/S; double H-pole 66 kV to Wlotzka	Ann & Mike Scott (Partnership)	2 L Bustard	2



23/1/15	Walvis Bay-Kuiseb	3.9	Double 66 kV Kamerad (double steel monopole under construction; line will be marked: mitigation)	Ann & Mike Scott (Partnership)	2 flamingo	2



Date	Line	Km	kV & marking	Participants	Results	Tot.
30/1/15	Husab-Lithops	18	Steel monopole double circuit 132 kV? + steel pylon 220 kV	Andrea Roxin, Carlene Binneman, Ignatius Katupao, Immanuel Kalomho (Swakop Uranium)	0	0

30/1/15	Husab Mine on-site	18	132 kV (steel) + 33 kV (wooden)	Calvin Sisamu, Ilka Schröer, Ronald Mujende (Swakop Uranium)	0	0

25/2/15	Husab-Lithops	18	Steel monopole double circuit 132 kV? + steel pylon 220 kV	Claudia Vahekeni, Ignatius Katupao, Immanuel Kalomho, Abraham Amuthenu (Swakop Uranium)	0	0

25/2/15	Husab Mine on-site	18	132 kV (steel) + 33 kV (wooden)	Calvin Sisamu, Ilka Schröer, Andrea Roxin (Swakop Uranium)	0	0

(*Bird photos Ilka Schröer*)

Date	Line	Km	kV & marking	Participants	Results	Tot.
26/3/15	Walvis Bay-Kuiseb	3.9	Double 66 kV Kamerad (double steel monopole under construction; line will be marked: mitigation)	Ann & Mike Scott (Partnership)	4 flamingo 1 small wader 1 moorhen	6



27/3/15	Husab-Lithops	18	Steel monopole double circuit 132 kV? + steel pylon 220 kV	Calvin Sisamu, Andrea Roxin, Percival Hoebeb, Abraham Amuthenu (SU)	0	0

27/3/15	Husab Mine on-site	25	132 kV (steel) + 33 kV (wooden)	Carlene Binneman, Immanuel Kalomho, Ilka Schröer	(2x feathers: korhaan; Pied Crow)	?



30/3/15	Trekkopje-Wlotzka	67	Double line to Bypass: guyed steel tower (220 kV) + Kamerad (66 kV); steel self-supporting tower to Trekkopje S/S; double H-pole 66 kV to Wlotzka	Ann & Mike Scott (Partnership)	5 L Bustard 3 R Korhaan 2 Flamingo	10



Date	Line	Km	kV & marking	Participants	Results	Tot.
16/4/15	Khan-Rössing	6	220 kV steel pylons	Loide Hausiku, Inekela Iiyambo, Vistorina Nangola (Rössing Uranium Ltd), Ann & Mike Scott	1 L Bustard 2 R Korhaan	3
						
16/4/15	Rössing Uranium Limited: Line N of plant to Arandis	5.5	Wishbone low voltage	Loide Hausiku, Inekela Iiyambo, Vistorina Nangola (Rössing Uranium Ltd), Ann & Mike Scott	0	0
16/4/15	Rössing Uranium Limited CMC eastwards	0.4	X-mas tree (low voltage)	Loide Hausiku, Inekela Iiyambo, Vistorina Nangola (Rössing Uranium Ltd), Ann & Mike Scott	0	0
24/4/15	Husab-Lithops	18	Steel monopole double circuit 132 kV? + steel pylon 220 kV	Calvin Sisamu, Ilka Schröer, Percival Hoebeb (Swakop Uranium); Ann & Mike Scott (Partnership)	0	0
						
24/4/15	Husab Mine on-site	18	132 kV (steel) + 33 kV (wooden)	Swakop Uranium		

POWER LINE INCIDENTS: NOVEMBER 2014 – APRIL 2015

Reed Cormorant collision

Gammams Sewage Works Windhoek, 22 32.095S 17 01.623E

Found midspan between pylons beneath power line

Reported by Neil Thomson & Gudrun Middendorff

14 December 2015

Pied Crow electrocution & outage

Husab Mine on-site 33 kV line, 22 35.269S 15 01.043E

Reported by Calvin Sisamu & Bruce Boer

17 November 2015

Pied Crow electrocution

Husab Mine on-site 33 kV, 22 33.998S 15 03.707E

Lying underneath tower, claws clenched

Reported by Carlene Binneman & Andrea Roxin

14 January 2015

Kori Bustard collision/ electrocution & outage

Farm Audax, Summerdown, Gobabis, 33 kV line

Flew into line and became tangled, caused outage at 04h00

Reported by Darius Hangero (NamPower)

7 April 2015

NEAR THREATENED species in Namibia

Flamingo collision (2 birds)

Berg Aukas road, Grootfontein, 19 31.933S 18 20.056E, 330 kV

42 km south-west of collision incident with 20 flamingos, 1 Dec 2009

Reported by Johannes Shiimi & Willie Barkhuizen (NamPower)

22 January 2015

VULNERABLE species in Namibia

White-backed Vulture collision

Smalhoek, Windhoek, 23.00S 17.60E (low voltage SWER line)

Bird hatched in nearby nest, ringed in 2014; now 1 month fledged

Reported by Helmuth Stehn (see photo below, with a Lappet-faced Vulture chick) & Wilko Stehn

4 December 2014

VULNERABLE species in Namibia

Black Eagle electrocution

Moltkeblick, Windhoek 22.64831S 17.17846E, 11 kV transformer structure

Subadult bird

Reported by Jill Heaton

25 January 2015

(see also pp 5-6)

NEAR THREATENED species in Namibia

Southern Pale Chanting Goshawk

Keetmanshoop

Fell from nest? - found beneath power line; rehabilitation

Reported by Warren Burger

17 November 2015

Secretarybird collision

Farm Aris, Windhoek, 23 46.852S 17 09.854 (66 kV Kamerad line)

Bird hatched in nest 200 m away, ringed in Oct 2014; with (ringed) sibling was using nest as roost

Reported by Hanjo Böhme

26 April 2015

VULNERABLE species in Namibia

Black (Verreauxs') Eagle flies free

A Black Eagle (top right) flies over the Swakop River at the crossing of the Lithops power line: Black Eagles are resident in the area and, in terms of the EIA for the construction of the line, this sensitive area was marked using Ribe "flag bird flight diverters" (bottom left and below) as a mitigation against collisions. This power line is being monitored regularly by Swakop Uranium (see above).

Photographed by Immanuel Kalomho

26 November 2014

NEAR THREATENED species in Namibia