



Bird Population Monitoring Programme - November 2012 and February 2013 Count Report

Project title: Bird Population Monitoring in Botswana: Involving citizens in biodiversity monitoring



Cape Glossy Starling, Martial Mike

Implemented by: BirdLife Botswana in Partnership with the Department of Wildlife and National Parks (DWNP) and the Department of Environmental Affairs (DEA)



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Introduction

Bird populations are always shifting and changing and so monitoring them is a useful tool to track and know about these changes in our areas. Monitoring also helps both volunteers and researchers to potentially benefit from the exercise. Volunteers can increase their knowledge and understanding of the scientific process, gain deeper understanding of natural phenomena and issues of local importance, strengthen their attitudes toward their natural environment, and participate in making science-based recommendations. It provides scientists with an opportunity to increase public awareness concerning their areas of study across local or global scales and can make it possible to answer research questions that require observations spread over time or space or that otherwise would not have sufficient resources to address.

The BirdLife Botswana's Bird Population Monitoring (BPM) Programme is expected to provide both the country and the volunteers with similar benefits. This programme has been running since 2010 and it has data available for six counts that is wholly a contribution effort of volunteers across the country. The programme has been experiencing loyal volunteers with more than 250 always pledging their time to ensure birds in their area are monitored and it is fun because anyone can take part everywhere in Botswana and through it they all learn and watch birds together. The programme still needs everybody to be part of, whether you are an expert, novice, or feeder watcher and so as BirdLife Botswana would like to invite new birders, your friends to join and share the experience of seeing how your favorite spot stacks up with birds.

The report summarises the comparison of the November 2012 and the February 2013 count. Although there has been loyal data contribution by some volunteers, the programme has experienced a slight decline in transects and participants numbers during the November 2012 to the February 2013 count which has affected the strength and sustainability of the programme. The decline is due to late data submission and lack of transect repeatability by some volunteers.

The BPM growth

The BPM programme has experienced a change following the drop in the number of transects and participants during the November 2012 and the February 2013 count; see Figure 1 below. November 2012 count had 238 transects and 352 participants whereas the February 2013 had 230 transects and 290 participants. The drop has probably been caused by failure to repeat transect by some participants who might have lost interest in the programme, late data submission and relocation or transfers of some participants.

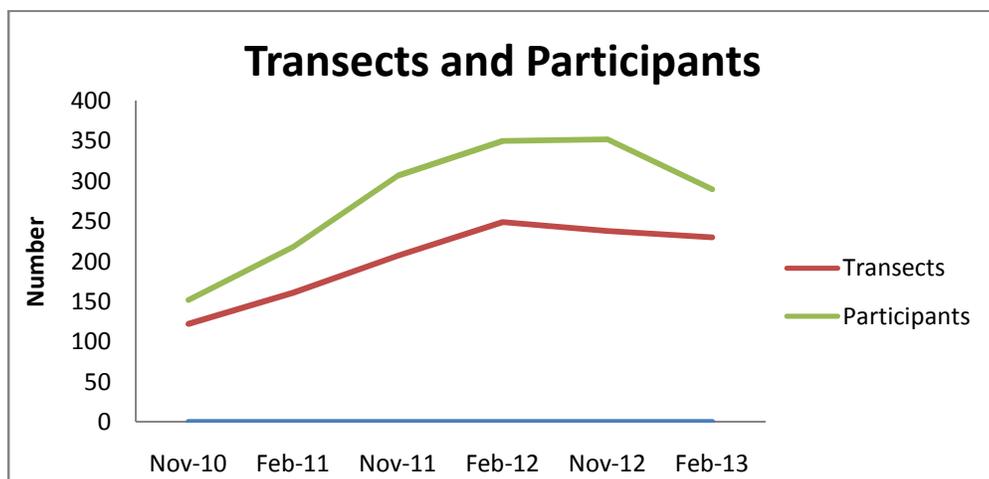


Figure 1. The number of participants and transect for the six BPM counts

Threats recorded for the two counts

Humans are responsible for the threats to birds and their environment through their activities like expanding and intensifying agriculture, forest destruction and habitats degradation, ever-spreading infrastructure, invasive alien species, pollution and overexploitation. These threats pose serious problems and have deeper causes, rooted in our failure to accord wild nature its true value. It is very important for BPM counters to also ensure that they record the threat existence and their extent during their transect visit so that relevant actions are taken to mitigate them. In November 2012 and February 2013 there have been 111 and 73 threats recorded respectively and below is Figure 2 showing the comparison of major threats recorded by volunteers for both counts: development, agriculture and human disturbance seem to be the most problematic threats.

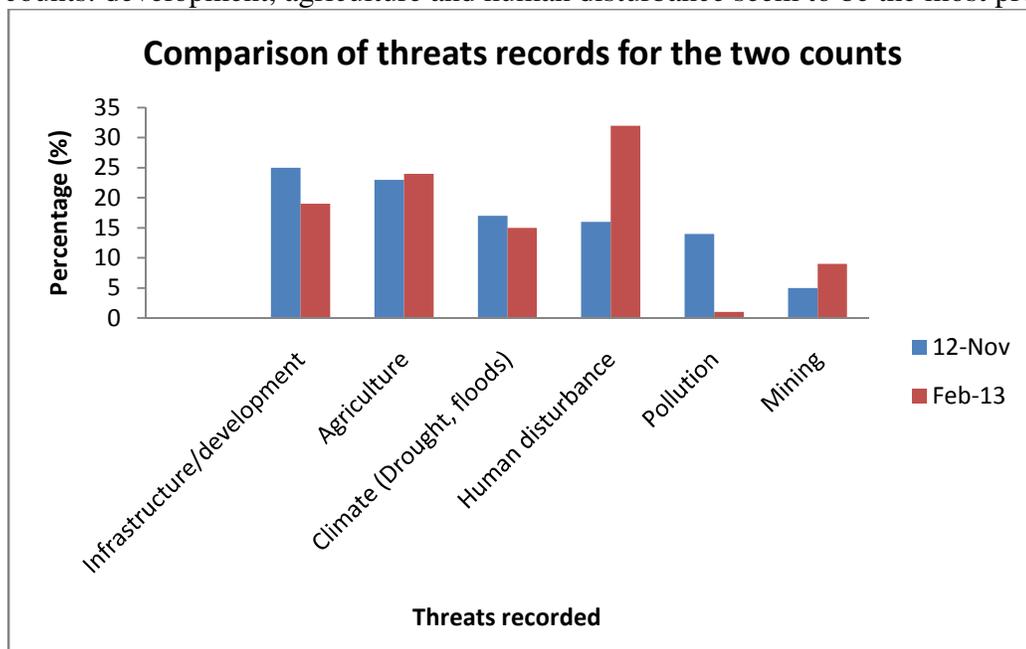


Figure 2. The threats recorded for the two counts

Birds of Conservation Concern' recordings

It has been noted that there has been an increase in birds of concern records from the previous count report produced (February 2012) which showed only 8 species recorded. The November 2012 and the February 2013 count shows, in Table 1 below, an improved individual counts and records of species, which is a good sign that participants are taking note of these species of conservation importance.

Table 1. Birds of conservation concern recordings

November 2012		February 2013	
Species	No.	Species	No
White-backed Vulture	303	White-backed Vulture	109
Southern Ground Hornbill	60	Cape Vulture	50
Lappet-faced Vulture	27	Southern Ground Hornbill	34
Cape Vulture	22	Bateleur	25
Bateleur	15	European Roller	20
Hooded Vulture	13	Kori Bustard	11
Kori Bustard	11	Lesser Kestrel	5
Lesser Kestrel	9	Martial Eagle	5
Pallid Harrier	8	Secretarybird	4
Chestnut Banded Plover	7	Lappet-faced Vulture	4
Martial Eagle	5	Wattled Crane	4
European Roller	1		
Secretarybird	1		

Red-billed Quelea index

The Red-billed Quelea is one of the key bird species that could serve as indicators for climate change effects and the health of the environment since it is migratory and moving in relation to the timing and distribution of rainfall and the availability of annual grass seeds, its principal food. The bird has been a problematic crop pest for many years and currently the problem continues with ineffective control resulting in reduced crop production yield for farmers in Botswana. Even though the Government of Botswana has been annually applying control methods to kill thousands of the breeding species in areas where an outbreak was reported, there has been only a minor temporary relief from crop damage which does not give a satisfying control result to the farmers on the overall Red-billed Quelea population left. Therefore gathering monitoring data that will help depict annual forecast model predicting the movement and the distribution of the Red-billed Quelea in Botswana to enable better mobilisation and targeting of control resources by the government is needed. The analysed data of the six counts shows a growing number of this bird population at each February count, the period when the grains in the fields are about to ripe (See figure 3 overleaf).

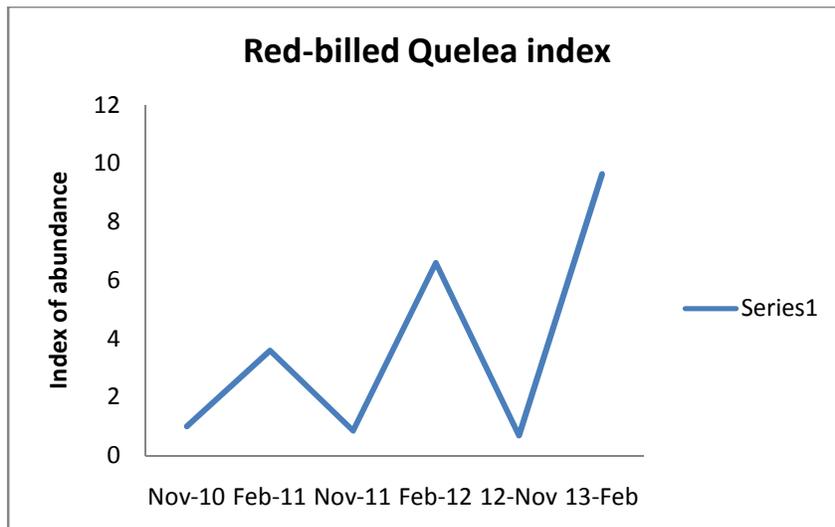


Figure 3. The Red-billed Quelea Index for the BPM six counts. The index is calculated by assuming the November 2010 counts divided by the no. of Nov. 2010 transects as an index score of 1, and dividing subsequent counts (divided by their respective number of transects) by the score from this starting time-period.

Transects distribution

Although there has been a reduction in the number of transects and participants this has not affected the transects coverage countrywide for both counts (See Figure 4 and 5 below).

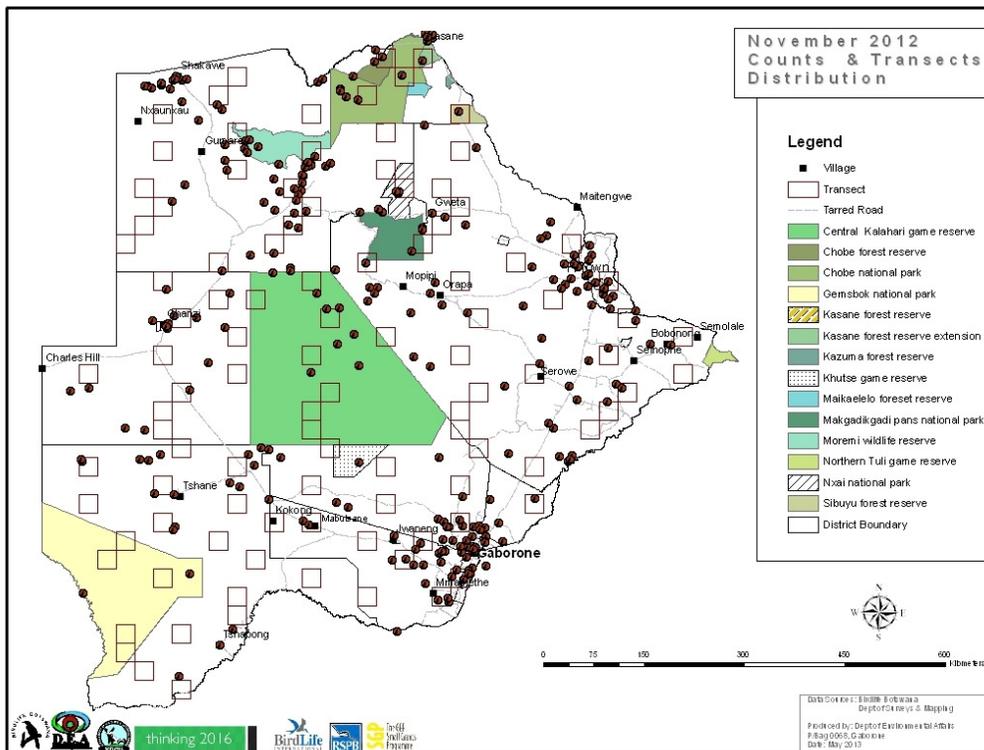


Figure 4. Map of Botswana showing November 2012 transects distribution

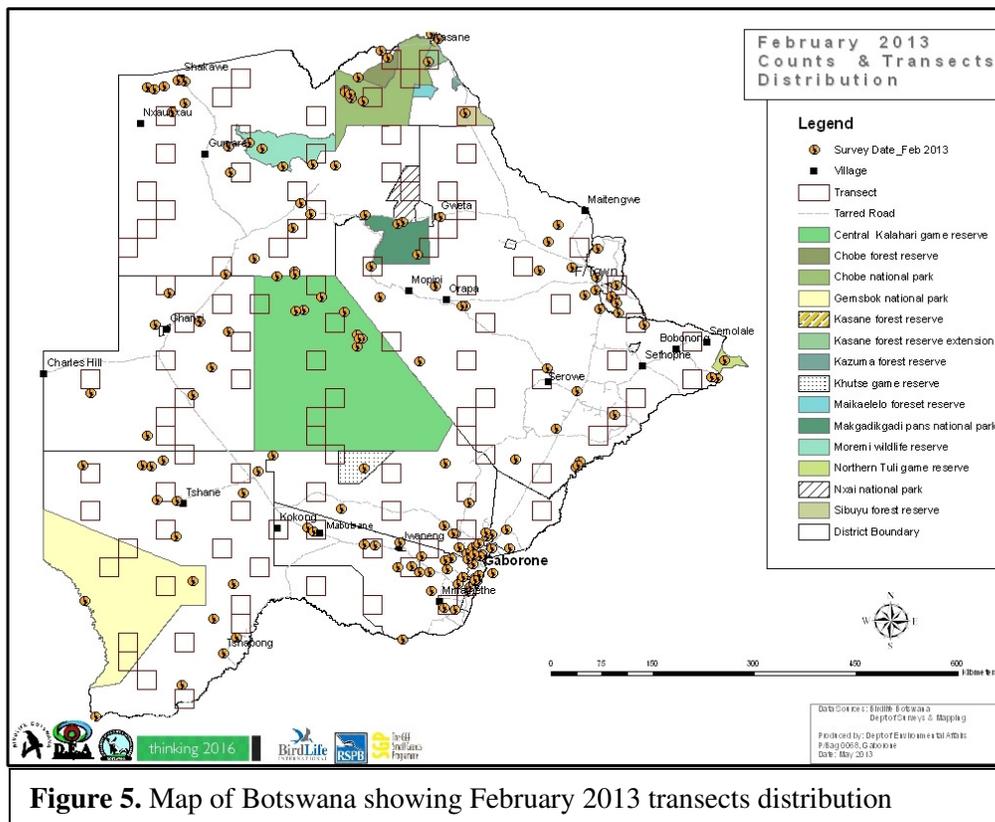


Figure 5. Map of Botswana showing February 2013 transects distribution

Challenges

The main challenges during the two counts and the previous counts were failure to repeat transects and late data submission by some of the participants. There were a total 65 transects that were not repeated for November 2012 and 20 for February 2013, and data from 4 transects from November 2012 and from 25 transects for February 2013 had not been submitted to the office as at the time of writing this report, although participants claimed they had undertaken the counts. Areas that were mostly affected are Maun, Serowe, Gumare and Boteti-Letlhakane, Mmea, Mosu and Mokubilo. Inconsistency of transects names still exist as some participants still use habitat types or geographically unrecognisable locations to name their transects.

Recommendations

It is recommended that:

- Participants should consistently survey their transects twice a year.
- **Data should be submitted soon after collection, if not at least two weeks after collection, so that participants can receive timely feedback.**
- **Participants who still have their count data are encouraged to submit those data sheets to our office so that their data becomes part of the BPM database.**
- Participants are urged to name their transects using a geographically recognisable location (the BPM team at BirdLife will contact you shortly with advice on this).

Acknowledgements

BirdLife Botswana would like to thank all those who participated in the November 2012 and February 2013 count for their dedication to this programme. A big thank you goes to all those who assisted by mobilising the participation of volunteers in their area, more especially the involvement of Community Based Organisations. The organisation looks forward to continued support in the upcoming November 2013 count and beyond. Acknowledgements are due to the financial sponsor of this programme the Royal Society for the Protection of Birds, and the collaborating partners: Dept. of Wildlife and National Parks and Dept. of Environmental Affairs.

Appendixes

Appendix 1

Top ten common species recorded for the two counts

As usual from other count reports produced the top ten species are always made up of seed and insect eaters which are common country wide. Table 3 below shows the top ten common species recorded ordered by number of individual counts for both counts.

Table 2. Top ten common species recorded for the two counts

November 2012		February 2013	
Species name	No.	Species name	No.
Cape Turtle-Dove	6607	Cape Turtle-Dove	2981
European / Barn Swallow	3991	European / Barn Swallow	2442
Cape Glossy Starling	1995	Cape Glossy Starling	991
Blue Waxbill	1790	Blue Waxbill	667
Black-chested Prinia	1484	Abdim's Stork	593
African Red-eyed Bulbul	1120	Cattle Egret	547
Cattle Egret	1052	Crimson-breasted Shrike	532
Crimson-breasted Shrike	1052	African Red-eyed Bulbul	482
Crested Francolin	950	Black-chested Prinia	459
Arrow-marked Babbler	884	Arrow-marked Babbler	453

Appendix 2

Table 3. The comparison of the three BPM counts so far: November 2010, February 2011 and November 2011

Variables	November 2010	February 2011	November 2011	February 2012	November 2012	February 2013
No. of transects	122	161	207	249	239	230
No. of participants	152	218	307	350	352	283
No. of individual birds recorded	14, 056	27, 605	35, 148	48, 716	37001	46938
No. of species recorded	289	352	362	345	314	318

Appendix 3

Records of Raptors for the two counts

The large wilderness areas in Botswana are one of the strongholds for raptors in southern Africa. Nevertheless, outside protected areas, many raptor species still have an unfavourable conservation status. A monitoring of raptor distribution and population can help to identify any decline or decrease in raptor abundance with increasing distance from protected areas which could help improve the poor conservation status of raptors in Botswana. Table 4 below shows records of raptors recorded for the November 2012 and February 2013.

Table 4. Records of raptors for the two counts

November 2012		February 2013	
Species name	No.	Species name	No.
African Fish-Eagle	40	African Barred Owlet	1
African harrier-Hawk	12	African Fish-Eagle	18
African Hawk-Eagle	6	African harrier-hawk	3
African Marsh-Harrier	4	African Scoops Owl	1
Barn Owl	23	Barn Owl	9
Bateleur	15	Bateleur	25
Black Kite	7	Black-chested Snaked-Eagle	7

Black-chested Snake-Eagle	10	Black-shouldered Kite	135
Black-shouldered Kite	38	Brown Snake-Eagle	6
Brown Snake-Eagle	11	Cape Vulture	50
Cape Vulture	22	Dickinson's Kestrel	3
Dark Chanting Goshawk	6	Gabar Goshawk	3
Dickinson's Kestrel	1	Greater Kestrel	15
Eurasian Hobby	3	Jackal Buzzard	1
Gabar Goshawk	10	Lanner Falcon	17
Greater Kestrel	14	Lappet-faced Vulture	4
Hooded Vulture	13	Lesser Kestrel	5
Lanner Falcon	3	Little Sparrowhawk	4
Lappet-faced Vulture	27	Martial Eagle	5
Lesser Kestrel	9	Pearl-spotted Owlet	19
Lesser Spotted Eagle	1	Pel's Fishing-Owl	2
Little Sparrowhawk	1	Peregrine Falcon	1
Lizard Buzzard	3	Red-footed Falcon	67
Marsh owl	1	Red-necked Falcon	4
Martial Eagle	5	Rock Kestrel	65
Montagu's Harrier	1	Secretarybird	4
Ovambo Sparrowhawk	1	Shikra	2
Pallid Harrier	8	Southern Pale Chanting Goshawk	26
Pearl-spotted Owlet	24	Steppe Buzzard	20
Peregrine Falcon	2	Tawny Eagle	13
Pygmy Falcon	3	Verreauxs' Eagle Owl	1
Red-necked Falcon	4	Verreauxs' Eagle	1
Rock Kestrel	6	Wahlberg's Eagle	6
Secretarybird	1	White-backed Vulture	109
Shikra	1	Yellow-billed Kite	527
Southern Pale Chanting Goshawk	20		
Southern White-faced Scops-Owl	1		
Steppe Buzzard	15		
Steppe Eagle	2		
Tawny Eagle	3		
Verreauxs' Eagle Owl	1		
Verreauxs' Eagle	7		
Wahlberg's Eagle	8		
White-backed Vulture	303		
Yellow-billed Kite	212		