



**TAKING SOUTHERN GROUND-HORNBILL CONSERVATION INTO SCHOOLS IN KWAZULU-NATAL:  
Inspiring learners to look and interact in a meaningful way with the natural world around them**

**21 July – 1 August 2014**

**SUMMARY REPORT**

**SUMMARY:** This report describes a nine day education programme that aimed to raise awareness of the plight of the Southern Ground-Hornbill in the Melmoth area and allow for a greater understanding of the existing situation and any threats or opportunities that may exist. This trip was initiated by Mr Donald Leitch and other members of the Melmoth Conservancy and was supported by the Mthonjaneni Municipality Councillors and in particular the Ward Councillors. Mr Leitch and Mr Zenzele Gumede arranged the schedule by visiting all the school's prior to our arrival and the Melmoth Conservancy part-funded our work. Mrs Sandi Calverley has been coordinating sighting data for over a year, thus allowing us to target specific areas. The support of the NCT Forestry Co-operative Limited (in particular Patrick Kime, Richard Liversage and Maarten Grobbelaar) allowed us the support of Mr Aaron Mngomezulu for the full two weeks, which ensured that the trip was a success. Over 7000 learners were reached at 18 schools, using a combination of presentations and interactive, creative activities. This pilot project in rural-school outreach was deemed successful in achieving our aims, gave us important insights into the issues the birds face in these areas and presented a structured way forward.

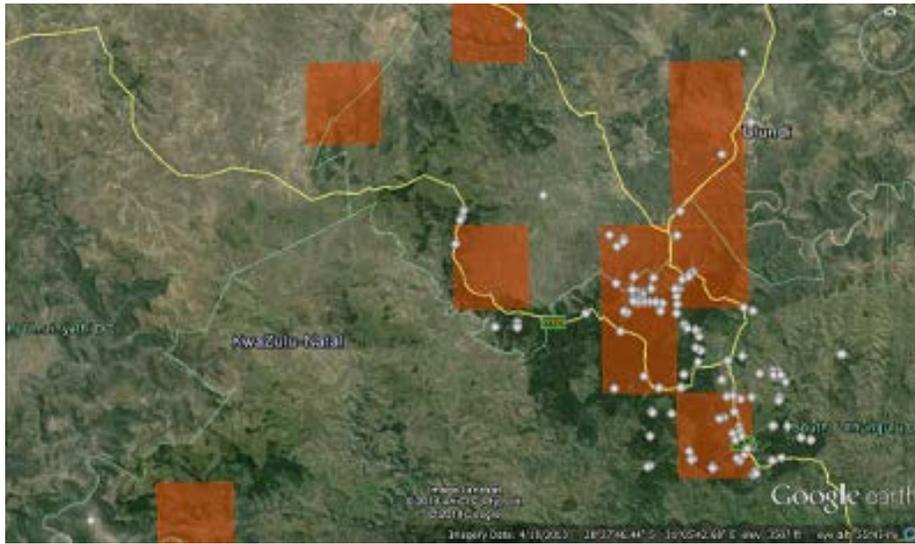
**INTRODUCTION:** The Southern Ground-Hornbill (*Bucorvus leadbeateri*) is now considered Endangered in South Africa. About half of the population exists outside of Kruger National Park (KNP) and is increasingly fragmented, thus hastening the population decline. The Melmoth/Mtonjaneni District Ground-Hornbill population is the largest sub-population south of Kruger National Park; with little genetic connectivity to the core KNP population due to widespread local extinction in northern Zululand and Swaziland. This population is thus a vital link between the KNP and more southern populations and is also an exceptional case-study for Ground-Hornbills living in extremely transformed habitat: a mixture of timber, sugar cane, citrus and avocado with remnant grassland on cattle farms, both in the Amafa area in the Lowveld and on the higher reaches.



**Figure 1:** Map (SABAP 2 data – orange squares) showing the Melmoth Southern Ground-Hornbill population (red circle) in context to the more northern Kruger National Park and fragmented southern populations. Each orange cell represents one pentad (5'latitude x 5' longitude) or about 70 km<sup>2</sup>.

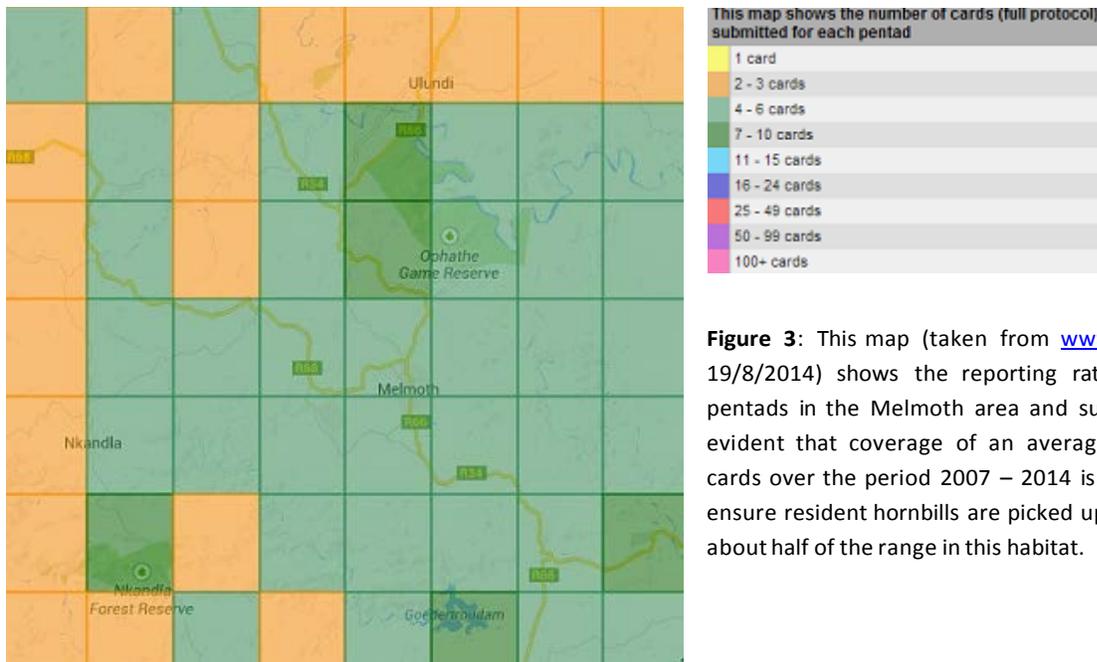
Increasingly, we are finding that data from the 2<sup>nd</sup> South African Bird Atlas Project (SABAP 2) under-represents Ground-Hornbill populations. There appear to be several reasons for this. The main contributors to the atlas are usually bird enthusiasts, few of whom choose to cover areas deep in rural communal lands, which leave these areas and their associated species under-represented. This, coupled with the naturally low density of the birds (one family group every 100km<sup>2</sup> on average), means that many return visits to an area may be required before the resident group is encountered and thus recorded. In the communal tribal areas the birds have cultural protection (coupled with some traditional medicine use) and cattle grazing maintains the short-grass requirements of the species, so we now suspect that these areas are a stronghold for these birds. This has precipitated a change in our focus away from formally protected areas, where if large enough the birds are safe, to these communal areas where known threats can be mitigated for and an understanding of habitat use will inform choices made for reintroduction areas elsewhere in the country.

A preliminary analysis of the Melmoth sightings reported over the last year reveals occurrence in an additional 10 pentads than those reported by SABAP2, thus effectively doubling the known range for the area.



**Figure 2:** A map showing the SABAP 2 pentad data (orange blocks), overlain with sighting data collected in the last year and showing a doubling of known occupied range.

This dataset was subsequently expanded even more during these school visits as learners walking to school often see the birds and know the group sizes for their areas.



**Figure 3:** This map (taken from [www.sabap2.org.za](http://www.sabap2.org.za), 19/8/2014) shows the reporting rate for SABAP 2 pentads in the Melmoth area and surroundings. It is evident that coverage of an average of 4-6 pentad cards over the period 2007 – 2014 is not sufficient to ensure resident hornbills are picked up by the atlas for about half of the range in this habitat.



such as 'how do the birds kill such dangerous animals without getting hurt'. The documentary was also well received with particularly emotive reactions during both the snake-eating and courtship scenes, a trend we would see repeated at all schools were facilities allowed for a showing.

#### DAY 2 (23 JULY 2014)

The first school of the day was **Ethubalethu Primary School**, where it had been arranged for the team to work with approximately 800 learners. Unfortunately when the team arrived it became clear that the principal, with whom arrangements had made, had failed to inform the other staff members of the plans. We



were kindly given a short slot just before the learners had their lunch. So, regardless, the presentation performed by Nthabiseng was a success. Sophie Neller dressed as the hornbill was introduced, and received by the learners with an effusive reaction. As there was no time or suitable facilities to accommodate the mask activity at the school the MGHP team gave enough of the mask sheets for two of the grades to make them in class. Larry Bentley of AgriEcho Zululand was there to watch the presentation and possibly write an article.

The team then travelled on to **Mthonjaneni High School** where they were provided with a balcony, on which to present to the 749 learners who stood in the car park below. Unfortunately due to the large number of students and not helped by the wind, it proved extremely difficult for Nthabiseng to speak loud enough for all the learners to hear and therefore some concentration was lost. However for those who could hear the presentation, it was well received and some of the hornbill cut-outs were presented as prizes for answering questions.



#### DAY 3 (24 JULY 2014)

**Makhasaneni Primary School** was first on the list for the day for the MGHP team and Aaron, where they were given use of a large hall for the presentation and activities. Nthabiseng once again led the presentation to the 444 learners using the flip-chart, and was accompanied by Sophie dressed in the hornbill suit. During the initial questioning, it became clear that several of the learners had all seen a group of 5 nearby.

After the presentation it was mask-making time, and with painting, gluing and stapling stations set up



across the hall it was a very busy hour but much smoother than the first attempt a few days previously. The activity was once again thoroughly enjoyed and resulted in each one having something fun to take home and talk about with their families.

*En route* to the **Nhloyana High School**, the team discussed the new name which should be given to the hornbill suit, to create a character for the learners to remember. Using Aaron's knowledge of Zulu culture it was decided to christen the suit 'Themba' - a Zulu name with one meaning being 'hope' which seemed very fitting for the species.

Once at the high school the team were again given access to a hall with electricity, so it was decided to show the 'Thunderbirds' documentary after the presentation by Nthabiseng, as it had been so well received previously. The 267 learners and staff were thoroughly co-operative. Interestingly, however there was very little knowledge of the birds in the local area and the school was located extremely close to the primary school from the morning who observed them regularly. The documentary was a success and the hall was absolutely silent until the very large reactions to the snake and courtship scenes once again.



#### DAY 4 (25 JULY 2014)

The team made their way to **Ubuqhawebethu Primary School**. The beautiful little school of 256 learners was very well maintained with newly planted flower beds and immaculate grounds. The children gathered in their assembly area to sing morning prayers and the team were introduced by the principal Mr Xulu. There were no hall facilities at the school and so the learners were gathered on the grass and Aaron took the lead for his first presentation, in which he spoke Zulu, meaning that none of the message to the young learners was lost in translation. For the first time Sophie was introduced in the hornbill suit with the new name of Themba and was greeted by laughter in amongst very loud chanting of 'Themba! Themba! Themba!'

The presentation went down very well with both the learners and the staff and Aaron proved to be a natural. Unfortunately due to the strong, cold wind that morning it was not feasible for the mask-making activity to be completed outside, and so the school was given enough sheets for all of the learners to make a mask in class.



The next school on the programme was **Incaphayi Senior Secondary School**. After the presentation, led by Nthabiseng, the team set up stations for each learner to make a hanging-hornbill. There were 310 learners present who were very co-operative and enthusiastic during the presentation, especially when the stuffed model bird was revealed and one learner almost left his seat involuntarily with shock!

After the presentation, cut-out sheets were handed out and the learners set to work creating their own masterpieces. The process went smoothly and the hornbills turned out fantastically. During the activity a local Induna came forward to Aaron and told him of his knowledge of a nest in some cliffs nearby, and he kindly agreed to take the team to view the nest the following week so that it can be monitored in preparation for the coming breeding season. The team left the school in high spirits with many of the learners waving goodbye on the route home.



#### DAY 5 (28 JULY 2014)

Before the school schedule started we had a chance to visit a site that had been reported as a potential nest site. The *Induna* who reported it allowed his son to guide us to the cliffs where the birds had been seen often during the breeding season. The site seemed feasible and Aaron agreed to monitor the area whenever he can.

The team then moved onto **Mvule Primary School** and were greeted by Ms Zungu who was very excited about the presentation and activities. The 237 learners were gathered in their outside assembly area and sat for the presentation led by Aaron. Once again Themba received a large reaction and some of the learners reported their resident hornbill group.



As in some previous schools the lowest grades had found the mask-making a challenge and so were given some colouring sheets as an alternative, which worked really well and resulted in some very abstract hornbills! For the remaining grades, it was time for the mask-making to begin and the team, now well-rehearsed in the routine, were impressed by how controlled and relaxed the activity was. The teachers all got involved and it was a completely enjoyable experience, after which the children went on break so for possibly the first time ever there were many hornbills playing football.



The **Lindinkosi High School** hall was literally just across the road from the primary school and so it was a quick transition for the team. Nthabiseng led the presentation followed by the documentary, during which it became clear that once again, the high school learners had no reports of Southern Ground-Hornbills in their area, whereas the primary school across the road was very familiar with them. There was little interest expressed by neither the learners nor the teachers.

#### DAY 6 (29 JULY 2014)

After arriving at **Mcakwini Primary School** it became clear that many of the school windows were broken and after a quick enquiry it was confirmed that the Ground-Hornbills had been the cause. As is often the case, the school had closed for the Easter holidays, during which time the hornbills had passed through and smashed many of the windows as the school grounds were quiet. This leaves the learners susceptible to cold draughts in winter. The teachers were very understanding of the situation once they understood this behaviour is instinctual and territorial – the male hornbills simply defending their territories, families and land against the ‘intruder’, their own reflection.

Aaron presented another fantastic talk and, with the help of Themba, a thorough explanation of window-breaking and the available solutions were well received both the learners and staff. It was then time again for mask-making and the two lower grades were given a spot-the-difference activity to complete and colour. All the children were proudly wearing their masks around school and off to their next classes.



The team made their way to **Kwanxusa High School** for the second session of the day, and again noted that all of the lower window panes had been painted and, as suspected, this was a response to previous hornbill window-breaking. After the presentation by Nthabiseng, during which the learners behaved exceptionally well and were a pleasure to meet, the documentary was shown. Some of the learners in grade 9 spoke of groups of 6 and 7 that they had seen in their area. The team were then kindly invited for tea and biscuits with the principal Mr Khuebiele, where they discussed the window breaking. Interestingly the birds were still breaking some of the higher windows and Lucy was able to advise him that because the school was built on a slope, as they are walking through, the reflections would still be visible to the hornbills and so they break them. Mr Khuebiele was very grateful to the team for coming as they had previously thought that the birds were simply being a nuisance and we spoke to staff members who said they were about to find a way of getting rid of them. He also felt very strongly that the repeated lightning strikes that had caused much of his electrical surveillance equipment to burn out was a direct result of a close proximity to the ground-hornbills or 'rainbirds'.



Once we returned to Mr Leitch's farm we were lucky to see two families of hornbills that he sees regularly on his farm.



#### DAY 7 (30 JULY 2014)

**Mfanefile Primary School** was the next stop for team and as there were no hall facilities, the learners all began gathering with their chairs in the assembly area. However, it soon became clear that, of the 926 learners, the lower grades weren't going to fit and so it was decided that Aaron would do a second presentation for the lower grades after talking to the older ones. During the presentation, one of the teachers mentioned that they have always known that the birds bring rain and thunder, a common and deeply-imbedded belief within these communities (and elsewhere in the sub-Saharan range). After the presentation Lucy led the mask-making activity with the older grades, while Aaron and Temba went to give the second presentation. As it turned out the younger learners hadn't wanted to be left out and so had organised themselves and their chairs ready, and waiting patiently for the first presentation to finish instead of returning to class. The team also gave the school some of the spot-the-difference pages for the lower grades to do in class afterwards.



After packing up, the team then journeyed to **Cebisa High School**, though en route were stopped by their 4<sup>th</sup> sighting of the trip, a group of five Southern Ground-hornbills that were just crossing the road in front. This group consisted of an alpha pair and three adult males but no juveniles, which suggests there may be a problem with the either the nest (or a lack thereof) or some factor increasing juvenile mortality.

The team still managed to make it to the high school in good time for the presentation to be given and documentary shown. Nthabiseng was well received by the 439 learners and the documentary proved extremely popular once again.

#### DAY 8 (31 JULY 2014)

The journey to **Inqaba Primary School** was quite an adventure as a tractor and trailer had caused a road block on the route which took some 4x4 work to get around on a very steep slope. Once again the students told of window breaking that had occurred at the school and were thankful for the information on solutions to stop it happening again. It was clear that window breaking is a much bigger problem in the area than the team had ever realised. The learners were aware of a group of 3 or 4 which they usually see around in summer time, and means there is potentially another nest waiting to be found!



After the presentation by Aaron the children all got busy making their masks with one learner showing great creative flare, making his own snake to stick on the end of his bill!





The Deputy Principal Nokukwanya Magwaza kindly wrote that *'The presentation was very good and educational. It will help the learners for their lifetime'* She also told the team of her belief that *'if you see them there is going to be a thunderstorm on that day. It is a sure case that there is going to be a thunderstorm on that day.'*

After leaving the school, for the first time on the trip there was time for a short break to sit down have lunch and enjoy the beautiful surrounding in which we had the pleasure of working in, this really was the middle of rural Zululand.

It was then time to head to our final high school visit of the trip at **Yanguye High School**. There was a large hall at the school, but the electricity wire had been cut and so there was a bit of a delay whilst an extension cable could be organised and connected. Whilst that was happening Nthabiseng proceeded with a presentation using the flipchart and once again performed extremely well. The electricity was connected just in time for the documentary to be shown. Afterwards a group of approximately 12 students approached to ask Aaron more questions and investigate the stuffed model and each of those student was given a cut-out sheet for their enthusiasm.



On the drive back to the farm the broken tractor was still blocking the road, though there were now three men repairing it. As we were passing Aaron began a conversation with them and discovered that they had last seen a group of three birds walking on the hills and that they see them nesting on a nearby cliff. The team took details of the possible nest location which they saw as they drove on, possibly the same nest the *Induna's* son had shown us as they were pointing to the same hills.

#### DAY 9 (01 AUGUST 2014)

The final day had arrived and the team travelled to **Ngqekwane Primary School**, which was by far the most rural of the schools visited, nestled deep within the Umfolosi and resulting in a beautiful morning's drive to get there. The learners and staff were friendly and enthusiastic for the presentation in their assembly area and Themba was greeted with mostly happy reactions, except from a couple of young learners at the front who were a little terrified!

The mask-making went without a hitch and was enjoyed by everyone present. As the team began packing up they were distracted by loud singing from around the corner. To their surprise and utter joy, the children had broken into a traditional Zulu dance with the boys choosing to dance on the septic tank behind the school ablution block as it allowed their foot stomping to make a fantastic, loud echo sound. The atmosphere was truly magic and the team were surrounded by happy, excited, dancing hornbills!



The principal kindly wrote:

*'The presentation was informative and very helpful indeed. We hope the project will be useful and productive in our environment. Nature conservation is everybody's business. Keep up the good work!!!'*

As the dancing drew to a close the team left for their final, and smallest, school of the trip, **Encanyini Primary School**, with only 97 learners. After the large numbers from the other school of the trip the session went by like a breeze. The children were perfectly behaved and the mask activity and presentation could both be done in classrooms. The final session was a lovely and peaceful end to the trip.

#### **HORNBILL SIGHTED:**

We were fortunate to add to the sighting database ourselves seeing four separate family groups (numbering five, four, three and a pair).



## THE WAY FORWARD:

**Aaron Mngomezulu:** The largest asset we encountered on this trip was Aaron. He is deeply committed to conservation, is passionate about it and has a natural way of imparting his knowledge not just with the learners but also to any elders we encountered on the trip. He is also a pleasure to work with and worked extremely hard for the two weeks. He has already found one nest in the district and will continue to source information for other potential nests. Donald Leitch donated a pair of binoculars for Aaron to use to check these sites.

We feel very strongly that Aaron's talents and passion should be nurtured as he is a natural conservationist. We would like to have a meeting in December with NTC to see if any potential exists for him to develop these skills and in doing so contribute further to the already strong conservation ethic that the Melmoth community shows and the scientific data we are collecting.



**Window-breaking:** This is a well-known as one of the reasons why the birds are threatened, but the scale of the window-breaking in this area surprised us. We feel strongly that if the forestry companies could assist us to fix the currently broken windows and contribute to covering them so that they never get broken again this would go a long way to ensuring ongoing support for the species persistence in these areas.

**Ground-Hornbills as a flagship species:** This trip strengthened our feelings that the Southern Ground-Hornbill is a really powerful flagship species given their resident nature and extensive land requirements. Any inroads we can make into reducing threats for this species will be reducing the threats for a myriad other savannah and grassland species. The species is easily recognisable, charismatic, and culturally important and has family traits that we as humans can relate to easily, thus making them an excellent first step for conservation-based conversations. This has already led to the decision by the Hlokozi Traditional Council, southern KwaZulu-Natal to set aside 18 000 ha as a small reserve.

**Find nests and initiate custodianship programme:** The most critical aspect of the project going forward is the location of nests and subsequent safe-guarding of them and their groups through a custodianship programme, be it freehold or communally held land. This is achieved by increasing the intensity of reporting of sightings and then a follow-up trip in December at the height of the breeding season to locate and verify the nests.

**Traditional Authorities:** We would like to have a meeting with the two major traditional authorities in the area to explain the importance of the birds that fall within their area and request support at the Council level for the protection of the birds.

**Zulu song:** The principal at Kwanxusa High School spoke of a hornbill song that is well known by the elders (and sang a few verses) but that the traditions are not carrying through to the younger generations. We would like to try and get a recording of this song and see how it can be re-popularised with the learners.

**Continued education programme:** We have a number of areas that are still important to cover, especially in the areas east and north of Melmoth town. We hope to reach as many schools again.

**School feedback:** We have agreed to engage with school principals every few months with new activities that can be used in the classroom, be it in Life Sciences, Art or any other subject where they feel it would be fitting.

**Lessons learnt:**

1. The primary school learners were still in touch with their natural surroundings and were able to report on their resident ground-hornbill groups. In many cases, the secondary schools, often just a few hundred meters away did not know of the birds and we suspect it is the prevalent use of their cell phones that is distracting them from the physical world around them.
2. Cultural beliefs about the rain-making ability of the birds are very strong and need to be worked with to ensure that there is no persecution for this reason, as in the case of the belief of electrical surges damaging equipment.

**ACKNOWLEDGEMENTS:**

This trip would not have been possible without the support of Donald and Gilly Leitch for their commitment to the species and warm hospitality, to Sandi and Gavin Calverley for their work collating information over the past year and their warm hospitality, to Aaron Mngomezulu for being our guide, translator and good company, to Patrick Kime, Richard Liversage and Maarten Grobbelaar for making it possible for Aaron to join us, to the Mthonjaneni Ward Councillors who supported this Project, to Zenzele Gumede from Mondi for assisting in setting up the school schedule, to all the principals for allowing us to use some of their valuable teaching time, Sally Calitz for assisting with printing and courier services,

This work would not have been possible without our sponsors ([www.ground-hornbill.org.za/sponsors](http://www.ground-hornbill.org.za/sponsors)) , particularly those that specifically support the education component of the project and are listed below.

