

**FINAL REPORT ON THE ENVIRONMENTAL EDUCATION & AWARENESS INITIATIVE  
FOR STAFF OF THE UMGANO PROJECT, MABANDLA TRADITIONAL COUNCIL  
TO CEPF, THE WILDLANDS TRUST AND SANBI**

**1. INTRODUCTION**

**1.1 Purpose of this report**

This is the final report on the work undertaken following the small grant provided by CEPF through the Wildlands Conservation Trust, for the period March 2012 – March 2013. A statement of the expenditure incurred will be submitted under separate cover.

Sections 1.2 *et seq.* provide brief descriptions of the Umgano Project Area and the overall project itself (which was initiated over twenty years ago, prior to the support provided by CEPF). Section 2 provides summarised progress with the Environmental Education and Awareness initiative of the project, which has enabled the project to build on the foundation previously established.

**Acknowledgements.**

CEPF is thanked for the financial support it has provided for furthering the Umgano Environmental Conservation and Awareness initiative. iNkosi Baleni, Chairman of the Mabandla Traditional Council (“the Council”) is thanked for his unfailing support. Special thanks to Mr Mayford Jaca, Chairman of the Mabandla Community Trust, and also manager of the plantation; Mr Zweli Baleni and Mr Peter Nixon, senior advisor to the Umgano Project, for their support and guidance; Ms Isabel Johnson of the Botanical Society & EKZNWildlife (“EKZNW”), is thanked for taking responsibility for the Botanical mentoring. Mr Drummond Densham of the Game Rangers Association and Birdlife KZN Midlands Bird Club was responsible for mentoring on the fauna. Mr Barrie Barnes of Ezemvelo KZN Wildlife (“EKZNW”) provided active support, as did Zeph Mazibuko, Nandi Thobela, Khumbu Zulu, and Bheka Memela, all of EKZNW as well as undertaking translation duties. These contributions are gratefully acknowledged. The photographs were provided by D. Densham.

**1.2 The project area and its natural communities**

The Umgano Project Area (“UPA”), about 6 500 ha in extent, comprises State land in the custody of to the Council. This area falls within the Umzimkhulu Complex Key Biodiversity Area of the Maputaland-Pondoland-Albany Hotspot (“MPAH”), and contains vegetation of both the Forest and Grassland Biomes (principally Southern Mistbelt Forest, Drakensberg Foothill Moist Grassland and Southern KZN Moist Grassland). The area is characterised by the presence of a number of rare biota, for which it provides habitat. Species occurrence lists of both the plants and birds, and their status, are available on request. The Mabandla Community UPA was accepted responsibility for the conservation of the biodiversity of the UPA, by becoming a member of the Biodiversity Stewardship Programme of EKZNW, in 2008.

The Umgano Project is a community-driven development initiative, presently under the guidance of iNkosi Baleni.

**2. SUMMARISED DESCRIPTION OF THE BIODIVERSITY OF THE UPA**

**2.1 The importance of the biodiversity**

The biodiversity of MPAH, of which the UPA is a part, is described by CEPF “as one of the biological wonders of the world”, of global significance (CEPF 2010). Of particular interest and importance for proponents of biodiversity conservation, are the extensive natural grasslands, both of high- and mid- altitude, and their associated wetlands. While these have been grazed extensively in the past, the greater proportion is still in good condition, with high levels of forbs and other indigenous plants present within the grass sward. However, the grazing pattern employed during the past two decades has not followed sustainable principles, and locally, localised areas are beginning to show signs of both over- and selective- grazing - a situation which is about to be remedied by the livestock grazing initiative, which it is intended will be run on sustainable lines.

In addition, also of great importance are the indigenous Southern Mistbelt forests, two of which were proclaimed as State Forests in 1909 (Umngano and KwaHoha SFs). These are not part of the project area proper, but are entirely surrounded by it. The community regard these as “their” forests. The two forests are also in good- to very-good condition. Umngano Forest, the largest, has recently been described by Adie (*pers com. 2013*) as one of two, possibly three other of the best-conserved indigenous forests in the province. Adie is of the opinion that it should be regarded as a national treasure. It contains the largest *Podocarpus falcatus* he has personally measured (dbh<sup>1</sup> 166 cm, height c. 32 m). A tree of comparable proportions that was felled in the Karkloof over a century ago, was aged by carbon dating, and was estimated as 770 years (which would indicate that it germinated sometime in the thirteenth century AD!).

## 2.2 Ecosystem services delivery

The ecosystems services that are derived from the UPA are described in the management plan for the area (Bainbridge *et al*, 2008) and CEPF (*ibid.*). This plan is now under review. The overall value of the ecosystem services has not been objectively determined, but it is known that amongst the most important are the water resources, and the ability of the vegetation to sequester carbon, but also of particular importance are the production of natural products (especially fodder for livestock) and value for recreational, aesthetic and inspiration, education and research.

The UPA forms an important part of the catchments of two rivers, the Ngwangwane and Gungununu Rivers, both tributaries of the uMzimkhulu, one of the four most important rivers for downstream industrial and domestic users (as well, obviously for the Mabandla Community), that arise out of the Drakensberg Mountains and their foothills. Both the natural grasslands and the forests are of considerable importance as water-source areas as well as carbon sinks, and therefore for the mitigation of the threat of climate change. The need to conserve our national water source areas was emphasised by President Zuma in his State of the Nation address, February 2015.

The grasslands are considered important by the Mabandla Community for the fodder resources they produce, for their livestock (see below). A summarised description of the ecosystem services are provided in the management plan.

While the Mabandla people may have an intrinsic understanding of the importance to them of the ecosystem services provided by the indigenous biodiversity, there appears to be some uncertainty in the minds of some (but by no means all) community members about their responsibilities in precisely how best these responsibilities should be exercised. The mentoring has made a useful contribution to addressing this problem.

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<sup>1</sup> Diameter at breast height

### **3. OTHER COMPONENTS OF THE PROJECT**

#### **3.1 The plantations (Commercial afforestation Zone)**

The UPA also contains a small commercial timber plantation, established about twenty years. It should be noted, however, that the plantation is not included in the Biodiversity Agreement Area.

The plantation is some 1 500 ha in extent. It consists of a mixture of pines and eucalypts, and is now beginning to produce significant revenue for the community. Approximately 140 Mabandla people are employed on the plantation, or are financed by it. Most significantly, the revenue from the plantation (with a turnover of some R13 million p.a.) currently provides the funding to support other development and conservation initiatives within the UPA. This funding supports not only the entire nature conservation/biodiversity conservation initiative, but it also supports the development of other business initiatives which are of great significance to the community, such as the new commercial livestock production initiative, that will take place in the greatest portion of the UPA.

The plantation is entirely staffed and managed by community members, who are advised and guided by a local commercial forestry company, which works in partnership with it. Its capital worth, is reported to be in excess of R 200 million. However, the plantation is of inestimable value to the community, by virtue of the income and employment opportunities it provides. The plantation distinguishes this community from all its neighbours, which are beset by significantly higher poverty levels, and totally lack the employment opportunities provided by the Umgano Project. The project, significantly, enables members of the Mabandla Community to live and work from home, as opposed to being exposed to the uncertain and unjust migrant labourer system (Brouwer *et al.* (2011).

#### **3.2 Livestock Management**

This new initiative, which until recently was still in the planning stage, will be a commercial beef herd, run on a sustainable basis, following a grazing plan developed by the Department of Agriculture & Environmental Affairs. This was recently revised with the assistance of funding provided by the Grassland Programme of the SA National Biodiversity Institute. It is intended to sustainably utilise the fodder produced by the natural grasslands, supplemented with winter fodder produced in the Agricultural Zone. This initiative aims to establish a breeding herd of some 500 cows (with followers) of mixed breeding, which will be provided by local community members, in return for equity in the initiative. This investment will qualify them for dividends from future profits. The females, selected for their fecundity and good health, will be bred to pure bred Nguni Herd Sires. After four generations, this herd will (to all intents and purposes) have become a pure-bred Nguni herd. It is planned to monitor the effects of the grazing on the grasslands, over time.

#### **3.3 Overall comment on the project**

The Umgano Project is distinguished from other community development projects, because it is significantly less dependent on donor funding, compared to similar initiatives elsewhere. Perhaps the most significant aspect of the Umgano Project from the perspective of biodiversity conservation is that this biodiversity which lies within an internationally recognised hotspot, is being conserved by the Mabandla Community, which is able to mount its own biodiversity conservation initiative, largely from its own resources. The Council, nevertheless, has a policy that it welcomes donor funding whenever it is available, to supplement and complement its own funding

The Umgano Project is regarded as a flagship community Biodiversity Stewardship Site of EKZN Wildlife. The community was given an award two years ago by EKZNW for its conservation efforts. Until initiation of the Umgano Project (in particular its biodiversity conservation elements) and the mentoring programme, there appeared to be little appreciation amongst Mabandla community members of the importance of the biodiversity, either for intrinsic purposes, or for the very significant benefits they presently derive from ecosystem service delivery. These efforts are now providing encouragement to the community and its leaders as well as to neighbours. The Council has made a special plea for the project organisers and their partners (which includes EKZN W), to provide environmental awareness and education for members of staff and members of the broader Mabandla Community. This was in order that they might gain better understanding of the importance of the biodiversity, the benefits the community presently derives from it, their responsibility to conserve it, or the conservation management programme presently employed by their community-driven project (which aims precisely at achieving this). iNkosi Baleni is especially passionate about the indigenous forests. Little progress has been possible, however, due to the limited funding that has been available.

#### **4. THE UMGANO ENVIRONMENTAL EDUCATION AND AWARENESS INITIATIVE**

##### **4.1 The small grant application**

A partnership to implement a dedicated environmental education and awareness initiative was formed between EKZNW, several NGOs (including the Botanical Society, BirdlifeSA Midlands Bird Club, Game Rangers Association of Africa, University of KZN, and project advisors. An appropriate programme was designed, and programme has now been in operation for over a year. Elements of the successes achieved are provided below.

A two-pronged approach was adapted for this initial endeavour. The small grant application was submitted to CEPF and approved in March 2012, for a mentoring project for Umgano field rangers (“FRs”) and other project staff, whose responsibilities involve some aspect of biodiversity conservation. Where possible, a start was made on the environmental education and awareness initiative for the entire Mabandla Community, and some progress in this respect was indeed made.

There were no prior learning requirements for the mentoring course initiated in March 2012. This was to be essentially practical in nature, other than that staff should be literate, and have the capacity to learn to identify plants and animals from standard reference works, and understand basic management concepts. These were in any event requirements for the posts they occupy. Only some of the FRs attended the introductory course, in which they were all successful. This course was a requirement for employment in those posts. A number of new FR appointees, have recently also been appointed following the provision of donor funding by the Wildlands Trust. The new staff have recently (March 2013) attended a special course on nature conservation (funded by the Trust). The Trust courses were general in nature, as compared to the Umgano mentoring courses, which were focussed on the UPA environment and its biodiversity.

##### **4.2 Key Deliverables**

The Umgano mentoring courses were designed to be held on three working days in each calendar month, usually immediately following or preceding one of the project steering committee meetings, which are also held monthly. A day was spent on each of the following topics:

- (a) Vegetation and plant identification and collection;

- (b) The fauna of the UPA, starting with the avifauna and bird identification and recording; and
- (c) The third was intended to be on livestock management, but the FRs for this had not been appointed during the funding period.

The Umgano courses were primarily intended for FRs and other project staff involved in some aspect of biodiversity conservation or management. They focus on the principal management issues discussed in the MP. Instruction is provided by experienced nature conservation professional officers who are familiar with this environment, as well as in plant and animal science, and in the practice of biodiversity conservation management.

The presentations/instructions on plants were provided by Ms Isabel Johnson of the Botanical Society, who was seconded to Ezemvelo KZN.. The valuable insights and knowledge provided by Ms Johnson are gratefully acknowledged. Ms Johnson was separately funded. The value of the mentoring programme was significantly enhanced by Ms Johnson's contributions.



**Formal Plant Identification and field sessions with Ms Isabel Johnson**

The language of instruction was English, and since the FRs are only partially competent in English, an interpreter was provided whenever possible (often a staff member of EKZNW). The experiences gained in these sessions emphasised to us, the need for a Zulu lexicon. The lexicon will be of assistance to ensure that the interpreters are consistent in their choice of words and phrases, when interpreting technical words and phrases, such as are found in the mentoring notes and the reference publications that were provided to each participant. The words and phrases included in the lexicon are in common use in environmental science (see the examples below).

Regarding the field collections and observations that have been made as part of the courses, an important advantage for participants was that they were provided with the opportunity to contribute to the scientific knowledge about their environment, through scientific collections and field observations, as taught in the sessions. Their field observations have provided valuable management-related information, which will contribute not only to the overall knowledge base, but will also, be incorporated into the management plan, when it is next revised. Since the start of the mentoring sessions, the field records made by the FRs have added 62 additional birds to the list, making a total list of 158 birds for the areas (as at 30 September 2015). In addition, they have added more than 40 new plant species to the total plant list for the area. The new bird recordings consist of species submitted to and accepted by SABAP2 that were not previously recorded within the pentads covering the UPA). Similarly, the additional plant records consist of plants for which a pressed and dried collection voucher has been submitted to and an identification provided by the university, have

extended the occurrence list of plants and birds in the management plan. Their names are now formally linked to these new collections. Each bird or plant record now has a formal determination (scientific name) from an official institution, to which has been added the local vernacular and an English name.



**Formal bird identification presentation sessions**



**Practical bird identification sessions**

#### **4. OUTCOMES**

##### **4.1 Number of sessions**

The mentoring sessions held since the grant was made in February 2012, have been as follows. It was not possible to hold two mentoring sessions a month, as the scheduled was interrupted by public holidays and other engagements, but nevertheless the number of sessions held, were as follows:

Botanical sessions	8
Bird sessions	9
Environmental Education sessions	3

##### **4.2 The visit to Pietermaritzburg**

In July 2012, the FRs were brought into Pietermaritzburg, as a special part of the Environmental Education sessions. Accommodation at Midmar was kindly provided by EKZN W for three nights. During that time, The FRs were taken to the following institutions and locations in and around Pietermaritzburg:

- The KZN Museum, to see the collections of plants and animals of the province, and historical displays.
- University of KZN Herbarium of the Department of Botany, where they saw how specimens are identified by professional botanists, together with examples of a few specimens of famous or well-known collectors, some dating back over a century.
- The Raptor Centre (a private facility on the outskirts of Pietermaritzburg), at which various captive raptors are held, and are flown by experienced handlers. Lectures are also given on the captive birds. The relevance of this visit was to enable the FRs to view the various birds at close quarters both to hand, as well as in flight, as an aid to identification in the field.
- The Botanical Gardens, where they saw the living collections of plants from various countries.
- Umgeni Valley Ranch of WESSA, where they were taken out by an experienced tourist guide, where they were shown how an experienced guide, interprets to members of the public, the type of knowledge they are being taught.

### **4.3 The Environmental Education Sessions**

Particular attention was paid to providing a sound understanding of technical terms such “biodiversity”, ”biodiversity conservation”, “ecosystem service delivery” and the like. Participants were to be provided with insights to the contents of the management plan, especially with those sections dealing with biodiversity conservation.

In the relatively short period in which the course has operated, the participants have made impressive lists of plants not previously recorded for the area they have collected, and which have been identified at the Herbarium of the University. They have similarly developed lists of birds in the format of SABAP2. To both lists have been added local vernacular names. This new information has been incorporated in the species lists for the area in the formal Umgano Project Management Plan for the area. From the outset, it was hoped the courses would also add to the interest and enthusiasm with which the staff undertake their duties, and it is pleasing to be able to report that this has indeed been the case.

### **4.4 Key deliverables of the small grant application**

#### **4.4.1 The Mentoring sessions**

The sessions are held monthly on two separate days. They consist of lectures, based on notes provided to participants, and standard reference works. Each participant has been issued with reference books on the wild flowers, trees and the birds of the area (see references). Also provided are notes, written by the presenters. Each FR has maintained a Portfolio of Evidence, which are available for inspection.

#### **4.4.2 Notes provided by the presenters**

The notes provide information about the Umgano environment, particularly on the vegetation and birds.

#### 4.4.3 Disappointments

The principal disappointment has been the relatively small number of FRs that have benefited from these courses to date. Considering the newness of the mentoring concept and the fact that the FRs have other duties to attend to, it is perhaps understandable that in the first year, so few Mabandla Community members have benefited. On a positive note, the FRs who attended are key community members, who are capable of passing on the knowledge they have gained to experience.

In future, the number of participants will increase significantly, as a new contingent of FRs will require mentoring.

### 5. NEED FOR CONTINUATION

During the course of implementation of the mentoring courses, the realisation came that there was a need for a far more wide-ranging environmental education and awareness initiative that would apply to the entire Mabandla Community, not just project staff

### 6. SUMMARY AND CONCLUSIONS

**6.1 The CEPF small grant has brought about significant benefits for the Umgano Project, in particular for the Field Rangers who have benefited directly from the mentoring courses. By inference, the Mabandla people have benefited accordingly. Inkosi Baleni has requested that his thanks for the support provided, be recorded.**

**6.2 The benefits include the following:**

- **A start has been made for project staff to gain an understanding of the importance of the biodiversity of the UPA for the Mabandla people, and management measures necessary to maintain or conserve it.**
- **Some key Umgano Project members have begun to gain a more detailed appreciation and understanding of some of the component biota of the biodiversity.**
- **Most Field Rangers have learned how to make accurate field observations, how these should be preserved and maintained, and their relevance for improved management of the area.**

**6.3 Lessons learned**

- **When considering a community such as Mabandla that has been significantly disadvantaged in the past, their most pressing needs are for financial assistance, and insights into modern land-use management and approaches. In particular, they lack insights into sustainable land uses, how they are implemented, and modern environmental conservation and management – hence, in our instance, our environmental education and awareness initiative.**
- **These modern concepts are foreign to communities such as Mabandla, who will need time to understand and embrace them. They cannot realistically be expected to accept them after only a relatively short period of exposure.**



- It is important for advisors to learn how to offer advice and assistance, without appearing to be prescriptive, and in exploring options in partnership, that are not culturally offensive or acceptable.
- Short term financing and assistance will not necessarily be sustainable, and that many projects such the Umgano Project, need long-term support. Modern western society is at least as much, and possibly more dependent on the ecosystem services provided by rural communities (such as water production carbon sequestration, etc.) as rural communities themselves. Accordingly, in order to ensure that the resources are conserved in the long term, the support should also be long-term rather than short-term in nature.
- For a rural community with no previous experience in biodiversity conservation, it is unrealistic to expect that they will absorb all the principles and practices of biodiversity conservation, without an extensive mentoring programme, lasting several years rather than for one or two years.

W.R Bainbridge, & D. Densham,  
 Course presenters  
 April 2013, updated February 2015

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