

**GREATER ADDO ELEPHANT NATIONAL PARK
CULTURAL MAPPING PILOT PROJECT**

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SANParks

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EXECUTIVE SUMMARY

This project reports on a pilot (phase 1) cultural mapping exercise in the Greater Addo National Elephant Park (GAENP) undertaken by the Albany Museum.

TERMINOLOGY

The terms **heritage resources** and **cultural resources** are discussed. **Cultural Resource Management** and **Cultural Mapping** are defined.

1. INTRODUCTION

The development of the GAENP presents an opportunity to implement the policy guidelines of the National Parks regarding cultural resource management. This policy is further underpinned by the requirements of the National Heritage Resources Act (Act 25 of 1999).

2. TERMS OF REFERENCE

The aim of the project is to undertake a pilot cultural mapping exercise in the GAENP. Sub-consultants with expertise in archaeology, anthropology, palaeontology and history were appointed.

3. PRODUCTS

This included the development of a Microsoft Access database as well as a written report. A motivation for further research was appended.

4. STUDY AREA

Five areas were sampled in the GAENP, namely Lake Mentz, Kabouga, Zuurberg, Addo and Woody Cape.

5. METHODOLOGY

The four researchers used a variety of methods to obtain their information:

- **Personnel Knowledge**
- **Museums Collections**
- **Published Accounts**
- **Fieldwork and Interviews**

6. HERITAGE REPORTS

The reports from the four disciplines are presented at the end of the overview.

7. HERITAGE LEGISLATION

The NHRA is briefly discussed. Some comments are made on:

- **Significance ratings**
- **Heritage Impact Assessments**
- **Heritage Management**
- **Conservation Management Plan**

8. HERITAGE CONSERVATION AND SUSTAINABLE UTILISATION

The conservation requirements for the various types of heritage sites is outlined and comments are presented on their sustainable utilization.

9. ISSUES OF CONCERN

Issues which arose during fieldwork and raised some concern are the following:

- **The Duplication of Research**
- **The Lack of knowledge of the NHRA**
- **Negative perceptions towards SANParks**
- **Difficulty in tracing informants who had moved**
- **Feelings of apathy towards living heritage**

10. RECOMMENDATIONS

The following are short term recommendations which could be addressed immediately:

- **Maintaining the database**
- **Stopping the destruction of heritage sites**
- **Heritage Impact Assessments in development areas**
- **Professional input in restoration of heritage sites**
- **Heritage workshops for SANParks staff**
- **Monitoring threatened heritage sites**

11. MOTIVATION FOR FURTHER RESEARCH IN GAENP

In the longer term, the heritage sites of the GAENP will only be protected and preserved if the following actions are undertaken:

- **Community Workshops held in villages around the Park**
- **Heritage Workshops held for SANParks staff**
- **Further research is undertaken]**
- **Interpretive pamphlets and small displays are erected**
- **Wider consultation is undertaken with various heritage bodies**
- **A detailed Conservation Management Plan is set up for GAENP.**

PHASE 1 CULTURAL MAPPING OF THE GAENP

This project reports on a pilot (phase 1) cultural mapping exercise in the Greater Addo Elephant National Park (GAENP).

Terminology

In this report we have used the terms **heritage resources** and **cultural resources** interchangeably. Heritage Resources is used by the National Heritage Resources Act and it specifically includes Archaeology, Palaeontology, Living Heritage, etc. The term Cultural Resources could be interpreted to exclude palaeontology, which is not related to human activities. While de Jong (1992:35) includes it in his broad categories of cultural resources he concedes that palaeontology could also be inventorised as natural resources.

Cultural Resource Management relates to generally accepted principles for the conservation, preservation and use of cultural resources and these are defined at length in de Jong (1992).

Cultural Mapping, which is used here in the terms of reference, refers to the process of enabling local communities to identify and map cultural resources which are present in their local area. The aim of the mapping exercise is to enlist the help of local communities in identifying the meanings and values that underpin their society. In this way, projects may be identified which will help support these values and lead to an improvement in the quality of life through economic and social development.

1. INTRODUCTION

The development of the GAENP is ongoing and the amalgamation of the various sections as well as the acquisition of new land is taking place on a daily basis. This process presents SANParks with a number of challenges. As old fences are taken down, new roads are constructed and the accommodation needs of both staff and visitors are being planned, there is a very real danger that cultural/heritage sites, both tangible and intangible, may be threatened.

SANParks, however, have recognized the need to integrate cultural resource management (CRM) into the process of environmental and developmental planning of all national parks. In their 'Policy guidelines for cultural resources management in National Parks' they also acknowledge that their trusteeship should include both the natural and cultural heritage components and that the needs and values of especially local/neighbouring communities are honoured in this respect. This should involve public consultation and involvement in policy development and decision-making regarding cultural resources. SANParks also accept responsibility for the protection, preservation and sustainable utilization of cultural resources in their parks.

The CRM programme in SANParks is supported by the National Heritage Resources Act (No 25 of 1999) which is further discussed below.

This project reports on the cultural/heritage resources of the GAENP. It provides an outline of the rich cultural diversity of the area, notes some areas of concern, and emphasizes the need for a comprehensive Conservation (or Cultural Resource) Management Plan for the entire Park prior to further development of the infrastructure of the new Park.

2. TERMS OF REFERENCE

The project is a cultural mapping exercise with the aim of mapping relevant and available cultural information within the Greater Addo Elephant National Park planning domain and cataloguing this in a Microsoft Access database. The database will ensure continued updates and will assist with implementing a cultural resources management strategy as supported by SANParks.

The cultural mapping was achieved by identifying and appointing sub-consultants to manage aspects of the project. These sub-consultants have expertise in archaeology, anthropology (living heritage), history and palaeontology. They were instructed to identify and review the available information and to identify sites with archaeological, palaeontological, anthropological and historical significance within the planning domain.

3. PRODUCTS

- * A catalogue of sites in Microsoft Access – which will allow updates and cross referencing to biological, vegetation and development zones.
- * A hard, as well as electronic, report providing an outline of the heritage resources in the GAENP.
- * A motivation for a full cultural mapping exercise.

4. STUDY AREA

Proposals for the establishment of the GAENP were put forward in 1997. The proposal involves amalgamating the Addo Elephant National Park (proclaimed in 1931), the Zuurberg State Forest (declared a National Park in 1985 and amalgamated to Addo in 1995) as well as the Woody Cape Nature Reserve. The GAENP will stretch from Lake Mentz, across the Zuurberg, to Woody Cape and include five out of South Africa's seven terrestrial biomes. The process of amalgamation is ongoing and a number of farms are purchase each year to complete the process. However, it is conservatively estimated that the entire process may take 10 years.

During the study, large areas of land was still in private hands and in many cases it was not possible (see 8 below) to gain access to these areas to evaluate the heritage sites. Since the study was designed to be a first phase investigation it was recognized that it could not be comprehensive. Each of the 5 sections of the GAENP was sampled.

These are:

- Lake Metz (Darlington area)**
- Kabouga**
- Zuurberg**
- Addo**
- Woody Cape**

5. METHODOLOGY

A number of meetings were held with officials at the Conservation Services office of SANParks in Port Elizabeth to determine which fields would be incorporated into the

Microsoft Access database. The database was designed to address key questions which related to the location of the heritage site, its present condition and significance, as well as general recommendations about management and utilization.

5.1 Personal knowledge

The palaeontologist has been working extensively in the Sundays River Valley area over the last 8 years and has a detailed knowledge of the geology and fossils of the area. He was able to draw on this knowledge in his survey. The anthropologist has had prior experience in the Great Fish River Reserve collecting information on cultural practices and in many cases these practices have also been recorded from GAENP.

5.2 Museum Collections

Since the Albany Museum is the archaeological data-recording center for the Eastern Cape, it has a record of archaeological sites and collections for the province dating back to 1855. Similarly, the museum also has many palaeontological collections from the GAENP and these were also consulted. Some of these collections date back to 1845.

These collections and accession registers were studied for possible archaeological and palaeontological sites in the GAENP. While many sites have been reported for this area over the last 150 years, they unfortunately seldom have their exact location specified. This meant attempting to re-locate sites and re-visiting them to determine their significance and condition.

5.3 Published accounts

Limited research has been undertaken in the area and it was possible for the Historian to consult a number of publications on the local history of the area. There are also a number of published accounts relating to the palaeontology of the area. Unfortunately, very little archaeological work has been done in the Zuurberg – and little of this is published. The field of living heritage (cultural anthropology) is particularly sparse with regards published information and the Anthropologist has been required to initiate new research in this area.

5.4 Fieldwork and Interviews

After designing the Access database, a standard recording form was generated to assist with the fieldwork. The fieldwork involved visiting each of the 5 areas and talking to the Section Managers of the area, speaking to game guards and other staff (cleaners), interviews with people who are knowledgeable about the area (such as librarians and amateur historians), farmers, and local community members. These interviews were conducted on a one-to-one basis and in this pilot study, no attempt was made to conduct workshops in the villages around the GAENP.

An attempt was made to visit heritage sites reported to us during the interviews, but this was not always possible given the limitations of time and the size of the area. Surveys were not conducted with the exception of archaeological surveys along small areas of the Woody Cape coastline. In some cases, the location of sites was merely indicated on the database although the site itself had not been visited to verify its significance.

Fieldwork was conducted with a standard form (derived from the Access database) and included obtaining a GPS reading as well as taking digital photographs of significant sites. All sites which were visited were recorded by means of the Global Positioning System (GPS) while sites not visited were recorded from their co-ordinates obtained from a 1:50 000 map of the area.

Fieldwork for all four disciplines exceeded the budgeted 12 days each. We found that combined fieldtrips were not always the most cost effective way of undertaking research. Targeted trips to a specific site/village yielded better results.

6. HERITAGE REPORTS

The database for the four disciplines, namely Archaeology, Anthropology, History and Palaeontology is presented in an electronic format. The separate reports of each of the four disciplines is attached. Each report is preceded by a glossary explaining the terminology used.

6.1 Archaeological report

The report provides an overview of the types of archaeological sites encountered during the research. It is followed by recommendations on the conservation of archaeological sites.

6.2 Living Heritage report

The Anthropological reports considers the intangible resources in the GAENP and provides information on the cultural significance of plants, animals and birds as well as providing useful information on a number of sites which are used for ritual purposes.

6.3 Palaeontological report

The palaeontological report considers the various geological formations and rock types in the GAENP and lists the likelihood of finding fossil material in various areas. It also provides an overview of the significant fossil discoveries which have been found in the area.

6.4 Historical report

The historical report provides a brief summary of the history of the area and explains the methodology.

7. HERITAGE LEGISLATION

The National Heritage Resources Act (Act No 25 of 1999) makes provision for the protection and management of heritage sites in South Africa. The Act provides for an integrated system for the identification, assessment and management of heritage resources. The methods most commonly used to identify sites, including surveys and interviews, have been undertaken in this survey. The Act recognizes that local communities should be encouraged to undertake surveys in their area and to identify sites that are important to them. This is clearly an important priority for the second phase of the cultural mapping programme.

7.1 Significance Ratings

Once the heritage site is identified, it is given a significance grading. The database designed for GAENP provides for 3 levels of significance, Low, Medium or High. These ratings reflect the subjective view of the four researchers and are not related to any guidelines established during this study.

De Jong (1992) provides some guidelines for evaluating the significance of sites. These include sites which reflect:

- * An historical period or way of life

- * Historical interest such as a particular event, persons or groups who have played a significant role in South Africa's past
- * Religious, social, economic or political activities
- * Aesthetic/architectural/scenic interest
- * Natural/scientific/technical interest.

The National Heritage Resources Act recognizes that heritage sites may have national, provincial and local significance. Section 7 of the Act makes provision for the establishment of a system of grading of places and objects. Grade 1 relates to sites which have National significance, Grade 2 to sites of Provincial significance and Grade 3 to sites of Local significance. The assessment criteria for determining the Grade to which a site may be allocated, is set out in Section 3(3) of the Act. *This group of researchers does not have the authority to assign a grading system, as set out above, to the heritage resources in the GAENP. This is the competency of the Provincial Heritage Authority.*

7.2 Heritage Impact Assessments

The NHRA differs from the old National Monument Act in a number of ways. It has, for example, become mandatory for developers to ensure that Heritage Impact Assessments (Section 38) are undertaken before any major development takes place. It is important to note that these are required when roads exceeding 300m in length are constructed or when an area exceeding 5 000m square in extent is developed. The costs involved in undertaking the heritage impact assessment are for the developer.

7.3 Heritage Management

SAHRA and the Provincial Heritage Authorities are charged with the responsibility of setting standards for the conservation of heritage sites falling within their respective competencies. NHRA makes provision for the establishment of heritage agreements between SAHRA or the Provincial Heritage Authority and a local authority, conservation body, person or community to manage a specific heritage resource. Management could include conservation, improvement and presentation. This is an important matter as it has implications for SANParks. It is for example possible, that indigenous peoples, like the Khoisan descendants of the people who occupied Stone Age sites in the GAENP, may want to become involved in the conservation of their heritage. The consent of the owner of the property, in this case SANParks, would be required.

7.4 Conservation Management Plan

Finally, in order to manage heritage resources, the NHRA makes provision for Conservation Management Plans (also called Conservation Plans, Heritage Management Plans or Cultural Resource Management Plans) in terms of Section 47(3). The aim of such a Conservation Management Plan is to retain the significance of the heritage resources that have been identified (see Appendix 2: General introduction to Surveys, Impact Assessments and Management Plans).

8. HERITAGE CONSERVATION AND SUSTAINABLE UTILISATION

Heritage conservation in National Parks is underpinned by the National Heritage Resources Act and by the Policy Guidelines for Cultural Resource Management in National Parks. The development of the GAENP provides SANParks with an opportunity to play a leading role in creating public awareness of the importance of conserving our fragile heritage and making it available for public education and entertainment.

8.1 Archaeological sites

The maintenance of archaeological sites generally involves minimal intervention and is aimed at preventing further degradation. This may involve preventing general public access (re-routing roads and footpaths) and creating fire breaks around caves and rock art sites. In extreme cases, where the site is threatened, excavation may be the only solution to a loss of information.

Presently, very few archaeological sites in South Africa are open to the public and can therefore be used for tourism or educational purposes. There are a number of reasons for this. Archaeological sites are fragile and non-renewable. This means that when they are excavated, damaged or destroyed they cannot be re-created. The cumulative loss of archaeological sites will mean that South Africans, of all backgrounds, will lose their past. It is important that the proper types of archaeological sites are selected for their tourism/educational benefits and managed in such a way that they will be sustainable in years to come.

8.2 Living Heritage or intangible heritage sites

The Act defines living heritage broadly to include cultural tradition, oral history, performance, ritual, popular memory, skills and techniques and indigenous knowledge systems. Natural features (such as a mountain, tree, pond, rock, river, etc) may have cultural significance. They are protected under the Act and local communities should be consulted to determine their significance.

Living Heritage sites are difficult to protect and preserve because of their intangible nature. Moreover, once the site has been incorporated inside the boundaries of the Park, issues of access may result in the site losing its significance over time. The question of the utilization of living heritage sites for tourism or educational purposes can only be resolved through consultation and negotiation with affected communities. The possibility of communities 'managing' their heritage sites, through an agreement with SANParks, needs to be explored.

8.3 Palaeontological sites

These sites are frequently more robust as the fossils are generally located in a band of rock. It is rare that the entire rock strata is destroyed. However, this has happened at the dam wall at Lake Mentz, indicating that when the public is aware of fossils which are easily accessible, they may destroy the site in a short space of time. Fossil sites, too require management plans before they can be opened to the public.

8.4 Historical sites

Clearly not all the old buildings, farmhouses, sheds, etc which are located within the GAENP, are protected by the NHRA. Some are younger than 60 years. Nor is SANParks obliged to retain all buildings over 60 years. However, since these structures are all protected by the Act, SANParks needs to apply to SAHRA for a permit to demolish a structure over 60 years. SAHRA, or the local Provincial Heritage Authority, is then empowered to assess the significance of the structure.

SANParks should consider using some of the old structures in the GAENP for accommodation for hikers, tourists and its own staff. However, the modification and/or restoration of old buildings requires a knowledge of the historic character of the resource. Restoration means returning the 'existing fabric of a place to a known earlier state by removing accretions' (de Jong 1992:70). Restoration or reconstruction should only be undertaken by a professional restoration architect.

8.5 Graves and cemeteries

The Act makes special provision for the protection of graves and cemeteries (Section 36). They should be identified, mapped, and preserved in their present state. This could be interpreted to include maintaining a fence around the grave/cemetery to protect the headstones from damage. Graves should not be disturbed or archaeologically excavated unless they are threatened with destruction. The Act provides explicit instructions for the destruction/exhumation of graves.

Previous research in other National Parks and Nature Conservation areas indicates that graves and cemeteries are generally considered to be the most significant of heritage sites. Individuals and communities feel extremely strongly about the proper conservation of graves and many require access to the graves of their family and ancestors for religious reasons. Management plans which address the issues of public access to graves in the GAENP will need to be developed as a matter of urgency.

8.6 Shipwrecks

Shipwrecks falling within the territorial and maritime cultural zone of South Africa are protected by Section 35 (4) of the NHRA. They are legislated as a National rather than a Provincial competence and are therefore the responsibility of SAHRA. SAHRA has generously made available a full list of all shipwrecks (61 in total) off the coast of Cape Padrone, Woody Cape, Bird Island and the northern Algoa Bay area and these are attached as Appendix 4. Unfortunately, the co-ordinates of only 3 wrecks are provided. This could be because the exact location of these wrecks is not known, or because of their sensitivity.

8.7 Translating policy into practice: The effective conservation and sustainable utilization of heritage sites in the GAENP will only be achieved once a Conservation (Cultural Resource) Management Plan has been established. However, such a policy document will only become effective when it promotes an appreciation of our collective South African heritage. This can be achieved through an active programme of education and public awareness which recognizes that **nature** and **culture** are equally important components of our environment.

9. ISSUES OF CONCERN

A number of issues arose during the research at GAENP which led to concern among researchers.

9.1 Duplication of Research

Charl Louw, a student from Pretoria University, undertook a survey of heritage sites in the GAENP on behalf of DEAT immediately prior to the commencement of this research. He has, unfortunately, not made a copy of his report available to SANParks. This was a minor problem as informants sometimes told the fieldworkers that they had already made this information available to the student and were not prepared to spend time and energy assisting with a second survey.

9.2 Lack of knowledge of the NHRA

There appears to be a lack of knowledge regarding the NHRA (as well as the Policy guidelines for cultural resource management in National Parks) by the various section managers in the Park. This has resulted in old farmhouses being destroyed and old cemeteries being threatened as fences are removed around them.

As an example, roofs have been removed from farmhouses at Dirks Kraal and Vredelus (at Lake Mentz) and large red X's painted on the wall, suggesting that they are destined for destruction. Fences have been removed around family cemeteries, resulting in the wildlife knocking over gravestones (eg. Vredelus and the Gorah). In one case, an Early Stone Age archaeological site was destroyed with the construction of a swimming pool and lapa at the luxury Gorah Lodge. Not only is it illegal to destroy archaeological sites and buildings over 60 years without a permit, the destruction of old farmhouses leads to feelings of anxiety and anger amongst the public with regard SANParks.

9.3 Negative perceptions towards SANParks in the area

The palaeontologist did not come across any negative comments about the Park during his fieldwork. However, palaeontological remains cannot be used for land claims, and therefore lack the emotional connotations of the other disciplines. The anthropologist, historian and archaeologist all came across varying degrees of negativity toward the SANParks in the GAENP planning domain. In extreme cases, this led to farmers refusing access to their lands and refusing information on heritage sites because of fears of land claims.

One farmer commented *“They (the Parks Board) do not take an interest in houses and indeed regard them as something of an evil. They have already torn down a great many of them on the Addo side. I hope you realize that farmers are also destroying houses and bushmen paintings and any other evidence that may make them liable to land claims or subject to control from any source”*. Another farmer, on being asked to allow fieldworkers to interview farm workers on his land over lunch time, locked his farm gates to deny access.

These negative feelings also extended to black farm workers who had been forced to move after the farms they had been living on had been bought out by SANParks. While they had been financially compensated, they pointed out that they had lost a great deal materially as a result of the move. Many had relocated to small villages nearby (Somerset East and Steytlerville) and could no longer keep their livestock, etc. The comments of a farm worker are here expressed in Afrikaans, *“Dis die Park wat oorvat, oorvat, oorvat. Dis uit met jou vee. Die Park, hy druk ons. Hy hou die ongedierte wat nie met ons leef nie. Kan jy ‘n jackals slag? Jy kan tog nie ‘n rooikat eet nie!’*.

9.4 Difficulty in tracing informants who had moved

Researchers found that the newly appointed Section Managers in the Park, as well as the majority of their game guards, had a limited knowledge of the Park, its previous history and heritage sites. Older families, who had lived in the area for generations, had moved after they were bought out by the Park and in some cases settled many hundreds of miles away. This meant that it was difficult to find people with the relevant knowledge.

9.5 Feelings of apathy regarding living heritage

These perceptions have also been noted in similar research in nature reserves. The majority of villagers have little idea of the nature of heritage sites and find it difficult to identify them. Cultural resources, and access to these resources whether for social, economic or ritual reasons, often feature low on their list of priorities. This is because they feel that they have more significant issues which need to be resolved, such as access to land and water, and a viable income. Future projects will have to concentrate on creating an awareness amongst people regarding cultural heritage.

10. RECOMMENDATIONS

A number of recommendations are listed below which should be addressed in the short term. Issues which relate to the long-term management of heritage resources in the GAENP are listed in the Motivation section below.

10.1 Maintain the centralized database

The database of heritage/cultural resources in the GAENP initiated in terms of this project needs to be maintained. This may ultimately, mean appointing a staff member, such as the social ecologist, to do the work. An attempt was made to involve the present social ecologist at Addo in the project but he indicated a reluctance to work over weekends.

10.2 Cease the destruction of all heritage sites

The destruction of heritage sites (mainly old buildings and fences around cemeteries) needs to be stopped immediately and the due process of applying for permits (to SAHRA) must be followed. SAHRA will request its local representatives to assess the importance of the structures and provide guidelines for their demolition or conservation.

10.3 Heritage impact assessments

These must be undertaken prior to any large scale development in the GAENP. The assessments need to be undertaken for all the new developmental areas (i.e. including the building of new roads and the setting up visitor accommodation such as lodges). Areas which have been identified as developmental areas are the mouth of the Sunday's River, Buffelskuil, Kaboega/Kuzuko Private Game Reserves and Lake Mentz.

10.4 Restoration of heritage sites

Restoration of old structures needs the advice and assistance of professional bodies such as restoration architects, etc.

10.5 A heritage workshop for staff

Such a workshop for staff of the GAENP on the National Heritage Resources Act needs to be held within the next 6 months to inform them on the importance of conserving heritage resources. This is important in order to create an awareness and sensitivity to heritage sites. Of concern is the possibility that sites are being destroyed without authorization.

10.6 Monitor any threatened sites

Only threatened sites in the GAENP need to be monitored at this junction. There is no point in monitoring all the sites identified in this project until a more comprehensive survey has been undertaken and the staff have been suitably trained.

11.0 MOTIVATION FOR FURTHER RESEARCH IN GAENP

The process of amalgamating the GAENP and the purchase of new land to meet these objectives, places SANParks in the position to integrate the management of heritage resources with the Environmental Management Plan of the Park at its conception. As the Park management undertakes rehabilitation of the environment, the same can be done for heritage sites. This is clearly a crucial period in determining the degree to which heritage (or cultural resource) management will impact on the overall objectives of the Park

A number of proposals are set out below for consideration:

11.1 Community Workshops

It is suggested that community workshops are employed as a means to further identify and evaluate the importance of certain sites and areas of cultural significance. This would include ritual sites, graves as well as an investigation into identifying and further evaluating the importance of certain plant taxa and specific sites towards accommodating sustainable access to these within the proposed GAENP. The anthropologist has proposed at least 6 workshops, to be carried out in a number of villages around the Park.

Community workshops would encourage interested people to come forward and become involved in the documentation of their heritage. This process would serve a number of purposes:

- It would empower communities to take an interest in their heritage
- It would encourage communities to become involved in heritage management
- It would help set up channels of communication between communities and the Park

Ultimately, this may lead to SANParks entering into agreements with local communities to manage certain heritage sites for financial gain. However, sites, which are sacred to certain communities, cannot be opened to the public without full consultation and the permission of the affected community.

Establishing good working relationships with communities around the Borders of the Park may assist in the prevention of poaching, vandalism and help regulate the access and use of Park resources (e.g. plants).

11.2 Heritage Workshops for SANParks Staff

It is proposed that at least 5 workshops are scheduled for the 5 sections of the Park. These workshops would outline the main aims of the NHRA and bring the 'Policy guidelines for Cultural Resource Management in National Parks' to the attention of the Section Managers and their staff.

11.3 Further Research

From an **archaeological** perspective, further field work in the area is essential. A fraction of the sites in the area has been identified. It is proposed that the fieldworkers should have access to farms immediately after purchase as this facilitates research. Current negative perceptions have hindered fieldwork. However, attempting to re-locate an archaeological site (such as a cave) after the inhabitants of a farm have left, is also extremely difficult. In many cases it may not even be necessary to do a full survey as there are many places which are unlikely ever to be visited by tourists.

The **anthropologist** has identified two areas of research which require further study; namely a detailed compilation of historical records regarding the utilization of plants. This would contribute to the understanding of the current status of the forest and thicket and serve as a management tool.

She has indicated that a detailed fieldstudy would allow for revised plant species assessments and enable specific conservation recommendations for each taxon. Based on these data an

identification identikit or booklet for management purposes could be provided while an illustrated guide would be useful for SANPark staff and visitors.

The **palaeontologist** has indicated that there is no need to do any further field surveys. He is aware of the fossil-bearing localities and notes that development in these areas should only proceed after a Heritage Impact Assessment.

The **historian** has only sampled a very small part of the history of the area. Only three areas have been covered in some depth, Addo, Nanaga and Kirkwood in this first phase of the cultural mapping project. The central portion covering Kirkwood, Enon, Addo and the Zuurberg has also been targeted. A small sample of sites on the western and eastern side of Lake Mentz have been covered but there are many more. The area known as the Moot is needs to be researched and sites identified. The towns of Waterford and Wolwefontein need to be studied. The old area and ferry at Colchester and Cannonville need to be located. The area around Alexandria, the town itself, the chicory industry and the farms in that area needs to be studied and visited. The lost village of Darlington needs to be researched.

Future research involving privately owned farms will require the historian to go through a series of initial steps, possibly community meetings, before the on-site visit can take place. It may be necessary to emphasize the tourism potential of heritage resources on private land in order to obtain permission for access. Knowledge that their past will preserved is a key to obtaining information during the second phase. Further research will complement the sample database produced and will be useful for tourism initiatives in the GAENP as well as being a more comprehensive tool for management of the historical sites in the GAENP.

It is very important to note that the historian should be notified immediately a new farm has been bought and before any intervention has taken place. The demolition of old farmhouses and structures erases all the unique features of a building. Dating is then difficult. Only the cemetery will give an indication of previous inhabitants.

Further historical research will require the services of a translator as Xhosa and Afrikaans are more widely spoken than English.

11.4 Interpretive pamphlets and displays

The researchers of this project propose the compilation of a number of pamphlets which inform visitors of the heritage resources of the GAENP. Separate pamphlets could be prepared on archaeology, living heritage, history and palaeontology.

Another suggestion is that of small interpretive displays, consisting of a small glass display case or laminated poster indicating the heritage resources in a specific area. These would be strategically positioned so that visitors to Lake Mentz, for example, would be informed of the heritage of the area before exploring the Park. It is important to note that these small displays **would not take the place of larger interpretive displays in environmental centers within the Park.**

11.5 Wider Consultation

It is proposed that during the second phase of cultural mapping, contact is made with SAHRA (a visit to Cape Town is advisable) and discussions are held on the development of a management plan for GAENP. SAHRA will be able to provide assistance in the area of significance ratings, for example. It is also advisable for the researchers to discuss heritage

issues with the Western Cape Society of Heritage Practitioners, in order to be brought up to date with the latest ideas in heritage management.

11.6 A Conservation Management Plan for GAENP

This pilot research project strongly recommends and would like to motivate for the development of a Conservation Management Plan (or Cultural Resource Management Plan for the GAENP in terms of Section 47(3) of NHRA. Guidelines for designing such a CPM are outlined in a SAHRA document entitled 'General Introduction to Surveys, Impact Assessments and Management Plans' and are only briefly outlined below.

The CPM would determine (among other matters):

- * Strategies to retain the significance and values of heritage resources as identified in the survey,
- * The conditions under which intervention at heritage sites may take place,
- * The strategies and procedures for interventions such as mitigation, research, recording community memories, preservation, restoration, reconstruction, etc.
- * The appropriate use of heritage sites in consultation with affected parties,
- * Determining who will make the decisions and take action to protect the heritage resources,
- * Recommendations for presenting the resource to the public so that the significance of the place is understood by the visitors and local communities,
- * A schedule and budget for maintaining and monitoring of heritage sites,
- * A schedule to monitor and review the Conservation Management Plan,
- * The need for a business plan so that the recommendations can be implemented in a sustainable manner (eg. Heritage practitioners should be involved in the planning process (i.e. roads, game lodges and also hiking trails).

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ARCHAEOLOGY - GLOSSARY

Acheulian - This is a division of the Early Stone Age characterized by handaxes and cleavers.

Bushman - A general term used to refer to people following a hunting and gathering lifestyle in South Africa. The term has been replaced by San, but Bushman has now begun to acquire more respectability.

Bored stones - Circular stones with a hole drilled in the middle. Thought to be weights for digging sticks.

Cultural Resource Management (CRM) - The safeguarding of cultural resources through education, legislation and protective measures. It includes sustainable development.

Deposit - An accumulation of soil, sand and ash at an archaeological site.

Deflation - Hollows created between the sand dunes through wind erosion.

Early Stone Age - Stone tools of a certain style, often made on cores, and dating between 1,7 million and 125 000 years ago.

Excavation - The systematic uncovering of artifacts by removing the soil using scientific methods

Flake - Stone tools struck from a core, often showing a bulb of percussion

Grave goods - Items buried with the dead

Grindstones - Flat stones with one or more grinding surfaces.

Holocene - The most recent geological time period – beginning with the end of the last glaciation (around 10 000 years ago).

In situ - In place, undisturbed.

Khoekhoen - Previously, Khoikhoi (Hottentot). This term refers to the pastoralist peoples who settled in South Africa some 2000 years ago.

Khoisan - A collective term, referring to both the Khoe and the San.

Layer - A horizontal unit in an archaeological excavation.

Later Stone Age - The technology and lifestyle followed by hunter-gatherer groups between 30 000 years ago and the colonial period.

Lug - The pottery 'ear' or handle on a clay vessel.

Midden - The accumulation of debris from human occupation at a site. In this report, mainly refers to heaps of shells.

Middle Stone Age - Distinctive stone tools made during a period between 125 000 and 30 000 years ago. It includes points and blades.

Ochre – A natural coloured earth often used as a pigment by the Khoisan.

Pleistocene - A geological period of time which comes before the Holocene.

Prehistory - That part of our human history which pre-dates written accounts.

Radiocarbon dating -A technique of dating that makes use of the fact that unstable carbon 14 decays at a steady rate. This method may be used to date organic materials up to 50 000 years old.

Slag - The waste from iron-smelting

Talus slope - The soil (or deposit) in the front of the cave which runs down the front of a cave or shelter. It often contains artifacts which have been washed out of the site.

Trance dance - Practiced by San communities in the Kalahari and described in 19th century accounts. Many rock paintings appear to be remembered trance experiences.

A SUMMARY OF THE PREHISTORY OF THE EASTERN CAPE

Stone Age settlement

In 1929, archaeologists working in South Africa, devised a system of dividing the Stone Age into 3 periods, namely the Early Stone Age, the Middle Stone Age and the Later Stone Age.

The Early Stone Age (ESA) refers to stone tools made by *Homo erectus* groups and these tools date between 1,7 million and 125 000 thousand years ago. The most distinctive tool types of the ESA are handaxes which are easy to identify and have been widely reported from the Eastern Cape. Handaxes were reported from the Gorah, but the site has recently been destroyed. None were discovered inside the GAENP during this survey, but they are known from the banks of the Bushmen's River. Large numbers of handaxes were excavated from around a spring at an important ESA site called Amanzi. It is located near Uitenhage and outside the footprint.

The Middle Stone Age (MSA) refers to very different stone tools. They are often triangular shaped or long blades. They are frequently made on more fine-grained stone and show more controlled use of stone. These tools date between 125 000 and 30 000 years ago. At Klasies River Cave near Humansdorp, they are associated with *Homo sapiens* (i.e. modern people). It is quite rare to find MSA remains in caves associated with bone and other food remains. The majority of MSA sites are surface scatters. Scatters of MSA tools are reported all along the Sundays River Valley, and also inland at Addo Heights and Korhaansvlakte inside the GAENP.

The Later Stone Age (LSA) peoples were ancestral to the San (Bushmen) and Khoekhoen (Hottentot) peoples who lived in Southern Africa between 30 000 years ago and colonial times. During most of the Holocene, South Africa was inhabited by small groups of mobile hunter-gatherers. When they lived at the coast, they exploited the marine resources such as shell fish, seal and sea birds. Many hundreds of shell middens are found along the coast in the GAENP. Inland groups frequently lived in caves and rock shelters and there are many sites in the Zuurberg which testify to this. Only a fraction of the caves sites have been visited but many have rock paintings and at least a shallow archaeological deposit.

Excavations at sites such as Melkhoutboom and Vygeboom (inside the GAENP) have uncovered graves with rich grave goods indicating a complex belief system. The rock art too indicates the San occupants took part in trance before painting. The sites contain well-preserved plant remains which indicate how they utilized their environment. The majority of hunter-gatherer groups had been pushed out of the Zuurberg by the 1820's and were forced to move further inland to escape European settlement on their lands.

Khoekhoen settlement

Sheep and pottery were first introduced to South Africa by pastoralist groups some 2000 years ago. By the 16th and 17th centuries, these tribal groups were spread all along the coastal forelands from Namibia to the Eastern Cape. They were known to the colonists as Hottentots. Today the term Khoikhoi (correct spelling Khoekhoen) is more acceptable. The earliest archaeological evidence for the Khoekhoen in the region comes from Cape St Francis and dates to 300AD. Many of the shell middens in the GAENP contain pottery, confirming the presence of the Khoekhoen in the area.

There are numerous place names in the GAENP which are derived from Khoekhoen. For example Kaba, Coerney (originally Koernoe), Nanaga (although this cannot be confirmed by Nienaber & Raper 1997), Boknes, Gorah, Kabouga, Kariega, Sapkamma, etc. These names confirm that this part of the Eastern Cape was settled in the 17th and 18th centuries by various Khoekhoen tribal groupings such as the Inqua, Damasqua and Gonaqua. They were absorbed into the colonial lifestyle of the 18th century, becoming farm workers for the Dutch and British or clients of the Xhosa where they were engaged in elephant hunting. A few groups settled at missions such as Enon, Bethelsdorp and Theopolis.

Early Xhosa Settlement

In addition to the Stone Age discussed above, archaeology can also inform us on the early contact period with black farmers in this area. While the majority of black farmers lived to the west of the Fish River, which forms an important ecological boundary between summer (eastern) and winter (western) rainfall, the amaRharabe were settled around Bedford/Fort Beaufort, while the amaGcaleka were living along the coastal areas around 1820.

Of particular interest in terms of this research, is the tantalizing possibility that the headquarters of two Xhosa chiefs were located in the GAENP footprint. These two sites have not been explored, but they offer the opportunity of archaeological research which may inform us of 19th century Xhosa kraals.

The first site is 'Congoskraal'. It was reported to WHR Gess (an amateur archaeologist) in 1962. According to his accounts 'we have the suspicion that this is a Bantu site, as the farm was ca. 1820 the home of a Bantu chief'. According to Skead (2002) this would have been Chungwa's Kraal. Chungwa was a Gqunukhwebe (a mixed Khoekhoen/Xhosa group) Chief. There is a small hill nearby which is now called Bailey's Kop, but which is called Ntaba kwaChungwa by the local Xhosa.

The second Xhosa kraal is reputed to be that of Chief Habona of the 'Donge' and was reported to have been near the Zuurberg Pass in the late 18th century. After coming across this reference, our attention was drawn by John Adendorff to some aerial photographs which showed several circular stone features on the farm Bassons Kloof. These stone circles resemble stone kraals which clearly need to be investigated to determine their age

TYPES OF ARCHAEOLOGICAL SITES ENCOUNTERED IN THE RESEARCH AREA

Deacon (1976) has divided the archaeological sites of the Eastern Cape into 4 types and these same types can be identified in the GAENP. They are:

1.Coastal strip

1.1 Shell middens: The density of shell midden sites along the coast between the Sundays River and Kwaihoek is extremely high. Our survey was very selective. On the 30km of sand dunes called the Alexandria dune fields, we sampled the coastal dune area at 1-2 km intervals. We discovered one or more middens on every occasion when we drove over the coastal foredune. Toward the end of the survey, we were sampling the coast even more sporadically, and yet discovered sites on every occasion.

Many sites were located several hundred metres from the shoreline and were merely marked on the mapped and not surveyed. A comprehensive survey of the entire coastal belt would take at least two weeks.

There are literally hundreds of these sites between the Sunday's River mouth and Kwaaihoek. They are located varying at distances from the sea, some are immediately above the high water mark (often behind the coastal fore dune) and some may be located up to 5 km from the coast. These middens are typically dominated by white mussel (*Donax serra*) shells, although other species may also occur in smaller numbers. The middens around Cape Padrone also contain periwinkles (*Oxystele sp*), occasional limpets (*Patella sp*), perlemoen (*Abalone sp*) and olly-crock (*Turbo sarmaticus*). Some middens contain bone, often of large mammals and seal.

The artefactual material in these middens varies. Rough stone flakes in quartzite and hornfels occur in the majority of middens but not in very high numbers. Only 1 site was located with Wilton artifacts (in other words small, microlithic tools on fine-grained stone). Some middens contain pottery and these all belong to the 'Cape Coastal Ware' identified by Rudner (1968). The potsherds include lugs, nipples bases and sherds with drill holes. The pottery is fine-grained although ochre burnishing is not common. This pottery is generally associated with the Khoekhoen. Ostrich eggshell fragments and beads have not been observed on any of the sites.

Binneman (1996) has elsewhere distinguished between middens with pottery and domesticated animals (cattle and sheep), middens with pottery, middens with a quartzite industry, middens with Wilton artifacts, etc. I have not made this distinction in this pilot project, but clearly further research would reveal this.

While Rudner (1968) indicates the presence of a Mossel Bay Industry (MSA) in middens at both Paardevlei and Woody Cape, he does note that they contain large crescents which suggests that he may have found a Kabeljous (Binneman 1996) industry instead. The Kabeljous Industry, which Binneman identified at Jeffreys Bay, contains large quartzite implements including very distinctive large segments. He dates this Industry to between 3000 and 1800 years and relates this to mobile hunter-gatherer groups.

Dating: Research in the Alexandria coastal dunefield (Illenberger 1994) suggests that it was formed over the past 6 500 years. This is why the database reflects the date of 6 500 years as the oldest possible date. In some cases the date of 2 000 years is given. This is when the predominance of pottery suggests that the sites were occupied by pastoralist groups.

1.2 Human Remains from the coastal zone have been discovered at Springmount (1980), Graafwater (1958), Seaview (1978), and Woody Cape (no date in the Alexandria District. These remains have been lodged at the Albany Museum, South African Museum and the University of Witwatersrand. None of these remains were professionally excavated and there is little associated information. Two further skeletons have been reported from the Boknes area and they are lodged at the South African Museum and East London Museum.

1.3 Fossilised bone and MSA implements: Less common are a few sites in the Kwaaihoek area which contain fossilized bone and Middle Stone Age implements. These sites were first recorded in the 1968, and subsequently collections have been made by

Bishop (1986), Webley (1994) and Binneman (2002). These open sites are reported from deflation areas between the sand dunes, some 1 km from Diaz Cross. There is a possibility that these open sites are *in situ* and that careful survey work and excavation could reveal living floors. These sites are very sensitive to disturbance and are unfortunately easily accessible to the public visiting Diaz Cross. Another fossil site reported on by a number of visitors, is that of the Springs fossil site near Put se Vlak. Fossilized bone has been recovered from the aeolianite deposits and Hall has indicated the presence of MSA artifacts although this could not be confirmed during more recent visits (1990s).

These sites are located in fossilized dunefields which probably formed during the last interglacial (around 120 000 years ago). According to Illenberger (1994), this suggests a basal date for these accumulations.

2. Coastal Plain

The coastal plain between the sea and the Zuurberg Mountains has been disturbed by farming, road building and industry and many archaeological sites have been destroyed.

2.1 Freshwater shell middens: These middens are located along the banks of the Sundays River. However, due to extensive citrus farming, the majority appear to have been destroyed. Stapleton (1919) reported on a midden at Dunbrody (just outside the 5km buffer zone) on the Sundays River. The freshwater midden (consisting of freshwater mussel shells) and pottery fragments was located in the face of a cliff, some 7m above the level of the river, and some 2m from the top of the cliff. The shell deposit was some 10cm thick and occupied a horizontal area some 2m by 1m. Some of the shells were calcined and reduced to a white powder. The pottery was scattered amongst the shells in broken pieces. No stone tools were identified. Two types of pottery were identified by Stapleton. The first is yellow in colour, thin and well-baked. The second is red or black, thicker and friable. The red pottery resembles the Cape Coastal ware described above. Stapleton noted that the freshwater mussel was already extinct in the Sundays River Valley by 1919.

2.2 Fossilised bone and MSA artifacts: A number of sites have been reported from the Coega / Alexandria area containing calcretized Cenozoic sediments with fossilized teeth and bones. Some Middle Stone Age implements have been reported suggesting a date of around 80 000 BP. Samples of bone and teeth from Bosrijk (Alexandria) have been identified as wildebeest, blesbok/ bontebok, buffalo and an extinct ass-like zebra.

2.3 Early and Middle Stone Age artifacts from river terraces: Ruddock, a geologist at Rhodes University, reported on Early and Middle Stone Age artifacts from the river terraces of the Sundays River valley in the 1940s and 1950s. However, even before this, Prof van Riet Lowe and the Abbe Breuil are reported to have undertaken a reconnaissance of this area. The records of the Albany Museum also indicate that a certain HB Maufe, undertook collections of MSA and ESA artifacts from the area around the bridge between the old road from Addo and Port Elizabeth in 1936. Sites at T'Zoetgeneugd, Coega Kammass Kloof, Harveyton, Hermitage, Addo Drift and Tankatara were sampled.

According to Ruddock (1957) these stone artifacts were found lying between the river cobbles. Observations at Soutkloof in 2002 indicated that these implements are in fact lying on the top of the river terraces and are rolling down the slopes with continuous

erosion. There is no evidence of *in situ* material and Ruddock observes that the artifacts are very worn suggesting fluvial transport.

2.4 Stone artifact distributions on higher ground: It is possible that this category is the same as that of 2.2. Two such sites were located during this survey, one at Addo Heights (exposed by an erosion donga) and the other at Korhaansvlakte (exposed by a game path to a waterhole). The tools at Addo Heights appear to be Middle Stone Age and are made on silcrete and quartzites. There is one possible handaxe (Early Stone Age). The tools at Korhaansvlakte are not distinctive, but are probably also Middle Stone Age and are made on quartzites and shales. The tools from the latter site appear to be *in situ* and covering a relatively small area.

2.5 Graves: No stone cairns or graves (relating to prehistoric occupation of the area) were discovered during the initial survey. However, Stapleton and Hewitt apparently recovered a number of skeletons from under circles of cairns on the farm Dunbrody, at Kirkwood in 1928. These cairns were located 100 yards from the east bank of the Sundays River. It would appear that these cairns burials have been destroyed during the course of the last 100 years in the area.

3. Northern slopes of Zuurberg

These sites are predominantly caves which are located in the foothills of the mountains (Kaboega, Grootpoort, Enon, Superbus, Witpoort). The substantial folding of the rocks has resulted in very few caves and the majority are not suitable for occupation due to sloping floors. A few such caves sites were visited during the survey. In all cases the deposit was shallow, and the surface did not suggest rich deposits. Limited numbers of stone tools, potsherds, bone and freshwater mussel were recorded. Two of the sites contained paintings of handprints. Caves are reported from the Witrivier area, near Slagboom, but these could not be confirmed.

Only one significant site has been reported from the eastern slopes of the Zuurberg, and that site is Melkhoutboom (Deacon). The site is important as it contains evidence of human occupation dating between 15 000 and 2 800 years ago. This is an important period which includes the end of the Upper Pleistocene and the Holocene. At least 3 periods of stone tool technology are recognized at the site namely the Robberg, Albany and Wilton. The site is also important because of its excellent preservation of organic remains so that it informs us on diet and lifestyle during this period. The site contained a number of human burials and the grave goods suggest a complex belief system. Melkhoutboom is one of the most important excavated archaeological sites in the Eastern Cape and it is important that the SANParks acquires this property. The site offers the opportunity to provide an educational experience for learners. In general the rock art from this area is not spectacular.

4. Southern slopes of Zuurberg

A number of caves are reported (Klipfontein, Kuzuko and Vygeboom) from the western slopes of the Zuurberg, facing toward the Karoo. According to local farmers, there are also many caves in the Witpoortjie, a narrow gorge in the mountains near Lake Mentz. At the time of our fieldwork, the rivers were in flood and we could not investigate this. The rock art at these caves tends to considerably more complex, colourful and detailed than on the eastern slopes of the mountain. The nested u-shape rock art at Klipfontein is particularly interesting

as it conforms to the trance hypothesis. The archaeological deposit at Klipfontein, Kuzuko and Biesenfontein could not be evaluated.

The deposit at Heuningneskop was very shallow. Vygeboom, consisting of three sites (Middelkop, Kleinbooi Bos and Mooikrantz) contained more than 1m of deposit which was excavated by Hewitt in 1932. This deposit contained a number of human burials with extremely rich grave goods, including ivory pendants, bone tally sticks and bone tools.

4.1 Human remains from the Zuurberg: A number of human skeletal remains have been discovered in the Zuurberg (FitzSimons 1923, Wells 1929, Hewitt 1931 and Deacon 1976). A farmer called Wells, discovered some human remains while removing red soils from a road cutting. The cutting was situated on a small knoll on the lower slopes of the Zuurberg. Unfortunately, he does not give the exact location. Four skeletons were found under a circle of stones and associated with grindstones and stone artifacts. A fifth skeleton was found under three grindstones and was associated with a stone palette situated on its shoulder. It was also associated with 13 ivory or bone implements – possibly bone points or linkshafts. A further 3 skeletons were located at lower depths, bringing the total in this particular spot to 8. The human remains were subsequently send to the Anatomy Department at the University of Witwatersrand, where they are located to this day.

THE CONSERVATION OF ARCHAEOLOGICAL SITES

The Legislation

All archaeological sites are protected by Section 35 of the National Heritage Resources Act (No 25 of 1999) and material relating to archaeological sites is considered the property of the State. No person may remove, destroy, damage, excavate, deface or disturb any archaeological sites without a permit issued by SAHRA.

Archaeological sites include: material remains resulting from human activity which is older than 100 years; rock paintings (defined as any form of painting, engraving or other graphic representation on a fixed rock surface or a loose rock); features, structures and artifacts associated with military history which are older than 75 years; as well as human and hominid remains. Archaeological sites are a very broad category and may include: shell middens, cave deposits, historical rubbish dumps, etc.

Permits to undertake archaeological work are issued by SAHRA to professional archaeologists. The minimum standards of a professional archaeologists is an Honours degree with several years working experience.

Shell Middens

Before setting up a conservation plan for the coastal zone, it is important that comprehensive survey of archaeological sites be undertaken. The identification of sites of special significance as well as high risk areas is an essential first step in the conservation process. Development of the coastal zone in South African has resulted in the destruction of thousands of shell middens and this has had a negative impact on this heritage. Shell middens are a non-renewable resources and need to be conserved. The advantage of an area such as the Alexandria dune fields is that virtually no development has taken place along this stretch of the coast. Damage to shell middens has resulted mainly from natural causes (wind erosion) and from man. Unfortunately,

the unrestricted use of 4x4 vehicles on the beach up until 2001 has resulted in damage to many shell middens. Vehicles have been driven over sites, and people have collected pottery and stone tools. The ban on the use of vehicles on the beach will have a positive effect on conservation efforts.

Kaplan (1994) has found that 99% of shell middens are found in the first 300 m from the high-water mark. He has also pointed out that certain physical features, such as rocky headlands, coastal cliffs and estuaries have acted as magnets for human occupation in the past. In general, the distribution of shell middens makes it possible to generate accurate predictions which can allow one to plan and regulate coastal development.

Shell middens are very vulnerable to human impact. They are clearly recognizable, even to the uninitiated, and are plundered by visitors looking for stone tools and pottery. It is therefore important that SANParks consider the fragility of shell middens along the coastal zone of the GAENP and consider how it may most effectively entertain and educate its visitors without placing the shell middens in danger. Suggestions include:

- * setting up a coastal management plan which includes the conservation of shell middens,
- * setting up an information center at the Sundays River Mouth,
- * making sure that any hiking trails stay well away from the middens,
- * making pamphlets available which inform visitors on the importance of conserving shell middens.

Rock Art Sites

Guidelines for the management and conservation of rock art sites in wilderness areas have already been established by Deacon (1993). It is important to remember that South Africa's rock art is of international importance and every effort should be made by SANParks to ensure that the art is conserved for future generations. Much can be learned from programmes which are already in place in the Drakensberg area of KwaZulu-Natal.

Deacon's recommendations include:

- An information center or visitor interpretation board should be installed at the beginning of the trail leading to a rock art site, explaining the meaning of the art and the reasons for protecting it. It should educate visitors about the dangers of touching and wetting the paintings.
- * When rock art sites are opened to the public, ease of access should be the first consideration. Sites should be close to the footpath. The trails should be well designed and it may be necessary to have boardwalks to protect the deposit
- * Visits to rock art sites should be strictly controlled. They should either take place together with a trained guide, or there should be a railing or barrier which prevents visitors to the site from vandalizing the art.
- * Sites with rock art and archaeological deposit should not be selected for overnight camping. No fires should be allowed in the cave.
- * Controlled burning should not be allowed within 50 m of the site.

- * Sites of particular significance should be identified and they should not be open to the public.
- Regular inspection visits will allow a trained guide to monitor the site and assess any deterioration.
- * It is important to have knowledgeable staff. If they are to monitor the rock art and guide visitors to the site they will need to attend a short course on the meaning and conservation of rock art and how to undertake a site inspection.

Graves

Graves are afforded specific protection by the NHRA and it is considered an offense to destroy them.

Section 36(3) of the Act requires that a permit be obtained to destroy, damage, alter, exhume, remove from its original position the grave of a victim of conflict, or any burial ground or part thereof that contains graves. Further, that a permit be required to disturb any grave or burial ground older than 60 years which is situated in a formal cemetery administered by a local authority. If there is the intention to exhume, the person applying for the permit is required to provide details of efforts made to contact and consult communities and individuals who by tradition have an interest in the graves or burial grounds (Section 36 (5)) and these are further elaborated in the Regulations to the Act (published in June 2000).

SAHRA has produced a number of guidelines on what to do when graves are uncovered accidentally. This involves determining the context of the grave. Secondly, after consulting the NHRA, decide which is the most appropriate situation relating to the grave and following the guidelines and procedures accordingly. Depending on the situation, this may involve consulting the descendants of the deceased. Finally, and most importantly for outside institutions, treating human remains with respect.

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LIVING HERITAGE OR CULTURAL RESOURCES – GLOSSARY

Abakweta – young Xhosa males in seclusion period during initiation rites into adulthood.

Abakweta live in a temporary grass hut away from habitation and wear only a white blanket and cosmetic clay over the body. During this period the initiate is ceremoniously circumcised and certain rituals are strictly observed.

Alum – white crystalline double sulphate of aluminium.

Amakrwala – Immediately following the *Kwetha* stage of initiation into adulthood the initiated man enters his community as an adult and to signify this he is required to wear specific clothing including a sports jacket and a cap as well as an ochre coloured facial cosmetic for a period.

Amayeza shops – shops selling plant and animal products and preparations for traditional African medicine.

BlitzTM – trade name for commercially available fire lighter used as a substitute for kindling, used here tongue-in-cheek.

Boer – white native of Cape Province who is a descendant of Dutch settlers and who speaks Afrikaans.

Conjunctivitis – inflammation of the conjunctiva of the eye.

Dystocia – Difficult birth.

ined. – unpublished.

Intelezi – plants used to ward off and protect from evil and sorcery; used for spiritual cleansing; taken orally, as a purgative, emetic or applied topically.

Isisiko – Xhosa customs and rituals.

Khoikhoi (correct spelling Khoekheon) – People numbering about 55,000 mainly in Namibia and in western South Africa. The Khoikhoi have been called Hottentots by whites in South Africa. In language and in physical type the Khoikhoi appear to be related to the San (Bushmen), i.e., they speak a variation of the Khoisan, or Click, language). A pastoral people, inhabiting the coast of the Cape of Good Hope in historic times, the Khoikhoi were the first native people to come into contact (mid-17th cent.) with the Dutch settlers. As the Dutch took over land for farms, the Khoikhoi were dispossessed, exterminated, or enslaved, and their numbers dwindled. They were formerly divided into 10 clans, each ruled by a headman and councillors elected by universal male suffrage. The Khoikhoi have largely disappeared as a group, except for the Namas (Namaqualand) of the Northern Cape and Namibia, who still live as pastoral nomads.

Marula products – produced from the fruit of *Sclerocarya birrea*.

Muthi stores – shops selling plant and animal products and preparations for traditional African medicine.

NTFP's – non timber forest products.

Padrao – monument/memorial

Paratyphoid – any of a variety of infectious intestinal diseases resembling typhoid fever.

Saponin – any of various plant glucosides that form soapy lathers when mixed and agitated with water.

sp. nov – *species nova*, referring to an undescribed species.

spp. – species (plural)

Ukufutha – spiritual cleansing by means of steaming the face over a boiling herbal concoction.

Ukuhlamba – spiritual cleansing by means of applying pulped plant material or a decoction of plant material over the body.

Ukuhlwayela – specific ritual for *abantu bomlambo* (River People) in river or ocean whereby gifts such as beads, tobacco or food is placed in the water.

Ukutshiza – the ritual splashing or spraying of an herbal concoction in the home and kraal with a small grass broom to purify and protect inhabitants from evil and sorcery.

LIVING HERITAGE

1. Introduction

The Albany Museum, on behalf of South African National Parks (SANP), commissioned specialist consultant Ms Michelle Cocks to undertake a preliminary survey of Cultural Resources (with specific reference to natural resources) within the proposed Greater Addo Elephant National Park (GAENP) and document these by means of a report presented in hard copy and CD-Rom, together with a database account to be incorporated with the findings of other specialist consultants (Dr Webley, Dr De Klerk and Ms Way-Jones) from the Albany Museum. Webley (see executive summary of this report) provides terms of reference in the context of cultural resources management within the proposed Greater Addo Elephant National Park. The study site, following Kerley and Boshoff (1997) includes a buffer zone of ± 5 km around the proposed boundary (Figure C0001). Each entry is discussed in terms of conservation and accessibility and recommendations for further investigations are made. A glossary of terms is provided.

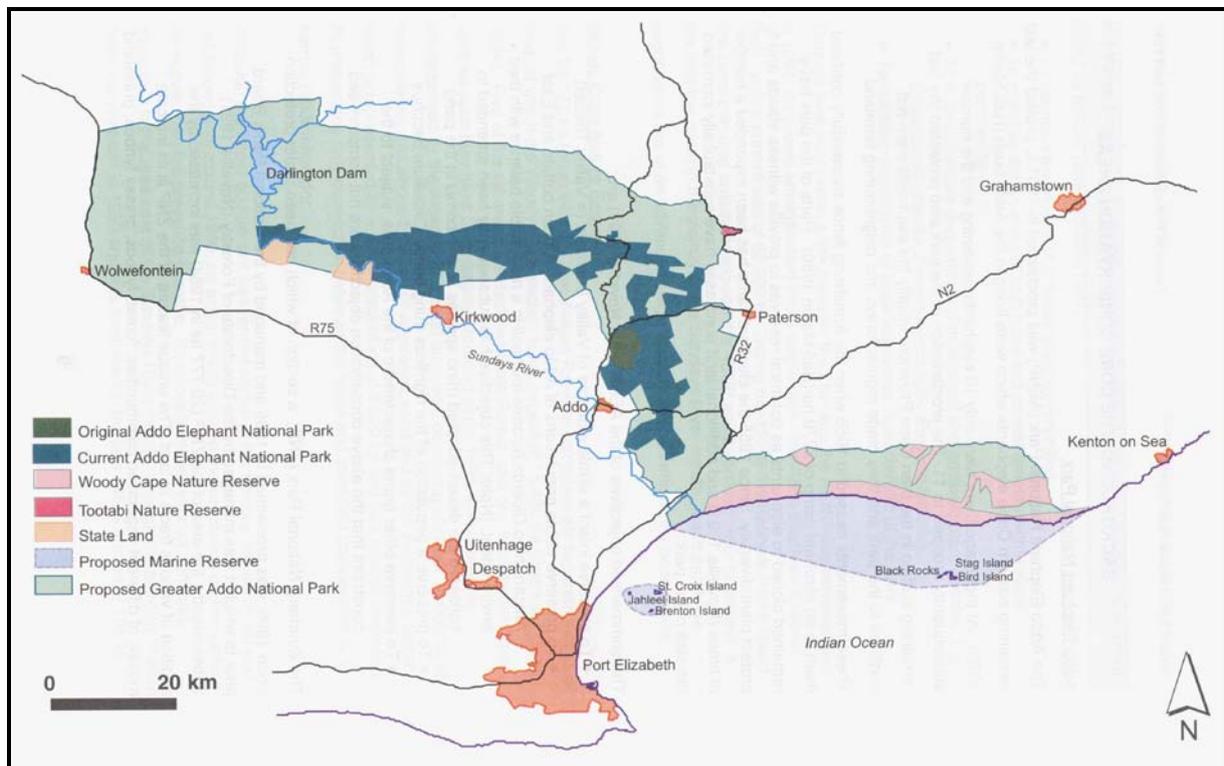


Figure C0001. Proposed Greater Addo Elephant National Park (Kerley & Boshoff 1997).

2. Methodology

Ms Michelle Cocks (ISER), Mr Tony Dold (Schonland Herbarium) and Ms Nomtunzi Sizane (c/o Schonland Herbarium) undertook field work in Addo, Alexandria, Coega, Grassridge, Kaboega, Kirkwood, Nanaga, Paterson and Suurberg districts over the period 10-2002 to 12-2002 with the aim of documenting cultural resources as defined by the terms of reference (see executive summary). Given the time and financial constraints of this preliminary study, specific sample sites were selected in order to document as wide a range of data as possible rather than an exhaustive study of a single site. Field data was gathered by means of informal

discussions and semi-structured interviews following Alexiades (1996) supplemented by the authors' published and unpublished data. Further to this relevant literature was consulted (see reference list). Coordinates were taken for site-specific records where possible with a GPS unit and quarter degree squares follow Leistner & Morris (1976). Photographs were taken of site-specific records where possible. Plant specimens not identified in the field were identified in the Schonland Herbarium, Albany Museum. Xhosa names for plants not seen were identified by means of published literature (Dold & Cocks (1999a)). All records were entered into a database using Microsoft Access™ software. Figures are JPEG format scanned at 300dpi. Results are presented in three sections namely, plant related data, animal related data and bird related data followed by a section on site-specific data subdivided into geographic areas viz. Alexandria, Addo, Coega, Kaboega, Kirkwood, Lake Mentz, Paterson and Suurberg.

3. Results

3.1. Plants

3.1.1. Background to plant utilization

Commercial utilization

The historical utilization of timber and non-timber products from the Suurberg forests is poorly documented as although it fell under the Eastern Conservancy described by King (1941) most attention in this regard was focussed on the larger Amatola forests. King (1941) notes “the forests of the Zuurberg [Suurberg] Mountains are of a dry type that are not of a high value for timber”. Nevertheless there is evidence of logging in the area (see Glenfield saw pits 3.4.7.2) and there is no doubt that selected species such as *Ptaeroxylon obliquum* (Sneezewood) and *Podocarpus* (Yellowwood) have been harvested heavily in the past. Sim (1907) states “the Zuurberg forests are situated chiefly in deep ravines between the spurs of that range, and the accessible ones appear to have been heavily worked [logged] in previous years. The regrowth in these is generally poor, and a considerable period must elapse before regular felling can take place in them.” Certain species are selected for fuelwood, medicinal and cultural uses in these forests although perceived accessibility is extremely restricted.

Regarding the Alexandria Forest Sim (1907) notes “These forests are much more extensive than was anticipated; they stretch along the coast for a distance of more than thirty miles, and probably average more than three miles in width, portions being on private property. It is evident that in days gone by they were heavily worked. The natural reproduction is good.” King (1941) states that the forests of the Eastern Conservancy have been worked mainly for poles except at Alexandria where a good deal of Boxwood (*Buxus macowanii*) has been exploited for export (see also Boxwood Forest 3.4.1.6.). Phillipson and Russell (1988) provide a discussion on the phytogeography of the Alexandria Forest together with a checklist of species occurring there.

Commercial harvesting of Thicket species is limited to small-scale construction timber and poles, particularly Sneezewood (*Ptaeroxylon obliquum*) poles that have been utilized as fencing poles throughout South Africa. Sneezewood fencing poles are virtually indestructible and as a result the tree has been harvested heavily since the early 1800's with the result that few mature trees are seldom seen. Thousands of fence poles, many more than 100 years old, are still in use. Sneezewood timber was considered ideal for window frames and doorsteps where wet-rot would reduce the life span of any other wood.

It is suggested that a detailed compilation of historical records regarding utilization of plants be commissioned. Such a document would contribute to the understanding of the current status of the forest and thicket and serve as a management tool.

Community utilization

Communities within the proposed GAENP, both rural (farm workers) and urban (town, village and township residents) rely to some extent on natural resources for utilitarian and cultural requirements on a daily basis. The most obvious, and often the most contentious, use of these resources is fuelwood. Less conspicuous is the use of plant and animal material for medicines and cultural requirements. The cultural significance of natural resources is poorly known in the study site and it is clear from this preliminary study that further investigation is warranted in light of the recommendations of the National Heritage Resources Act (Act No. 25 of 1999).

3.1.2. Rare and threatened plant species

Scientific information regarding rare and threatened plant taxa falls within De Jong's (1992) guidelines for evaluating natural resource sites and is considered important for planning and management within the proposed GAENP and is therefore included within in the scope of this pilot project. To date this information is not available for the proposed area although floristic and vegetation studies have been undertaken for the existing Addo Elephant National Park. Data extrapolated from a recent study (Victor & Dold 2002 *ined.*) provides conservation status data for the GAENP as follows: Red List categories are assigned in accordance with the guidelines set by the IUCN-SSC (IUCN 2000). IUCN Red List criteria are used to classify species into one of the three categories of threat, or a category of lower risk, namely Near Threatened (NT) or Least Concern (LC). The three categories of threat are, in order of decreasing risk of extinction, Critically Endangered (CR), Endangered (EN) or Vulnerable (VU). The criteria used to place the species in a category of threat include estimations of area of occupancy and extent of occurrence, which were estimated in accordance with the procedures outlined by IUCN (2000). If insufficient data is available to arrive at a conclusion, the taxon is classified as Data Deficient (DD), especially in cases of taxonomic uncertainty. Taxa are listed below in order of conservation priority. It is recommended that herbarium specimens (GRA) be consulted for identification purposes, as few of these taxa are illustrated, certainly not in easily accessible literature.

It is suggested that a detailed field study to relocate wild populations of these taxa would allow for revised species assessments and enable specific conservation recommendations for each taxon. Based on these data an identification identikit or booklet for management purposes could be provided while an illustrated guide would be useful to NP staff and visitors.

Encephalartos arenarius R.A.Dyer is restricted to the Alexandria coastal area between Kaba and Woody Cape, the type locality being 5 miles inland from Woody Cape in the Kaba Valley (33°30'42"S 26°15'19"E). The species is listed as threatened with extinction (Endangered-EN, Victor & Dold *ined.*) (See also Kaba) (Figure C0002).

Ledebouria coriacea S.Venter *ined.* is only known from Coega and Cannonvale and so falls within the 4km buffer zone of the proposed GANEP zone and is therefore considered here. The species is a poorly known limestone endemic and it is likely that it occurs on limestone outcrops further to the east such as Barkly Bridge and Zuurkop in Addo NP. The species is listed as endangered (EN A4c, Victor & Dold *ined.*).

Apodolirion macowanii Baker is known from Redhouse, Coega and Cannonvale and so falls within the 4km buffer zone of the proposed GANEP zone and is therefore considered here. The species is threatened with extinction (Vulnerable–VU D2, Victor & Dold *ined.*).

Eriospermum occultum Archibald is restricted to a small area on the southern slopes of the Suurberg (exact locality unknown) in grassland. The species is threatened with extinction (Vulnerable–VU D2, Victor & Dold *ined.*).

Euphorbia sp. nov. An undescribed species (Marx 1992) known only from a single specimen (*Palmer 1336*) from the outskirts of Addo town (33°30'50"S 25°40'25"E). The new species is threatened with extinction (Vulnerable–VU D2, Victor & Dold *ined.*).

Gasteria baylissiana Rauh is known from only a single farm at the top of the Suurberg (Oudekraal – 33°05'05"S 25°35'05"E) (Figure C0003). The species is threatened with extinction (Vulnerable–VU D2, Victor & Dold *ined.*).

Heterolepis mitis (Burm.) is known from the Sundays River and the Suurberg Mountains although the exact localities are unknown. This species is threatened with extinction (Vulnerable–VU D2, Victor & Dold *ined.*).

Pelargonium ochroleucum Harv. is only known from a single scattered population at Korhaan Vlakte in Addo Elephant National Park (33°34'00"S 25°40'60"E). This species is threatened with extinction (Vulnerable–VU D2, Victor & Dold *ined.*).

Stapelia baylissii L.C.Leach is only known from three collections in the Suurberg (33°22'S26°10'E) and is threatened with extinction (Vulnerable–VU D2, Victor & Dold *ined.*).

Sutera racemosa (Benth.) Kuntze is only known from a single locality in the Suurberg (between Enon & Alicedale) (33°22'S26°10'E) and is threatened with extinction (Vulnerable–VU D2, Victor & Dold *ined.*).

Haworthia sordida Haw. is known only from three localities: Kleinpoort (33°19'00"S 24°52'36"E), Addo (33°34'00"S 25°40'60"E) and Glenconnor (33°24'5"S 25°10'24"E) and is near-threatened (NT, Victor & Dold *ined.*) (Figure C0004).

Tromotriche longii (C.A.Lückh.) Bruyns is known from Jansenville to the western end of the Suurberg (33°15'25"S 25°05'00"E) and is near-threatened (NT, Victor & Dold *ined.*).

Bergeranthus addoensis L. Bolus is known from a narrow localized distribution from Port Elizabeth and Addo (33°30'30"S 25°45'00"E) to as far as Lake Mentz (33°15'15"S 25°5'15"E) where it is confined to rich alluvial soils along the Swartkops and Sundays Rivers and is near-threatened (NT, Victor & Dold *ined.*) (Figure C0005).

Coleonema aspalathoides Juss. ex Don is known from Willowmore in the west to as far east as Ann's Villa on top of the Suurberg Pass (33°15'30"S 30°40'30"E) and is classified as least concern (LC, Victor & Dold *ined.*).

Machairophyllum stayneri L.Bol. is only known from a single (Type) specimen in the Suurberg but the exact locality is unknown and is therefore listed as data deficient (DD,

Victor & Dold *ined.*). This species needs to be rediscovered and reassessed regarding its conservation status as well as taxonomically.

Oldenburgia grandis (Thunb.) Baill. Occurs from the Suurberg to Coombs in the Albany District. It is endemic to the Albany Centre of Endemism (Van Wyk & Smith 2001) and Hilton Taylor (1996) lists this species as Rare. Farm labourers have been seen harvesting large quantities of leaf material of this species in the Grahamstown district (pers. obs. Tony Dold) apparently on behalf of the farmer who exports dried leaves for the flower arranging industry in the UK. This activity needs to be monitored carefully by conservation authorities.

Atalaya capensis R.A.Dyer is known only from the type locality (Longmore, Port Elizabeth), Baviaanskloof and Atalaya Valley in the Suurberg. It is endemic to the Albany Centre of Endemism and Hilton Taylor (1996) lists this species as Rare.

Orthopterum waltoniae L.Bol. is only known 4 populations – Addo (Korhaan Vlakte: 33°30'30"S 25°45'00"E), Uitenhage, Fort Brown and Ecce Reserve. The species is a localised Albany Centre of Endemism endemic (Figure C0006).

Ruschia aristata L. Bol. Although the taxonomic status if this species is uncertain it is only known from the type specimen collected at Kamaehs, in the Addo Elephant National Park (33°30'30"S 25°45'00"E) where it should be recollected for verification. The species is nevertheless a localised endemic to the Albany Centre of Endemism.

Delosperma prasinum L. Bol. Although the taxonomic status if this species is uncertain it is only known from the type specimen collected near Alexandria (exact locality unknown) where it should be recollected for verification. The species is nevertheless a localised endemic to the Albany Centre of Endemism.

Lampranthus hollandii (L. Bol.) Although the taxonomic status if this species is uncertain it is only known from the type specimen collected near Alexandria (exact locality unknown) where it should be recollected for verification. The species is nevertheless a localised endemic to the Albany Centre of Endemism.

Haworthia aristata Bayer is only known from Kommadagga (Verdun – 33°6'0"S 25°48'0"E) and Addo (Dead Man's Gulch – 33°34'00"S 25°40'60"E) and is therefore a localised Albany Centre of Endemism endemic (Figure C0007). *Haworthia* species are sought after by succulent plant enthusiasts who have been known to harvest plants indiscriminately—these populations need to be monitored carefully.

Trichodiadema concinnum L. Bol. is known only from the Alexandria/Addo district (exact locality unknown), where it should be recollected for verification, and is a localised endemic of the Albany Centre of Endemism.

Psilocaulon liebenbergii L. Bol. Bolus (1964) is known from the single type specimen only, from Addo Park (33°34'00"S 25°40'60"E), and although remains taxonomically uncertain is a localised endemic of the Albany Centre of Endemism.

3.1.3. Ritual and medicinal uses of plants

It is well documented that both rural and urban Xhosa people often use plant medicines and plants used in customs and rituals as a first response to ill health, followed by treatment by a traditional healer and/or western medicine if self-medication fails. In response to the growing demand for medicinal plants herbalist shops and herbal hawkers are now commonplace in most urban areas contributing to a multi-million rand industry in South Africa (Cocks & Dold 2000b; Dold & Cocks 2001a). A recent survey by Cocks & Dold (Cocks & Dold 2000b) in the Eastern Cape show that no less than 166 plant species are traded informally for medicinal and cultural purposes, providing almost 500 tons of plant material valued at approximately R27 million annually in the Eastern Cape province alone. Current harvesting is indiscriminate, destructive and unsustainable for many species, particularly those found in Thicket and Forest in the province, and urgent measures are required to manage these dwindling resources. It is clear that the Suurberg is an important harvesting area supplying the herbal markets in Port Elizabeth (Burger 1995). Figures C0008a and C0008b show an herbal shop in Alexandria (33°39'10"S 26°24'46"E) and Figure C0009 shows an informal herbal market in Port Elizabeth where a large proportion of the material is sourced within the study site.

The cultivation of selected medicinal plant species is imperative for their long-term survival in the wild as well as ensuring that they remain accessible to those who rely on their trade for health care and livelihoods. Propagation and cultivation of selected species, particularly bulbous and succulent species, can easily be undertaken on a small scale with limited technology. It is suggested that a "home garden" project involving herbal harvesters/collectors would be a first step towards addressing unsustainable wild harvesting. A home garden *muthi* project in the former Ciskei has shown that, contrary to popular belief, cultivated plant material is completely acceptable within traditional healing practices, and furthermore harvesters are well equipped to grow medicinal plants in their home gardens as they are mostly rural women with gardening skills as well as a sound knowledge of the species habitat requirements (Cocks & Lubke 2001). The cultivation of medicinal plants in home gardens is an ideal *community development project* as put forward in the GAENP proposal (Kerley & Boshoff 1997) and would fulfil all the requirements mentioned in this document. Not only would the project provide skills and income to the community but would go a long way to conserving the surviving wild populations of many medicinal plant species.

It is further suggested that a booklet providing medicinal and cultural uses of plants could be a useful educational and ecotourism tool such as, for example, the popular *Bush Medicine* and *Bush Tucker* Identikits for northern Australia (Wightman & Andrews 1991a, 1991b), and *An Eastern Cape Materia Medica – a guide to the Fort Cox Medicinal Plant Garden* (Cocks & Dold 2000a) (Figure C0010).

Araujia sericifera is known as *Impinda* and the root is used to protect stock from witchcraft; a small piece is buried in the ground at the entrance to the kraal so that animals will step over it every time they exit (Cocks & Dold 2000b).

Cadaba aphylla (*Istorom*) is planted around the home to ward off lightening and evil spirits (pers. comm. Nothando Kono, 2002) (Figure C0011)

Capparis sepiaria is known as *Iqhagule*. A single branch is attached to the entrance of the kraal to protect stock from lightening (Cocks & Dold 2000b).

Clausena anisata (*Iperepes*) and *Boscia oleoides* (*Ivetrhathi*) wood is burnt and the smoke is blown around a newborn baby as incense to ward off evil spirits at this vulnerable time (Cocks & Dold 2000b).

Dianthus thunbergii (*Ubulawu*) is used as to produce foam in water (saponin) for ritual purposes (Cocks & Dold 2000b).

Euphorbia bupleurifolia and *E. clava* are both known as *Intsema* and *E. gorgonis* is called *Inkalamasane* (or *Inkamamasane*). All three species are used for the cultural practices of spiritual cleansing by means of washing (*ukuhlamba*) and spraying (*ukutshiza*). The fresh material is crushed and soaked in cold water, which is used to wash the entire body and is splashed by means of a grass broom (see brooms 3.1.10.) around the home and cattle kraal. The ritual cleansing ensures good health and prosperity. *E. bupleurifolia* is also used in an infusion that is taken daily to treat a patient who has suffered a stroke. These plants can be purchased from herbalist, *Amayeza* shops or herbal hawkers. *E. clava* plants cost R1.20 each, *E. bupleurifolia* R2.50 each and *E. gorgonis* R2.50 each. A detailed account of the use of *Euphorbia* species in medicine and customs is provided by Dold & Cocks (2000c).

Euphorbia triangularis is known as *Umhlontlo* and the leaf sap is mixed in cold water and used as a body wash by twins for cultural purposes. Traditionally a pair of seedlings is planted at the entrance to the homestead to signify the birth of twins (Cocks & Dold 2000b).

Gasteria bicolor, *G. excelsa*, *Haworthia attenuata* and *H. reinwardtii* are all known as *Intelezi* and are amongst the most important plants used for cultural purposes. The leaves are crushed and soaked in cold water, which is used to wash the entire body to spiritually cleanse the user (*iyeza yokuhlamba*). The pulp is also used as a body wash to prevent nightmares and protect the user from witchcraft and evil spirits. A small amount is boiled and taken as a tea to induce vomiting to cleanse the stomach. Living plants are sometimes seen planted in and around the home and cattle kraal as a protection from evil forces and sorcery. A single *Gasteria bicolor* (Figure C0012) plant costs R2.50 while two large leaves of *G. excelsa* costs R2.50 *Haworthia* plants cost R2.50 for four (Cocks & Dold 2000b).

Helichrysum odoratissimum (*Imphepho*) is an aromatic herb that is commonly used to smoke out evil from homesteads. The dry leaves are burnt inside in the same way as incense (Cocks & Dold 2000b).

Kedrostis foetidissima is known as *Utuvish* and the flesh of the tuber is mixed with *Talinum caffrum* (*Upuncuka*) for a wash or a facial steam (*ukufutha*) to protect against sorcery. A small piece is put under the tongue in dangerous or troubled times as protection (Cocks & Dold 2000b).

Olea europaea subsp. *africana* (*Umnquma*) and *Ptaeroxylon obliquum* (*Umthathi*) are used in ceremonies where animals are ritually slaughtered, the meat is then laid out using a bed of leaves and branches as a large plate. This custom is strictly adhered to and families who do not have access to these trees will hire transport and labour, sometimes at great expense, to collect this material. A detailed explanation of the cultural and ritual use of *Olea europaea* subsp. *africana* is provided by Dold & Cocks (1999b) (Figure C0013a; C0013b)

Plumbago auriculata (*Ichinchin*) and *Carissa bispinosa* (*Incumncum*) are used to make the decorated ritual staff of a diviner (Cocks & Dold 2000b).

Polystachya ottoniana is known as *Iphamba*. The whole plant is crushed and mixed in a bucket of cold water, which is splashed against the walls of the kraal (*ukuTshiza*), this protects the animals from evil and ensures good health and is only administered by traditional healers (Cocks & Dold 2000b).

Polystachya pubescens is known as *Iphamba* and the whole plant is crushed and soaked in water and used as a body wash to ensure good fortune in a court cases (Cocks & Dold 2000b).

3.1.4. Medicinal uses of plants

Further to the introduction in the previous paragraph (3.1.3) it is noted here that self-medication is almost always the first recourse to illness and most people have some knowledge of medicinal plants. It should be noted that these remedies are not obsolete folk-remedies nor is their use restricted to those who cannot afford western medicines. To the contrary, they are used regularly and many users prefer to use herbal remedies. Although the remedies documented in the study site are mostly well known to Xhosa people it appears that the coloured population has additional knowledge that is not well documented. It is suggested that a study of medicinal plants be undertaken in these communities, for example in Enon, to record these and any cultural uses particular to the Coloured people. It is possible that some of these may be of Khoi origin.

Aloe ferox is known as *Ikhala* and the bitter leaf sap is rubbed onto a mother's nipple to discourage a weaning child (Cocks & Dold 2000b).

Aloe tenuior is known as *Umjinqa* and fresh leaves are chewed to relieve heart-burn. An infusion of the sap is used as an enema for constipation (Cocks & Dold 2000b).

Boophane disticha is known as *Ishwadi* and the bulb is used in a preparation to treat bewitched people and the dry bulb scales are used as a bandage for the circumcision wound during Xhosa initiation (Cocks & Dold 2000b) (Figure C0014).

Bulbine abyssinica is known as *Uyakayakana* and the rootstock is sliced up and boiled to make an infusion for bladder infections. This is also used as an enema to relieve colic in weaning babies (Cocks & Dold 2000b).

Bulbine latifolia is known as *Rooiwater* after the Afrikaans word for Redwater, a stock disease that is treated using a decoction of the root of this plant (Figure C0015). The name *Umaweni* is also used but refers to several similar *Bulbine* species. A cold-water infusion of the root is taken to treat bladder infections in adults and children. A single rhizome costs R2.50. (Cocks & Dold 2000b).

Carpobrotus deliciosus is known as *Igqune* and the leaves are pulped and wrapped in a cloth with which a baby's mouth is cleaned to treat pimples (Cocks & Dold 2000b).

Cotyledon orbiculata is known as *Iphewula* and the leaves are crushed and a paste applied to the face to treat pimples (Cocks & Dold 2000b).

Dioscorea sylvatica and all species of *Dioscorea* are known as *Iskolpathi*, which is derived from the Afrikaans word Skilpad meaning tortoise and describes the tortoise shell pattern of the tuber. Most often sold per piece rather than a whole plant, the flesh is used with other

ingredients for a wide variety of ailments. It is mixed in water with the roots of *Asparagus africanus* and taken to facilitate the healing of broken bones. An infusion together with leaf sap of *Bulbine latifolia* is sipped as a tea to treat bladder infection. An infusion is used to treat skin rash and small amounts are taken as a purgative to treat stomach problems. The tubers cost R6.50 for a whole plant (Cocks & Dold 2000b) (Figure C0016 shows tubers for sale in a street market).

Haemanthus albiflos is known as *Umathinga* and the pulped bulb is bandaged onto a broken limb to speed up recovery (Cocks & Dold 2000b).

Hertia pallens is known as *Ilalani*, a decoction is taken to treat recurring headaches (Cocks & Dold 2000b).

Huernia thuretii is called *Izilo* and is an ingredient in a treatment for asthma and a painful chest—symptoms attributed by traditional healers to cancer. The stems are bottled in cold water together with other ingredients and two spoonfuls are taken daily. A single multiple stemmed plant costs R2.50 (Cocks & Dold 2000b).

Mesembryanthemum aitonis is known as *Iqina*, fresh leaves are crushed, and enough juice squeezed into a cup of cold water to turn the colour green. This is taken to treat stomach pains (?ulcers) caused by alcohol abuse and characterized by vomiting when drinking milk or hot, spicy foods and irregular appetite (Cocks & Dold 2000b).

Opuntia ficus-indica is known as *Itolofiya* and the fresh leaf is baked on an open fire and the inner jelly applied to sores between toes and occasionally fingers caused by fungal infection (Cocks & Dold 2000b) (Figure C0017)

Ruschia neovirens is known as *Igcukuma* and the crushed leaves are bound in a cloth and used to wipe the inside of an infant's mouth to treat pimples (infection) (Cocks & Dold 2000b).

Bulbine asphodeloides (*sensu* Smith 1966) is called *Kopieva* by European farmers in Paterson. The leaf sap is applied to sores and minor wounds (Clive Brown pers comm. 2002).

Solanum sp. is called Monkey Apple by European farmers in Paterson. The ripe fruit is applied to ringworm (Clive Brown pers comm. 2002).

3.1.5. Veterinary uses of plants

Livestock are important for social and cultural reasons, as a source of cash, meat, milk and other animal products for home consumption or for sale, for draft animal power and for manure. Resource poor stockowners in the study site have poor access to veterinary services and rely to some extent on ethno-veterinary medicine to maintain their animal's health and productivity. The main stock diseases in the study site are Red Water and Gall sickness, both being treated with some success using herbal medicines.

Acacia karroo is known as *Umnga* and the fresh bark is boiled in water and given to goats to treat diarrhoea. Bark is chopped into small pieces and boiled for 10 minutes, cooled and the water given to goats and sheep to treat intestinal worms (Dold & Cocks 2001b).

Asparagus suaveolens is called *Imvane* and the roots are boiled and given to cows (750mm in the morning) to treat retained afterbirth (*Ukumelwa ngumgcantsi*) (Dold & Cocks 2001b).

Azima tetracantha is known as *Igceleya* and the dried root is ground and bottled in cold water and given to cows to treat Dystocia (*Ukumelwa lithole*) (Dold & Cocks 2001b).

Boophane disticha is known as *Ishwadi* and a decoction of the bulb is used to treat Red Water (*Amanzabomvu*) in cattle (Dold & Cocks 2001b) (Figure C0014)

Grewia occidentalis is known as *Umnqabaza*. The leaves are mixed with *Olea europaea* subsp. *africana*, *Zanthoxylum capense* leaves and *Aloe ferox* sap, soaked in cold water and used to treat stock with Gall sickness (Dold & Cocks 2001b).

Plumbago auriculata is known as *Uchithibunga*. Roots are mixed with *Pelargonium reniforme* roots in water and soaked, strained and fed to a cow to treat Paratyphoid (*Umkhondo*) (Dold & Cocks 2001b).

Sansevieria hyacinthoides is known as *Iskolokotho* and fresh juice from the leaves is applied directly into the eyes of sheep or goats with Conjunctivitis (*Isifo samehlo*) (Dold & Cocks 2001b).

Urginea altissima is known as *Uzabokwe* and a decoction of the bulb is given to cattle to rid them of intestinal worms (Dold & Cocks 2001b).

3.1.6. Cosmetic uses of plants

Ganoderma sp. is a well known bracket fungus called *Isbindi* (meaning liver because of its red colour) and is used as a cosmetic, the powdered fruiting body giving an ochre colour that is applied to the cheeks as rouge for both men and women, especially for young men returning from initiation (*Amakrwala*). It is also recommended in cases of acne (Cocks & Dold 2000b).

3.1.7. Traditional beverages

Trichodiadema spp. (*Imula*) is a succulent shrub with a thick woody rootstock that is harvested for the making of a traditional beer called *Iqilika*. The root is collected around Barsheba, grated and mixed in water with honey and left to ferment (Mr Africa pers comm. 2002). Dold, Cocks & Kralo (1999) provide a detailed account of this traditional beverage where it is suggested that the product has enormous potential for commercialisation (Figure C0018).

3.1.8. Cattle kraals – *Ubuhlanti*

The family kraal is the most important cultural requirement of any household as it is the venue for traditional rituals where family members may communicate with the ancestral spirits. A well-constructed and maintained kraal is a household status symbol and is strictly the domain of the male lineage. A home without a kraal is considered improper and its inhabitants are treated with suspicion, as they have no means of communicating with the ancestral spirits. It is not uncommon for urban families to construct small symbolic kraals in their gardens for ritual purposes. Twenty-three woody plant species have been recorded for the construction of kraals, the most commonly used being *Ptaeroxylon obliquum*

(Sneezewood), *Olea europaea* subsp. *africana* (Wild Olive) and *Pappea capensis* (Jacket Plum), these being of cultural significance. An average of 940 kg of material, valued at ±R300, is harvested annually for the maintenance of a single kraal. The upright poles are replaced every six years, whereas the wall material needs to be replaced every two years (Cocks unpublished data 2001). Figure C0019a; C0019b illustrates a kraal typical (complete with horns of a ritually sacrificed cow) in Barsheba.

3.1.9. Rituals

Many of the African households in the study site host rituals according to traditional custom (*Isisiko*), invariably involving the slaughter of a domestic animal, usually an ox or a goat, in the kraal (Figure C0013a; C0013b) Apart from the Wild Olive already mentioned, large quantities of fuel wood is required for the preparation of traditional beer that is served to guests. Although fuel wood for general use is harvest indiscriminately only selected species are used for rituals, *Umnquma* and *Umthathi* being the most sought-after species. Farm workers who do not own livestock are forced to buy animals for these rituals.

3.1.10. Woodpile - *Igoqo*

The fuel wood stock (*igoqo*) is the woman's equivalent of the kraal, both culturally and symbolically. The female ancestral spirits are communicated with here and it is an important venue for meetings, social gatherings and a practical cooking shelter in inclement weather. It has been said that traditionally, stillborn infants were buried under the *igoqo* in the past. A large well-packed *igoqo* also serves as a social status symbol indicating an industrious housewife. Tree species are selected for the construction of an *igoqo*, once again highlighting the species-specific requirements. The three most frequently collected species are *Olea europaea* subsp. *africana*, *Ptaeroxylon obliquum*, and *Acacia karroo*. The wood is only ever used as fuel in emergencies such as prolonged wet weather, and is replaced as soon afterwards as possible. Photo C0020a shows an *igoqo* in Barsheba and photo C0020b show several belonging to the same household at Soutkloof (Alexandria – 33°37'21"S 26°16'22"E) indicating that even Xhosa farm workers on white owned farms practice the tradition. *Amagoqo* are easily distinguished from fuel wood by the fact that they are carefully cut to length and stacked neatly whereas the former is usually an untidy pile or various lengths and sizes of branches.

3.1.11. Brooms

Cymbopogon plurinodis is collected on the slopes of the Suurberg to make traditional brooms that are sold in Port Elizabeth (Motherwell). The material is bound in bundles and left to dry. Once cut to size the stems are boiled in water and bent into shape and bound. The brooms are important gifts to newly married women signifying the beginning of married life. The brooms are used for the traditional custom of *Ukutshiza* whereby the home and cattle kraal are splashed with herbal water to protect the occupants from evil. Cocks (unpublished data 2000) has recorded that broom makers from King William's Town travel as far as the Suurberg Pass to harvest *Cymbopogon*. This activity is sustainable and therefore has further commercial potential within the study site.

3.1.12. Aloe lump

Aloe ferox and *A. africana* (*Ikhala*) leaves are harvested in the Coega-Grassridge area to collect Aloe-lump (dried sap) that is sold to the cosmetic industry in Port Elizabeth. Licensed

buyers purchase the product from harvesters. Recommended harvesting methods are difficult to control and several well known harvesting sites show mass fatalities as a result (Dold pers obs.). It is suggested that harvesting regulations and harvesting methods are reviewed in the Addo area where *Aloe africana* is a localized endemic species known only from the Gamtoos River to Port Alfred. Unchecked harvesting could result in this species becoming threatened.

3.1.13. Prickly-pear

The alien species *Opuntia ficus-indica* is listed by Henderson (2001) as a category one declared weed that is prohibited on any land surface in South Africa and must be controlled or eradicated where possible (Henderson 2001) (Figure C0017). Unfortunately this species is common within the study site and only a long-term concerted effort would enable some degree of control.

Opuntia ficus-indica (*Itolofiya*) fruits are harvested throughout the study site and eaten or sold on the roadside to travellers. Although some farm stalls occasionally sell a limited range of “prickly-pear” products it is possible that local home industries could develop these further, in the same way as *Marula* products in Mpumalanga, to create a national and international market with the help of SANP. An important study in this regard is provided by Brutsch and Zimmermann (1993) who discuss potential food, beverage and fodder products from this species.

3.1.14. Hand wash

Mesembryanthemum crystallinum (*Ganna*) is used by farmers at Kaboega as a hand wash in the field. Reportedly excellent for removing grease from the hands (Ian Ritchie pers comm. 2002).

3.1.15. Fire lighters

Crassula arborescens (“Blitz”) dried bark is used as a fire lighter at Kaboega as it burns instantly and has a pleasant aroma (Ian Ritchie pers comm. 2002).

3.1.16. Construction

In Barsheba village most houses are reed (*Phragmites australis*) and mud constructions. The reeds, called *Incongolo*, are harvested on European owned farms along the banks of the Sundays River (Figure C0021a). A donkey cartload costs R50 each and two carts are required for a single roomed dwelling (Figure C0021b). Poles from woody species used for the construction of kraals and buildings are harvested from the thicket vegetation surrounding towns throughout the study area. Suitable material (straight poles of adequate diameter) is increasingly difficult to find and harvesters – usually middlemen rather than direct users – must resort to illegal harvesting from state or privately owned land. Preferred hardwood species include *Combretum caffrum* (*Umdube*), *Ptaeroxylon obliquum* (*Umthathi*), *Olea europaea* subsp. *africana* (*Umnquma*), *Pappea capensis* (*Ilitye*), *Boscia oleoides* (*Ivetirati*), *Acacia karroo* (*Umnnga*) and *Cassine aethiopica* (*Umbomvane*). Commercial timber is not within the means of most of the people within the study site and it is therefore suggested that the potential of indigenous species woodlots is investigated.

3.1.17. Sticks – *intonga*

Most young Xhosa men carry a traditional stick of *Olea europaea* subsp. *africana* called *intonga*. The *intonga* is \pm 1m in length and is not knobbed like that of the Zulu people. The handle is decorated with a carved pattern that seems to be fairly standard following custom while the distal end is carved into a pyramidal point (pers. obs. Dold). Sticks almost identical to the one shown in Figure C0022) can be seen in literature dating back to the turn of the century indicating the resilience of a seemingly insignificant cultural item.

3.2. Animals

Animal and animal products are commonly used and/or prescribed by traditional healers for culturally related ailments, customs and rituals (*Isiko*). It is common practice for traditional healers' accessories, such as the distinguishing cap – *isidlokolo*₂ and skirt – *umthika*₂ to be made of wild animal skins. Ancestors reveal to the novice healers, through their dreams, the various animal skins that they should wear. They serve as metaphors and symbols for the attributes and skills of the diviner. For example, it is maintained by traditional healers that the small antelope and the baboon are imbued with a surfeit of ancestrally sent luck because these animals adopt various strategies in coping with predators and hunters. The fat of an animal is believed to embody key characteristics of the animal. Animal products are commonly processed and sold by *Muthi* stores and traditional healers (Figure C0023a; C0023b). Many of these animals are rare, if not extinct, in the wild and therefore the AENP is in a position to provide these to traditional healers when they become available from culling, natural deaths etc.

3.2.1. Ant bear

Ant bear (*Orycteropus afer*–called *Ihodi*) skin is used as a powerful charm for producing a good crop. The skin is burnt and scattered over the field. A piece of skin is kept as a card playing charm (Nothando Kono pers. comm. 2002).

3.2.2. Bushbuck

Bushbuck (*Tragalaphus scriptus*–called *Imbabala*) skin is used as a protection against sorcery. A small piece is tagged onto ones clothing; Small pieces of skin are sold in herbalist shops for R25 – R50 each (White & Cocks *ined.*).

3.2.3. Common Duiker

Duiker (*Sylvicapra grimmia*–called *Impunzi*) hair is burnt and ashes applied to the forehead to treat headaches. A horn is used as a container for medicines. Small pieces of skin are sold in herbalist shops for R10 – R45 each (White & Cocks *ined.*).

3.2.4. Dassie

Dassie (*Procavia capensis*–called *Umchamo wenfene*) urine (black tar like substance found on rocks) is mixed in water and taken orally to induce delivery in pregnant women (Nothando Kono pers. comm. 2002).

3.2.5. Hare

Hare (*Lepus saxatilis*–called *Imvundla*) sinew is used as a charm to ensure swiftness. A hare tooth is tied in a handkerchief around a child's neck to assist in teething (White & Cocks *ined.*).

3.2.6. Hippopotamus

Hippopotamus (*Hippopotamus amphibius*–called *Imvubu*) fat is used as a charm to increase the number of livestock (Nothando Kono pers comm. 2002).

3.2.7. Lion

Lion (*Panthera leo*—called *Ingonyama*) skin is used as a charm to provide strength and courage (White & Cocks *ined.*).

3.2.8. Otter

Otter (*Aonyx capensis* and *Lutra maculicollis*—called *Intini*) fat is prescribed to students, during exam time, to prevent them from getting headaches and having nightmares. Otter excreta are used to cleanse the stomach of infants (White & Cocks *ined.*).

3.2.9. Pig

Pig (Domestic pig—called *Ihagu*) fat is used by sportsmen to protect themselves from the charms used by other team players (White & Cocks *ined.*).

3.2.10. Porcupine

Porcupine (*Hystrix africaeausstralis*—called *Incanda*) intestines are taken orally to treat stomach-ache. Porcupine flesh is taken orally by pregnant women and considered beneficial for the unborn baby and promotes the secretion of amniotic fluid (White & Cocks *ined.*).

3.2.11. Chameleon

Chameleons (*Chamaeleo* and *Bradypodion* spp.—called *Ilovane*) are considered by Xhosa people as symbolic of the ancestors and are not harmed, as it is feared that such action would anger the ancestors (White & Cocks *ined.*).

3.2.12. Gecko

Geckos (*Pachydactylus* spp.—called) are associated with witchcraft and are usually killed on sight (White & Cocks *ined.*).

3.2.13. Leguaan

Leguaan (*Varanus* species—called *Iqam*) fat is used to protect infants from harm and from having nightmares. Small pieces of skin are sold in herbalist shops for ± R40 each (White & Cocks *ined.*).

3.2.14. Python

Python (*Python sebae*—called *Intlhwathi*) skin is associated with strength and prowess in fighting and is also used in sorcery (White & Cocks *ined.*).

3.2.15. Tortoise

Tortoise (*Geochelone* and *Chersina* species—called *Ifudo*) shell is used to treat burns. The shell is roasted, powdered and mixed with Vaseline™ and applied to the burn (White & Cocks *ined.*).

3.2.16. Cuttlefish

Cuttlefish (*Sepia officinalis*) “cuttlebones” are collected on the beach and used as an eye lotion (White & Cocks *ined.*).

3.2.17. Sea urchin

Sea urchin (*Echinometra* sp.) shells collected on the beach are used in a treatment for stomach complaints (White & Cocks *ined.*).

3.3. Birds

Although bird recognition and bird-lore in the study area is fast being forgotten by the urbanised younger generation, many people, particularly rural folk, have a knowledge of birds occurring in the area. It is suggested that bird-lore would be of interest to amateur ornithologists and tourists alike and should be recorded and made available in some accessible form.

3.3.1. Proverb

For example, in reference to birds in general, a Xhosa proverb, *Indoda engenazintstiba*, refers to a man without quill feathers, i.e. a poor man; conversely *Uneenstiba* refers to a man with quill feathers, i.e. being affluent.

3.3.2. Lightning bird

Very few Xhosa people are unaware of the mythological lightning bird—*Impundulu*. The bird is said to resemble a Sacred Ibis but is very much larger, has red wings and a red bill. An incarnation of evil, the sound of thunder is said to be caused by the beating of *Impundulu*'s wings as it flies down to earth to lay its eggs in the ground—in the form of a lightning strike. A person, or home, that is struck by lightning is said to be bewitched and has been struck by the lightning bird. The modern concept of the myth as told by informants in this study is that the bird should be shot on site – an indication of South Africa's gun-toting violent society!

3.3.3. Hammerkop

A real-life bird, the Hammerkop (*Scopus umbretta*), called *Uthekwane*, is also shrouded in Xhosa myth and legend. The birds' habit of staring into the water of pools and rivers (in search of frogs and other prey) gives rise to the belief that it is a vain, conceited creature. The name *Thekwane* is therefore sarcastically applied to a person who is found of staring into a mirror. *Uthekwane* is a sacred bird that is never hunted nor eaten, the only time it is caught is as a means to relieve drought. The bird is caught, restricted and placed in water with the result that it will begin to rain and not stop until it is removed and set free. It is also a bird of evil omen, especially if it flies over a homestead or settles on it. It is likely that illness or bad luck will fall upon the inhabitants of the home.

3.3.4. Cape Parrot

Cape Parrot (*Poicephalus robustus*), known as *Isikhwenene*, is so rare that it is used in proverbs such as *Amathumbu esikhwenene*, meaning parrot's entrails, but referring to unrealised dreams. For example in "the sky is parrot's entrails" meaning promising rain that does not fall, and, "he gave me parrot's entrails" meaning he broke his promise.

3.3.5. Hadedda

Hadedda (*Bostrychia hagedash*), called *Ingangane*, is seen as a bird of good omen. When they are seen in large numbers it is a sure sign of a good harvest to come.

3.3.6. Red Eyed Turtle Dove

Red Eyed Turtle Dove (*Streptopelia semitorquata*), known as *Ihobe*, is well known for the onomatopoeic call rendered *Maakhulu ndiph' isidudu*—Grandmother, give me porridge.

3.3.7. Sombre Bulbul

Sombre Bulbul (*Andropadus importunus*), called *Inkwili* has several interesting interpretations of its well-known call that is the source of its Xhosa name (and much

amusement). A translated Xhosa version is: Willie! Go round the bush,—pleeease! An English version is Willie! Jimmy shit his britches,—poo!

3.3.8. Swallow

Swallows (*Hirundo* spp.) are known as *Inkonjane* and the building of a nest under the eaves of a house is thought to bring luck to its occupants. The proverb, “the swallow has anticipated summer” refers to a person who has spoken or acted too quickly for his own good.

3.3.9. Wagtail

Wagtail (*Motacilla* spp.), called *Umcelu*, is a bird of good omen associated with healthy cattle as it is often seen “attending to the herd” and whistling to them. It is therefore a sacred bird that is not killed as to do so would bring misfortune to the cattle.

3.3.10. Yellow Billed Kite

Yellow Billed Kite (*Milvus migrans*), called *Uketshe*, is well known as a fearless chicken thief and rogue. A lesser-known custom is that of children being told to throw a fallen tooth behind them without seeing where it falls and repeating, “Kite! Kite! Take that old tooth and bring my new one!

3.3.11. Ostrich

Bird products are occasionally used in traditional Xhosa medicine; for example, Ostrich (*Struthio camelus*) eggshell is powdered and applied to eye infections or mixed with Vaseline™ and applied to burns on the skin. It has been reported (De Villiers 1984) that the mud pellets from a swallow nest are used in a medicine to treat nausea.

3.4. Cultural sites

3.4.1. Alexandria (3326CB)

3.4.1.1. Bailey’s Kop

According to Moses Ntsita, of the farm Dekselfontein, Alexandria (Way-Jones pers. comm. 2002), rain rituals (to pray for rain in times of drought) are performed at Bailey’s Kop (33°42’00”S 26°21’05”E) (called *Thaba ka Chungwa*—see also Conga’s Kraal for explanation) (Figure C0024a). According to Skead (1993) Bailey’s Kop is called Nonqua’s Kop or Nankoo’s Kop on some maps. On-site investigation however shows that *Thaba ka Chungwa* is in fact not Bailey’s Kop but is the lower, flat-topped hill at the base of the latter on its eastern slope (Figure C0024b). Bailey’s Kop is entirely clothed in dense thicket whereas *Thaba ka Chungwa* has a flat summit of open grassland more easily accessible for such a ceremony. The act of praying for rain is not associated with ancestral spirits in any way; it is addressing *Uqamata* or *Uthixo*, both referring to God. *Qamata* is an older term used by Xhosa people before the advent of western Christianity while *Thixo* refers to the Christian God, regardless of denomination. According to informants the reason for choosing elevated sites such as hilltops is because the higher one is in elevation the closer one is to God (see also Sweetkop, 3.4.2.2; Woodlands, 3.4.2.7.; Skilkoppie, 3.4.6.2.). The site must preferably be away from dwellings so that the participants are not disturbed but it is not considered a sacred cultural site such as, for example, the sites where *Abantu bomlambo* reside (see Boknes 3.4.1.3.) By all accounts this activity no longer takes place outdoors but the required result is achieved successfully in a church.

3.4.1.2. Langvlakte

According to Moses Ntsita, of the farm Dekselfontein, Alexandria (Way-Jones pers. comm. 2002) rain rituals (to pray for rain in times of drought) are performed at Langvlakte (8km south south-west of Alexandria, 33°40'30"S 26°20'00"E). Skead (1993) adds that the farm Langvlakte had been granted originally to a Coloured soldier, Paul Keteldas, as a reward for faithful war service. But he disappeared without trace and the farm had, by law, to remain unsold for 100 years.

3.4.1.3. Boknes

According to Moses Ntsita, of the farm Dekselfontein, Alexandria (Webley pers. comm. 2002) river rituals are performed on the Boknes River (\pm 1km north north-west of Boknes) (\pm 33°43'30"S 26°34'00"E). The term *river ritual* is used loosely in this report, as there are several rituals associated with rivers, particularly deep pools of standing water. In areas where rivers are inaccessible dams are used instead. One of the most important rituals is the offering of gifts or sacrifice to the *Abantu bomlambo* (River People). *Abantu bomlambo* are aquatic spirits – not of ancestral origin but often associated with them – known to appear in human-form when on dry land. Stories are told of great villages and herds of cattle belonging to these mythical beings, said to be fair-skinned with long hair. There is a close association between *abantu bomlambo* and humans, both good and bad. They are considered intermediary between mortals and the ancestral spirits, this being the reason why gifts and sacrifice are offered in to pools of deep water. They are important role players in the calling (*thwasa*) and initiation of diviners who are often tricked into visiting them underwater, sometimes for days – hence the superstition surrounding death by drowning. They are also responsible for illness characterised by pains and swelling of the limbs that will only be cured by sacrifice of an animal and a specific ritual called *ukuhlwayela* at a pool where *abantu bomlambo* are known to live. This is often the first sign of a person being called by the ancestral spirits into traditional healing practice in one of its many forms. It is reported that should a person drown the family must not shed tears, as this will cause the *abantu bomlambo* to reject the potential diviner. The family should rather rejoice in the fact that the person has drowned as he or she will return as a powerful diviner. The drowned person will always return with one eye missing as a sign that he or she has been accepted and initiated by the river people. (see also Witpoort, 3.4.5.1.; Boknes, 3.4.1.3.; Wit Rivier, 3.4.2.3.; Sunday's River, 3.4.2.4.; Sunday's River Bridge, 3.4.2.6; Darlington Dam, 3.4.6.1.). Almost all informants within the study site have knowledge of *abantu bomlambo* and many have first or second hand experience of river rituals. Sites where *abantu bomlambo* are reported to reside should be considered as sacred sites and treated as such. It is important that these sites remain accessible to residents.

3.4.1.4. Slagboom

The slagboom stood near the present Landman Monument at Kolsrand (23 wnw Alexandria - 33°34'48"S 28°09'45"E) (Figure C0025). Mrs. Graham Deacon stated that British Redcoat soldiers were found hanging from a tree there (Skead 1993)

3.4.1.5. Aluin Krantz

Aluin Krantz is 20km north west of Alexandria (33°45'30"S 26°14'30"E). Prof. E. D. Mountain, Geology Dept., Rhodes University, stated that alum (*aluin* in Afrikaans) is found there as a cave deposit - a fibrous variety with some crystals, possibly manganese-bearing. First described by a German scientist as Bushmanite after the Bushman's River (Skead 1993).

3.4.1.6. *Boxwood Forest*

Boxwood Forest Reserve, Alexandria, is a component of the Alexandria State Forest; boxwood, *Buxus macowanii* occurs mainly in this area. The tree was heavily exploited there in the past, the timber being exported, largely for use as spindles and for engraving.

3.4.1.7. *Conga's Kraal*

Conga's Kraal, or Congo's Kraal, Alexandria 3325DB, 38km west of Alexandria (33°35'60"S 26°00'20"E) - Congo was a local chief of importance with one of his kraals at present Congo's Kraal. Chief Conga was killed in the Addo Bush on New Year's Day in 1812. The name Congo's Kraal persists today and must have been one of his main kraals, he had others to which he moved as circumstances permitted, e.g. want of fresh grazing for his stock; disease among stock; and incursions by the stronger chief Ndlambe (see Ndlambe's Kraal). Other kraals were at Coega and near Thornhill in the Port Elizabeth district (early 1800's). The many historical spellings, and even the modern ones, are incorrect. Correct Xhosa orthography demands uChungwa as correct for his name (Skead 1993).

Chungwa, chief of the Gqunukhwebe people from 1793 to 1812, was, according to Peires (1981) firmly established in the area between the Fish and Sundays Rivers already in the 1780's. The Gqunukhwebe people, largely Khoikhoi in composition, attempted to remain neutral regarding the ongoing conflict between the Cape Colony government in the west, the Boers in their midst and the chief Ngqika (see Ndlambe's Kraal 3.4.1.11.) in the east. Unfortunately this was impossible and in during his reign he was forced into warfare more than once. Refusing to retreat across the Fish River at the risk of losing his autonomy to Ngqika, Chungwa tried to pacify the British who retaliated aggressively initiating the Fourth Frontier War (1799). Later the same year Chungwa made peace with the British who allowed him to remain in the area between the Bushmans and Sundays Rivers, provided he posed no threat to the Colonist. Here he clashed with Ndlambe (see Ndlambe's kraal 3.4.1.11.) and eventually was killed by the British (Peires 1981).

3.4.1.8. *Visdamme*

Visdamme (Fish Traps), 3326CD, 16km south east of Alexandria (33°45'10"S 26°26'40"E). Rocky walls were built across narrow gullies between the rocks at the Springs. These allowed fish to swim in over them at high tide and be trapped inshore when the tide ebbed. Fish so caught were so numerous that they were removed by the wagonload. Local farmers named Gilfillan practised this in the early 1900's until stopped by the law. The gullies at that point were especially favourable to the building of visdamme (Skead 1993). The practice was not common elsewhere along the Alexandria coast.

3.4.1.9. *Putse Vlakte*

Putse Vlakte, Alexandria, 3326CB (33°45'40"S 26°35'30"E), 12km south southwest of Alexandria. An area near the seashore between Woody Cape and Cape Padrone. Mr. Stan Smith, onetime owner of Grootvlei farm there, p.c. 1978, stated that 'puts' or 'holes' are dug there for water which seeps in plentifully and is sweet. Digging must cease at a limestone base. Should this base be penetrated, the water seeps away immediately and disappears. Such holes are dug for the watering of cattle.

3.4.1.10. *Nongqawuse's Grave*

Following Hunter (1936) an overview of Nongqawuse's prophecy is given as follows: In 1856 a 15 year old girl, Nongqawuse, reported to her uncle (a diviner) visions of men who instructed that people must consume their crops, cease to plant, and kill all their cattle. Once this had been

done the ancestors would rise and take up arms, and together with the help of a whirlwind, would drive the Europeans into the sea. At the same time kraals would be full of cattle and granaries would be overflowing. Several other women in different parts of the country reported similar visions and the Xhosa nation was encouraged to participate in what was called “the cattle killing”. As a result vast numbers of people died of starvation during the period 1856 to 1857. Many Xhosa people, including Nongqawuse, fled to “the colony” in search of food and work and never returned to their former homes.

Nongqawuse's Grave (33°42'01”S 26°29'40”E) is 9.8km south east of Alexandria on Glen Shaw (portion of original Doornkloof) on the road to Boknes (Figure C0026a; C0026b). The grave is in a small grove of trees in open ground. The triangular-shaped block of stone has a bronze plaque inscribed: "Grave of Nonquase (sic) the Xosa (sic) prophetess who lived in the vicinity after the Cattle Killing of 1858 until her death in 1890". C.L. Deacon, T.B. Bowker, and I. Mitford-Barberton erected the plaque in 1963. According to Mrs Fick of Glen Shaw farm Nongqawuse and her husband worked for her family on the farm after escaping Transkei because her ‘tribe’ were intent on killing her after her false prophesy. The gravesite was long forgotten until the 1960’s when an elderly farm worker brought it to the Fick family’s attention again. The site is of cultural historical importance and deserves further recognition. A valuable study of this episode has been undertaken by Peires (1989).

3.4.1.11. Ndlambe's Kraal

Ndlambe's Kraal, Alexandria, 3326CB, 14km west of Alexandria. Because Chief Ndlambe, as was the custom among early Xhosas, moved his kraal from time to time, the difficulty of pinpointing any site is obvious. He might have been further west at Zuney (3338/2610). Henry Hall's 1856 map gives *Slambie's Old Kraal*, which, while useful as a guide was not accurate enough for precise location. From this source his kraal could have been between Zuney and De Kol, say at about Soutkloof. Further investigation is warranted.

Ndlambe, son of Rharhabe, became regent over his nephew Ngqika in 1787 until 1796 after which Ngqika became leader of the Rharhabe people. Ddlambe, unwilling to renounce power, crossed the Fish River into the Zuurveld (now Albany District) from where he campaigned against Ngqika until he was driven east by the Cape Government in the Fourth Frontier War (1811–1812). Forced to compromise with Ngqika and the Cape Government he eventually obtained recognition as a minor chief. Although the Zuurveld lay between the Fish and Bushmans Rivers it is clear from Hall’s map that Ndlambe occupied an area extending beyond this to the southwest (Owen 1994).

3.4.1.12. Kaba

Kaba, Alexandria, 3326CB, 12km south west of Alexandria. A narrowly enclosed valley fed by the Dekselrivier with no outlet to sea being blocked by high grassy dunes (Figure C0027). Consequently it becomes flooded for many months in wet seasons. The course of the Dekselrivier coincides with that of Kaba R. running into the same basin. Lower Devonian Fossils are recorded in the Kaba Valley (*Eastern Cape Naturalist* 24,3:23, November 1980). Skead (1993) equates the Khoe name *Kaba* with the Nama word /*aba* meaning red. The Xhosa name *eQaba* (meaning traditional person) would seem to have similar connotation from its implication to 'painted', i.e. of the 'red blanket' Xhosas of the past. In light of this it has been suggested that one of chief Ndlambe's kraals might have been somewhere between Alexandria and the Kaba, say Dekselrivier area (Skead 1993). Further investigation is warranted. (See also threatened species - *Encephalartos arenarius*). Photo C200027 shows Kaba Valley at 33°41'07”S 26°19'46”E.

3.4.1.13. Rautenbach's Drift

Rautenbach's Drift, Alexandria, 3326AC, 7km east south-east of Paterson (33°15'30"S 26°00'10"E). The main drift through the Bushman's River between Sandflats in Alexandria and Sidbury in Albany on the early main route from Port Elizabeth to Grahamstown and to the interior. Owned by the widow Rautenbach with an inn on the left bank of the river, marked by a cairn on site unveiled on 07.09.1964 by Mr. Kenneth Fowlds, owner of Long Lee, the name of the farm on which the drift stands. The cairn commemorates the old inn and also the 100-year occupancy of the farm by the Fowlds family. A defence post here in 1811, known as Government Reserve, is said to have been manned for a time by Kommandant Buchner, later, in 1875, a toll gate, Rautenbach's Drift Toll, was established here (Skead 1993). A detailed study has been undertaken by Webley in 1992.

3.4.1.14. Quaggasmuts

Quaggasmuts, Alexandria, 3326CB (33°35'30"S 26°25'30"E), 14km north west of Alexandria. Mr. J. Potgieter, garage-proprietor at Alexandria whose family received an early, perhaps the first, grant of the property, stated that, when they arrived on the farm, a metre-deep mound of quagga dung had accumulated at the animals' sleeping place. This gave rise to the use of mutz (German for dung) in the name. This was changed later to the Dutch muts (Afrikaans mis). The True Quagga, *Equus quagga* certainly occurred in the area (Skead 1993).

3.4.1.15. Kwaaihoek

Kwaaihoek, Alexandria, 3326DA, 22km east southeast of Alexandria (33°42'50"S 26°37'15"E). In 1938 Dr. Eric Axelson discovered fragments of the padrao of St. Gregorius erected there on 12-03-1488 (450 years before) by Bartholomeu Dias. A replica is in Witwatersrand University library (Skead 1993).

3.4.1.16. De Kol

De Kol Rant is 23km west northwest of Alexandria. The Karel Landman (Voortrekker) Monument stands on the highest point (33°34'48"S 28°09'45"E). Dedicated on 16 December 1939. Foundation stone laid 16 December 1938 by 77-year old Mrs. J.C. Scheepers, daughter of Christiaan Landman, youngest brother of Karel Landman. Is a large cement globe with a map embossed externally (Figure C0025). Known sarcastically among local Afrikaners as '*Balletjie*' (Skead 1993) (See also Slagboom).

3.4.2. Addo (3325BC)

3.4.2.1. Nomathamsanga "Forest"

Patches of dense Valley Thicket around Nomathamsanga township (erroneously called forest-*ihlathi*) (33°31'30"S 26°42'30"E) are considered culturally important as it where the local inhabitants harvest the plant material required to perform rituals. These sites are where traditional medicines and plants of cultural significance are harvested and where initiates (*Abakweta*) live in seclusion during their initiation into manhood (Nontsikelelo Poli pers. comm. 2002). It is important that this area, or an alternative area, remains accessible to residents of Nomathamsanga for initiation rites.

3.4.2.2. Sweet Kop Valley, Enon

Although it is situated on the outskirts of a Coloured community, Sweetkop Valley (33°23'37"S 25°32'39"E) is significant to the nearby African community of Barsheba (Figure C0028). It is reported that in times of drought the valley is a venue to pray to the ancestors for rain (Mr Africa pers. comm. 2002) (see explanation under Boknes 3.4.1.3.).

3.4.2.3. *Wit Rivier, Enon*

Wit Rivier (33°26'03"S 25°40'26"E) is recognized by the people of Barsheba and Enon as an important cultural site where ancestors (*Abantu bomlambo*) reside (Mr Africa pers. comm. 2002) (Figure C0029) (see also River Rituals). It is important that this site remains accessible to residents of Barsheba.

3.4.2.4. *Sundays River*

Sundays River (near Addo) is considered important, as it is where people perform certain cultural rituals (*Isisiko*) (Figure C0030). For example, when gifts are given to the ancestors they are placed in the river (Nontsikelelo Poli pers. comm. 2002). It is important that this site remains accessible to residents of Addo.

3.4.2.5. *Rogers Farm*

It was noted that Xhosa ancestral graves are located along the Sundays River on a farm called Rogers near Addo (locus not found on current maps). Clan members visit the site annually, with the owners' permission, to perform ancestral rites (Nontsikelelo Poli pers. comm. 2002). The site was not visited. It is important that this site remains accessible to clan members to avoid conflict such as experienced in the Greater Kudu Reserve (Grahamstown) where access to family graves was eventually negotiated.

3.4.2.6. *Sundays River Bridge*

According to Alfred Keye and Charles Nancam (Way-Jones pers. comm. 2002), river rituals are performed by local Xhosa people on the banks of the Sundays River under the bridge on the road between Addo and Port Elizabeth (4km south of Addo) (33°09'15"S 25°11'20"E). It is important that this site remains accessible to residents of Addo.

3.4.2.7. *Woodlands*

According to Charles Nancam (Webley pers. comm. 2002), rain rituals (praying for rain in time of drought) are performed on a hill behind the farmstead on Woodlands farm (\pm 33°25'00"S 25°48'00"E), Addo.

3.4.2.8. *Enon Mission*

According to Marais (1968) the Moravian mission established the Enon Mission (33°20'50"S 25°30'45"E) in 1818, primarily for "Hottentots". Theal (1915) notes that the mission was entirely destroyed in the Kafir war of 1819. The mission is of historical importance.

3.4.2.9. *Caesar's Dam*

Caesar's Dam in Addo Elephant National Park (33°30'25"S 25°40'40"E) was believed to be named after a rogue elephant called Caesar, which roamed that particular area. In fact, Caesar's Dam was originally an elephant wallow enlarged and scraped out continuously by an old man called Caesar who lived there and looked after a flock of ostriches belonging to a Mr. Vermaak. The dam had been built by the Cape Sunday's River settlement when it became evident that there would be a delay in the construction of Lake Mentz. Hippos were introduced into the dam in the 1960's by the National Parks Board with Black Rhinos into the veld surrounding the dam (Skead 1993).

3.4.2.10. *Inqweba Forest*

Patches of dense Valley Thicket around KwaZwelitsha township near Addo (erroneously called forest—*ihlathi*) (33°31'00"S 26°42'00"E) are considered culturally important as it where the local inhabitants harvest the plant material required to perform rituals. These sites are where traditional medicines and plants of cultural significance are harvested and where

initiates (*Abakweta*) live in seclusion during their initiation into manhood (Nontsikelelo Poli pers. comm. 2002). It is important that this area, or an alternative area, remains accessible to residents of KwaZwelitsha for initiation rites.

3.4.3. Coega (3325DC)

3.4.3.1. Grass Ridge

The area known as Grass Ridge (33°35'50"S 25°30'45"E) has recently been bought from a private farmer by the Coega Development. Discussion with the previous farm owner (Mr Moolman) revealed that stock theft played a role in his decision to sell the farm. It is clear that fences have been stolen and that the veld, only a few kilometres from Motherwell township, is harvested extensively for NTFP's. Obvious harvesting of fuel wood and medicinal plants has been observed.

3.4.4. Kaboega (3325BC)

3.4.4.1. Kaboega Poort

A deep kloof known as Kaboega Poort (Xhosa – *iNquburha*) passing through the Suurberg Mountains (33°16'29"S 25°23'03"E) was reportedly used by a Boer commando, led by General Jan Smuts, as a route through the mountains. The group lost their way and being short of food cut up and ate the stem of a Cycad (*Encephalartos* sp.) that poisoned them leaving several individuals close to death (Ian Ritchie pers. comm. 2002).

3.4.5. Kirkwood (3325AD)

3.4.5.1. Witpoort

According to Mr Alex Nombula (Webley pers. comm. 2002), of Modderfontein farm, river rituals are performed in the Witpoort (7km north north-east of Kirkwood) on the Klein Uierivier (33°20'05"S 25°30'00"E) by Xhosa farm workers in the district). It is important that this site remains accessible to residents of Witpoort.

3.4.6. Lake Mentz (3325AA)

3.4.6.1. Darlington Dam

According to Ms Nellie Lambani (Way-Jones pers. comm. 2002), river rituals are performed in the river below the Darlington Dam wall on the Sundays River (33°12'40"S 25°08'40"E) by Xhosa farm workers in the district). It is important that this site remains accessible to residents in the area.

3.4.6.2. Skilkoppie (Grobbelaarskraal)

According to Mr Alex Nombula (Webley pers. comm. 2002), of Modderfontein farm, Rain rituals (praying for rain in time of drought) were performed at Skelkoppie (33°09'15"S 25°11'20"S) on the farm Grobbelaarskraal north of Darlington Dam (Figure C0031).

3.4.7. Paterson (3325BD)

3.4.7.1. Settler graves

Originally a settlement called Sandflats the early cemetery was recorded at 33°26'26"S 25°57'36"E with late 1800 to early 1900 headstones. The cemetery is of historical importance (Figure C0032).

3.4.7.2. Glenfield saw pits

Clive Brown (pers. comm. 2002) reports very old saw pits on his farm, Glenfield, at the base of the Olifantskop pass (33°20'00"S 25°55'10"E). According to Brown's late father Knysna woodcutters used these for a short period of time. Brown reports that there are no longer any Yellow Wood trees (*Podocarpus* spp.) found in the immediate area.

3.4.8. Suurberg (3326AC)

3.4.8.1. Tootabie Forest

Tootabie Nature Reserve (33°35'00"S 25°57'30"E), near Paterson, has been heavily harvested for medicinal bark for the commercial market for many years. The main reason for this being that it is easily accessible as the R32 from Paterson to Cookhouse passes through it. Furthermore it is an unmanned reserve (La Cock & Briers 1992). Burger (1995) reports that the Derek van Eeden, out of desperation to put an end to the destruction, painted occult symbols on some of trees on the roadside that apparently has put an end to bark harvesting. Possible future harvesting should be monitored.

4. Conclusion

Many families in the study site make use of wild harvested plant material for fuel, building material, food supplements, craft material, medicinal purposes, cultural requirements and veterinary medicines on a daily basis, as well as the income generated from the resale of these. Species of non-timber forest products (NFTP's) and their uses have been documented in the past although their frequency and quantity of use and value are poorly known in the study area. Many uses are purely utilitarian and are documented as such, however many have important cultural significance at a species-specific level that is seldom accounted for. Thirty seven percent of the 60 plant species documented in this study are required for cultural purposes.

Biodiversity conservation is often perceived as being of benefit to only the wealthy and to the detriment of the poor. However we suggest that there is a reciprocal relation between cultural diversity and biodiversity and that the long-term survival of many species, and the continued access to these resources through sustainable utilization and management, is critical to the preservation of many Xhosa cultural practices. The importance of recognizing the traditional value of indigenous communities in biodiversity conservation is now recognized, e.g. in the Convention on Biological Diversity, but have as yet not been applied locally. It has been argued that '*promoting conservation in the context of local culture would endow protected areas with a significance that emphasis on biological diversity, landscapes, or economies does not*' (Cocks & Wiersum in press). This is especially relevant in a country such as South Africa, where people can ill-afford the luxury of a species-focused conservation ethic but recognize the importance of cultural diversity.

It is therefore recommended that management strategies for the proposed GAENP consider not only the conservation and long-term survival of (culturally) important plant species but also a strategy towards ensuring that they remain accessible to those who rely on their use for health care, livelihoods and cultural diversity. It is suggested that community workshops are employed as a means to further identify and evaluate the importance of certain plant taxa and specific sites towards accommodating sustainable access to these within the proposed GAENP.

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PALEAONTOLOGY - GLOSSARY

Aeolian - Pertaining to the wind eg. sand dunes are Aeolian sediments.

Arenicolites – A trace fossil characterised by a simple U-shaped burrow oriented perpendicular to bedding. Different types of Arenicolites can be interpreted on the basis of the breadth of the U. The generally accepted interpretation for Arenicolites is that it was a dwelling burrow.

Barnacle - Invertebrate crustacean that attaches itself to rocks or floating debris in the sea

Bivalves – Class of molluscs characterised by having two shells.

Brachiopods – Solitary marine invertebrate belonging to the phylum Brachiopoda characterised by a lophophore and by two bilaterally symmetrical valves. Sometimes know as “lamp shells”

Carboniferous – A geological time period between 286 – 360 million years ago.

Cenozoic – Geological era between 65 million years ago and present day.

Coelurosaurian – Variety of small lightly built theropod dinosaurs (“hollow-tailed reptiles”)

Conglomerate – Any coarse-grained clastic sedimentary rock composed of rounded fragments greater than 2mm in diameter

Coquinite - Sedimentary rock composed predominantly of broken and mechanically sorted shelly material.

Crinoids – Any pelmatozoan echinoderm belonging to the class Crinoidea. Characterised by stems made up of individual disks that are sometimes diarticulated.

Cretaceous – Geological time period between 65 – 144 million years ago.

Cruziana – is a trace fossils characterised by a bilobed trail with "herringbone" (chevron-like) ridges defining a medial groove; the bilobed character is also a result of two parallel furrows that are, in many cases, formed in fine-grained sediments and preserved as casts on the base of an overlying bed. Cruziana is interpreted as a locomotion trace made by a trilobite or trilobite-like animal as it crawled along a sediment surface.

Devonian – Geological time period between 360 – 408 million years ago. Sometimes known as “the age of fishes”

Echinoderm – Solitary marine invertebrate animals that belongs to the phylum Echinodermata e.g. sea urchins.

Fluvial – Of or pertaining to a river or rivers.

Foraminifera – Single celled protozoan organisms that usually have calcareous shells that are useful microfossils used for correlating and dating of sediments.

Gastropods – Class of molluscs typically with a coiled shell e.g. snails.

Graben – An elongate, relatively depressed crustal unit or block that is bounded by faults on its long sides.

Holocene – Geological time 10 000 years and younger.

Hyolith – An unusual small invertebrate animal characterised by a closed tapering shell that is triangular in cross-section. Thought to be related to the molluscs and became extinct during the Permian period.

Ichnofacies - Assemblages of trace fossils, in association with body fossils and lithologic information, provide good clues as to the nature of ancient environments. This use of all preserved aspects of an ancient sedimentary deposit for interpreting its original environment of deposition is called facies analysis.

Iguanodontian – Global group of ornithomimid dinosaurs of varying sizes. All bipedal herbivores.

Inlier – An area or group of rocks surrounded by outcrops of younger age.

Lithostratigraphy – Preliminary stratigraphy based only on the physical and petrographical features of rocks.

Lungfish – Group of true bony fishes in the subclass Dipnoi, which acquired the ability to breathe air independently of other vertebrates. Are abundant in the fossil record of the Devonian period but today are only represented by three species.

Micaceous – A sedimentary rock that has undergone low-grade metamorphism that has resulted in the crystallisation of small grains of mica giving the rock a shiny appearance.

Monocraterion - is a trace fossil characterised by a simple vertically oriented burrow that shows a funnel-like projection at the top of the burrow. Monocraterion is interpreted as a combined dwelling and feeding burrow where the funnel probably served as a trap for prey organisms moving near the burrow opening. The probable tracemaker is a polychaete worm.

Mudstone – A compact sediment made up of mud without the fine lamination or fissility of shale. A massive fine-grained sedimentary rock with the proportions of clay and silt are approximately the same.

Nautiloids – Molluscs belonging to the class Cephalopoda that were abundant in the geological past but today are considered as a “living- fossils”. Generally having a coiled shape similar to the extinct ammonites.

Neogene – Geological time period between 2 – 24.6 million years ago.

Nqwebasaurus – Name of the most complete theropod dinosaur (Coelurosaur) ever found in the Cretaceous rocks (Kirkwood Formation) of South Africa

Ophiomorpha - A branching burrow with either horizontal, oblique, or vertical box-like networks; the burrow exterior is characterized by a knobby texture formed by a pelletal

lining, but in some cases only an internal mould of the burrow is evident. Ophiomorpha is interpreted as a combined dwelling and feeding burrow made by invertebrate animals e.g. shrimp-like forms

Ornithopods – Herbivorous ornithischian dinosaurs with tree-toed (bird-like) feet –usually bipedal animals.

Palaeosols – An ancient soil profile recognised in a sedimentary sequence.

Permian – A geological time period between 251 – 286 million years ago.

Permo-Triassic – General sack term to describe a geological time span covering the Permian and Triassic periods from 213 - 286 million years ago.

Phycodes – A trace fossil represented by a horizontally to obliquely oriented burrow that shows a "broomlike" branching from a central burrow. Phycodes is interpreted as a feeding burrow made by repeated probes by an animal into the sediment.

Planolites – A trace fossil represented by simple meandering burrows oriented horizontal or oblique to bedding. It is interpreted as a feeding burrow made by a worm-like animal.

Rhizoliths – root-like trace fossil tubes that are exposed when softer matrix sediment is removed/eroded away and indicated the *in situ* position of the original plant.

Sandstone – A medium-grained clastic sedimentary rock composed of rounded or angular sand particles (0.05 – 2.0 mm).

Sauropod – Group of generally large saurischian dinosaurs characterised having long-tails and very long necks.

Shale – A fine-grained sedimentary rock composed of clay, silt or mud and characterised by finely stratified structure approximately parallel to the bedding.

Silicified – a fossil that has been preserved by the introduction and replacement of original material by silica.

Skolithos - A type of trace fossil represented by a simple vertical burrow or tube.

Stratigraphy – Branch of geology that deals with the definition and description of major and minor natural divisions of sedimentary rocks.

Stratotype – A specifically bounded “type section” of rock strata that best represents a particular rock Formation. Consists ideally of a complete and continuous exposure that best represents a particular rock unit.

Stegosaur – Type of herbivorous dinosaur that had plates on its back and spikes at the end of the tail.

Tapinocephalus – Name given to the lowermost biozone (based on the fossils assemblage) in the Beaufort Group of the Karoo Basin.

Thalassinoides – a trace fossil characterized by having a branching burrow (Y- or T-shaped branches) with either horizontal, oblique, or vertical box-like networks and enlargements at junctions between some branches. Unlike Ophiomorpha, Thalassinoides has smooth walls. Thalassinoides is interpreted as a combined feeding and dwelling burrow, but has been observed as a boring in some cases. The probable tracemaker was an arthropod.

Theropod – General name give to all meat-eating dinosaurs.

Trilobite – Class of marine arthropods (invertebrates) which flourished in the seas until they became extinct at the end of the Permian periods (251 million years ago.)

Zoophycos – Type of trace fossil found in relatively deep quite marine waters.

PALAEONTOLOGY in the GAENP

INTRODUCTION

In April 1999 the National Heritage Resources Act (Act No. 25 of 1999) was passed by parliament and came into operation after a notice to this effect was published in the Government Gazette on 1st April 2000. This legislation effectively defines fossils as (natural history) heritage objects that must be preserved for future generations of South Africans. No fossils may be destroyed, damaged, excavated or traded in without a permit issued by a responsible provincial or national heritage authority.

The brief of this study was to conduct a data survey/database assessment of known fossils sites and the palaeontological potential of all sedimentary rock strata that occurs in the footprint of the proposed Greater Addo Elephant National Park (GAENP). In addition, all geological sites of importance were to be identified and described as well.

The proposed GAENP is underlain by four major sedimentary sequences of varying ages - from 380 million year to recent. Each of these sedimentary rock units contain fossils of various types which have been collected over the years from a variety of localities underlain by these sediments in South Africa. The sediments were deposited under widely differing environmental conditions and this is reflected in the fossil assemblages that are now found in the rocks e.g. marine, estuarine and terrestrial.

A comprehensive list/database of fossil and geological sites within (and bordering) the proposed GAENP is provided in the Microsoft Access database provided

OVERVIEW OF MAIN GEOLOGICAL UNITS & THEIR FOSSIL POTENTIAL. (oldest to youngest)

The footprint and buffer zone (5km) of the proposed GAENP is underlain by four major sedimentary rock units that are found in the Eastern and Western Cape. The distribution of these four major units within the GAENP is illustrated in the simplified geological map (Figure 1) covering the area and the ages illustrated in Figure 2a & b. From the oldest, at the base, the Cape and Karoo Supergroups are found in the northern two-thirds of the Park while in the southern third, the area is underlain by Uitenhage and Algoa Group rocks. The latter sediments are restricted to the coastal areas where a thin veneer of recent sediment overlies the older rock formations (Figure 1). The fossil bearing potential of the various rock units represented on the map (Figure 1) is indicated in the legend as an estimate of the "Fossil Potential Index" with 3 representing very high fossil content and 0 have no fossils preserved at all.

1. CAPE SUPERGROUP

The Palaeozoic (450 - 300 mil years old) Cape Supergroup consists mainly of sandstones and shale (total thickness 9000m) divided into three groups - the lower **Table Mountain Group** overlain by the **Bokkeveld Group** and finally the **Witteberg Group**. All three groups were deposited in an east-west striking basin and were latter subjected to an intense N-S compression event which resulted in the Cape Fold Belt. This "mountain building" event, the Cape Orogeny, took place during middle Karoo times, about 250 million years ago. The added temperature and pressure that these rocks were subjected to during the Cape Folding

event had the effect of re-crystallising ("welding") the sedimentary particles (mainly quartz grains) in the sandstones together to produce particularly hard rocks. These resistant sediments are now seen as prominent parallel ridges with contorted bedding seen at many outcrop localities in the mountainous parts of the park. Outcrops of folded Witteberg Group sediments occur in the Klein Winterhoek and Zuurberg Mountains in the northern part of the GAENP footprint while only a small inlier of Bokkeveld Group sediments is found in the Alexandria district.

Fossil Potential.

For the most part, the Cape Folding event effectively destroyed many fossils and it is only in rare protected (low pressure/deformation zones) that some fossil are preserved and have not suffered distortion or a high degree of deformation.

Bokkeveld Group invertebrate fossils are well represented in a single locality 9km south-west of Alexandria in the Kaba valley (record P0033). This roadside gravel pit, on the farm "Klein Kaba" has yielded numerous invertebrate marine fossils of lower Devonian age (Hiller, 1980).

The **Witteberg Group** sediments, exposed in the Klein Winterhoek and Zuurberg Mountains, have been subjected to intense folding and faulting. They have yielded particularly fine fossil plants, trace fossils and fossil fishes from various localities in the Eastern Cape.

- Trace fossils – Zoophycos occurs up to at least half way up the Witpoort succession (Plumstead, 1967; referred to *Spirophyton*) or in the lower strata of the Witpoort (Theron, 1962). The enigmatic trace fossil *Spirophyton* is well represented throughout the Witteberg sediments in the Eastern Cape. As yet no site has been recorded in the GAENP area. In addition, an unusual and distinctive "*Phycodes*" trace fossil is found 2.5km SW of the Darlington dam wall (record P0013). Both of these trace are representative of the Zoophycos ichnofacies (low energy, fairly deep water, marine substrates).
- Fish fossils – Well-preserved fossil fish are known from a site 4 km south of the Lake Mentz/Darlington Dam wall (record P0012). These fish were first reported by Theron (1962) and Marais (1963) and dated by Gardner (1969) who regarded them as Early Carboniferous in age (c.353Ma). Additional fine fish fossils have been recovered from the Gramastown N2 by-pass cuttings (Anderson et al. 1994; Anderson et al, 1999a & 1999b; Gess and Hiler, 1995b; Long et. al, 1997).
- Fossil plants are fairly ubiquitous but are usually found as fragmentary twigs and unidentified plant debris in the less distorted sediments – see record P0016. Numerous well-preserved fossil plants of the same age have been recovered from the Grahamstown N2 by-pass cuttings (Taylor and Hiller, 1993; Gess and Hiller, 1995a; Gess and Hiller, 1995b; Hiller and Gess, 1996; Anderson et. al.1994)

2. KAROO SUPERGROUP

Deposition of the thick pile of Karoo sediments took place in an intracratonic basin (on the African plate) and commenced with the Permo-Carboniferous glaciation that deposited the **Dwyka Group** (tillite). This rock unit is well represented in the northern part of the GAENP footprint. The Dwyka is followed, conformably, by the shallow marine shales and sandstones of the **Ecce Group** and then by the fluvial and lacustrine mudstones, shales and sandstones of the **Beaufort Group**. It is only the very lowest units of the Karoo sediments that have also been affected by the Cape Folding event. As a consequence, only the Dwyka, Ecce, and to a

lesser degree the lower Beaufort rocks are folded. Karoo Supergroup rocks occur in the northern part of the GAENP and are infolded with the older Witteberg Group rocks in the Zuurberg mountains and are well exposed in the open rolling Karoo country north of Darlington Dam.

Fossil Potential

1. Dwyka Group – a glacial deposit (tillite) containing **no fossils**.
2. Ecce Group – In this southern part of the basin only some fossil wood and fragmentary plant material is found. In addition rare fish fossils are also found (Jubb and Gardiner, 1975). Trace fossils are relatively common and are usually in the form of burrows, feeding tracks and fish-fin drag marks at the interface of bedding planes.
3. Beaufort Group – These predominantly terrestrial sediments have, throughout South Africa, yielded a large number of vertebrate fossils in the form of fishes, amphibians, early primitive reptiles (the captorhinids) and the mammal-like reptiles (therapsids). Minor freshwater invertebrates (molluscs) and plant fossils (Bamford, 1999) have also been recovered. For the most part the fossils found in the Beaufort sediments are RARE – particularly in the lowermost part of the succession above the Ecce – Beaufort contact.

The Beaufort Group is subdivided into eight biozones (Rubidge, 1995) based on the vertebrate fossil assemblages found in each zone. It is only in the very northern part of the GAENP area that the *Tapinocephalus* Assemblage Zone occurs. A comprehensive list and description of the vertebrate fossils that occur in this biozone is reported in Rubidge (1995) and is included as Appendix - I. It must be emphasised that, for the most part, fossil bone (often a blue-black colour) in the lower biozones of the Beaufort Group is very rare and has as yet not been reported from the northern part of the GAENP.

3. UITENHAGE GROUP

The lower Cretaceous Uitenhage Group is best preserved, and reaches its maximum thickness in the **Algoa basin**. The outcrops are generally poor with large areas being covered by dense thorn scrub and Tertiary to Recent sediments of the Algoa Group. Good exposures are confined to the valleys of the Swartkops, Coega, Sundays and Bushmans Rivers west of Addo. Three formations are recognised within the Uitenhage Group (oldest at base):

- Sundays River Fm - Estuarine and shallow marine sandstones, sandy limestones and shales.
- Kirkwood Fm - Fluvial sandstones, siltstones and mudstones.
- Enon Fm - Fluvial conglomerates, grits and coarse sandstones (high energy environment).

These sediments have been deposited in a series of half graben fault blocks with the bounding faults having an approximate east-west strike, consistent with the southerly-directed tensional stresses that marked the break up of Gondwana during lower Cretaceous times. All these sediments are considered to have been deposited around c.135 million years ago based on recent dating work using foraminifera (McMillan, 1999). The postulated northern E-W fault of the Algoa Basin is well defined and runs through the central part of the GAENP area (c.5km north of the Addo Elephant Park camp).

Fossils Potential.

- **Enon Formation** at the base, occurs as a thin E-W trending outcrop between the villages of Enon and Paterson. Only rare (unidentified) fossil wood has been recovered in the past.
- **Kirkwood Formation** sediments generally have poor outcrops and are best exposed in cliff faces along the Sundays and Bushmans River valleys. There is an abundance of fossil **plant material** mainly **fossil wood** in the form of loose boulders and some logs in excess of 6m in length. To a lesser degree, fossil leaf and frond impressions occur in places in finer sandstones and mudstones (Anderson and Anderson, 1985; Bamford, 1986; Gomez et al, 2002). Perhaps more importantly, one finds isolated **vertebrate bone and teeth** fragments that are derived from various type and sizes of reptiles like dinosaurs, crocodiles, lizards and very rarely mammals. These vertebrate fossils are RARE (McLachlin and McMillan, 1976; Rich et al, 1983; De Klerk et al., 1997, 1998, 2000). See records P0003 – P0006.
- **Sundays River Formation** mudstones and sandy limestones are of estuarine to marine origin. Invertebrate estuarine and marine fossils are characteristic of this unit and a some representative fossils are illustrated in Figure 3. Some exceptionally rare vertebrates bone has in the past been recovered and includes plesiosaurs and some minor dinosaur bone material. See record P0020.

Fossils of Kirkwood and Sundays River Formation have been reviewed by McLachlan and McMillan (1976) and De Klerk et al, (1998). Estuarine and shallow marine invertebrates like bivalves, gastropods and ammonites occur in sandstone and claystone, e.g. Coega and Swartkops brickfields (Figure 3). Other fossils occur in hard calcareous coquinite sandstones, and are difficult to extract while some delicate thin-shelled specimens have been recovered from the mudstones. Trace fossils in the form of small burrows of the Planolites type occur in the finer lithologies, and a delicate ophiuroid (or brittle star) may be indicative of the quiet water conditions during deposition.

4. ALGOA GROUP

The younger Cenozoic (predominantly Neogene) Algoa Group sediments are represented by a veneer of marine and marine related (aeolian) formations which are characterised by calcareous clastic sediments and are classified, according to origin, as marine, aeolian and fluvial (Le Roux, 1989). These various Algoa Group sediments are found predominantly along the coastal belt from Port Elizabeth to Port Alfred and extend inland as far as Patterson (Figure 1). The sediments are the result of deposition during a series of transgressive and regressive cycles of the shore dating from late Palaeocene to Holocene (65 million years ago to Recent). Numerous marine fossils of varying ages ranging from 24 million years through to the present are found in these sediments and a comprehensive checklist of invertebrate fossils is reported in Le Roux (1993). Figure 2c presents the different Algoa Group formations and their relative ages and in summary they are as follows:

- Marine deposits, being either beach, near-shore, estuarine or lagoonal deposits associated with transgressive/regressive shorelines, are now subdivided on the grounds of distinct lithological and palaeontological characteristics, as well as age differences into the:

- Bathurst Formation (oldest)	Eocene; c.50 million years old
- Alexandria Formation old)	Miocene – Pliocene (15 – 2 mil. years
- Salnova Formations (youngest)	Quaternary (< 2 million years)

- Coastal Aeolian deposits are represented by the:

- Nanaga Formation (oldest)	Late Pliocene to Early Pleistocene
- Nahoon Formation	Middle to Late Pleistocene
- Schelm Hoek Frm(youngest)	Holocene
- Fluvial deposits are represented by the:

- Martindale Formation (oldest)	Eocene
- Kinkelbos, Bluewater Bay & Kudus Kloof Frms.	Late Pliocene - Early Pleistocene
- Sunland Formations (youngest)	Late Pleiocene

FOSSIL POTENTIAL of Algoa Group sediments in the GAENP

Marine

- **Alexandria Formation.** By far the greatest concentration of fossils occurs in the shallow marine deposits of Alexandria Formation which were deposited during Miocene and Pliocene transgressions and regressions of the sea between 2 – 15 million years ago (Le Roux, 1987). The Alexandria Formation usually contains an abundance of marine invertebrate fossils in the form of shelly material derived from bivalves and gastropods. In many instances these shells have been abraded by the high energy (surf and current) conditions resulting in poor preservation of shell detail. It is interesting to note that thick (up to 2m) oyster beds occur outside the GAENP in the vicinity of Grassridge indicating that marine conditions occurred at the time of deposition some 200m above sea level today. The Alexandria Formation is important palaeontologically as it has to-date yielded more than 170 species of molluscs, four species of brachiopods, at least four species of Echinoderms and a few species of crustacea, some coelenterates as well as some bryozoa. Vertebrate remains include sharks' and fish teeth as well as fish vertebrae and coprolites have also been recovered (Le Roux, 1993). Trace fossils belong to two marine ichnofacies, namely the *Skolithos* and *Cruziana* ichnofacies (Smuts, 1987). The *Skolithos* ichnofacies contains *Ophiomorpha*, *Skolithos* and *Monocraterion* which indicate energetic littoral to sublittoral environments subject to abrupt erosion and deposition cycles. The *Cruziana* ichnofacies contains *Thalassinoides* and *Arenicolites* which is typical of sublittoral to shallow littoral areas below normal wave base. Common depositional environments of the *Cruziana* ichnofacies include shallow shelf areas, lagoons and bays.

Aeolian

- **Nanaga Formation** is believed to have been deposited during Pliocene to Early Pleistocene times (5 – 1 million years ago) and generally contains minute fragments of marine macro-organisms (mainly shells), foraminifera (sometimes constituting up to 80% of the rock), and occasional land gastropods such as *Achatina*, *Tropidophora*, *Thigonephris* and *Natalina* are present (Le Roux, 1989).
- **Nahoon Formation** consists of consolidated aeolian sediments which were most probably deposited during the regressions associated with the Wurm and Riss glacial and are regarded by Le Roux (1989) as late Middle to Late Pleistocene in age (0.5 – 0.1 million years ago). Minute fragments of marine macros-organisms (mainly shells) are common, while foraminifera also occur. Occasional land gastropods such as *Achatina*, *Tropidophora*, *Thigonephris* and *Natalina* are present, especially in the palaeosol horizons (see record P0032). Fragments of fossils bone have also been

reported for some (see records P0031 and P0034). Trace fossils in the form of invertebrate burrows and root-like structures (rhizoliths) are common. Le Roux (1989) has also reported peat horizons in the Woody Cape area.

- **Schelm Hoek Formation** comprises unconsolidated windblown sand of Holocene age occurring up to 6 km inland from the coast. These sands do contain minute fossils fragments of marine macro-organisms (mainly shells and skeletal algae) and Le Roux (1989) has also reported some foraminifera and echinoid spines. These sediments also host abundant shell middens, the details of which are reported by Dr Lita Webley in the Archaeological Section of this report.

Fluvial

- **Kinkelbos Formation** sediments were deposited by the Sundays River during Pliocene to Middle Pleistocene times (5 – 0.7 million years ago). These fluvial sediments are best preserved on the ancient river terraces to the north of Colchester and are generally devoid of fossils. Le Roux (1989) does however report one locality where some comminuted shell fragments were found in a pebble layer. In addition, vague structures resembling burrows are abundant.

CONCLUSIONS & RECOMMENDATIONS

Fossils are extremely important natural heritage objects as they are the remains, traces, or imprints of once-living organisms preserved in the earth's crust and they provide the direct evidence of ancient life in its many and varied forms in the geological past. They can be used as geological tools to solve geological problems and understand ancient depositional environments. The study of fossils also enables palaeontologists to trace the course of evolution of life and habitats on the earth from their remote beginnings to the seemingly endless diversity of the present. We, in the Eastern Cape, are indeed fortunate to have so many rock units that contain a wealth of diverse fossils that can be used for research, education and ecotourism purposes.

By their very nature fossils are rare and are preserved in many different ways. One therefore needs a trained eye to identify them in the field. Once identified, they should be removed (if in danger of being destroyed), studied and the information then used to advance the science of palaeontology, enrich our education programmes and provide a further ecotourism dimension to visitors to the region.

Recommendations:

1. An updated database/list of known fossils sites must be maintained at all times.
2. When new fossils or fossils sites are found they must be reported to a competent palaeontologist for identification and evaluation.
3. If, during any earth moving activity a fossil (or suspected fossil) is identified a competent palaeontologist should be informed and an on site inspection carried out. Generally fossils can be removed quickly and would therefore not delay or hinder construction operations.
4. Field staff (rangers) should be reasonably well versed in what types of fossils they could expect to find in their areas. This could be achieved by staff attending a short workshop/course on the geology and palaeontology of the area. Such a short course would cover both theory and field practical work: a one-day course would be

adequate for such a programme. Such a course could be done on an annual basis to accommodate new staff or provide occasional refreshed material for longer serving staff members.

5. A conservation management plan should be carried out for all those sites that have been identified for potential ecotourism activities.

This preliminary assessment of the known fossil sites and fossil potential of the rock units underlying the GAENP is a good approximation of the overall palaeontology of the area. The survey is no way near exhaustive and a phase two study may well be warranted.

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LIST OF FIGURES.

- Figure 1. Simplified geological map of the GAENP and surrounding area indicating the four main rock units and these relative ages. A “Fossil Potential Index” is indicated for each rock unit (0 = No fossils; 3 = High fossil content)
- Figure 2a. Geological column showing relative ages of dominant rock units in the Eastern Cape.
- Figure 2b. Stratigraphy of the lower Cretaceous in the southern Cape showing the relationship between the three formations making up the Uitenhage Group of rocks (Enon, Kirkwood and Sundays River Formations).
- Figure 2c. Classification of the various Cenozoic sedimentary deposits constituting the Algoa Group along the South-East Cape coast.
- Figure 3. Sketches of some marine and estuarine invertebrate fossils of the Sundays River Formation

HISTORY- GLOSSARY

Afdak kombuis - chimney hearth attached to cottage

Apse - vaulted semicircular or polygonal end of a chancel or chapel (Anglican churches)

Bargeboards - projecting, sometimes decorated, boards placed against the incline of the gable of a building and hiding the horizontal roof timbers.

Battlement - parapet with a series of indentations or embrasures with raised portions.
Bays: compartments of buildings by sidewalls or ceilings.

“broekies lace” - decorative wood usually on verandas – in imitation of white lace.
Buttress: mass of brickwork or masonry projecting from or built against a wall to give additional strength.

Cape Dutch cottageⁱ - narrow and barnlike; single storeyed with thatched (later galvanized iron) roofs; central doorway and two small windows on either side. Living room and bedroom with later additions.

Chancel - that part of the east end of Church beyond the crossing or chancel arch in which the altar is placed.

Corrugated iron - ridged galvanized iron roofing in flat sheets or curved for verandas.
Fluting: vertical channeling in the shaft of a column.

Gable - End, central or side feature on roof usually associated with Cape Dutch style.

Gothic- pointed style of architecture prevalent in Western Europe from 13th century to 16th century.

Hood-mould/dripstone/label - projecting mould above an arch or a lintel to throw off water.

Lancet window - slender pointed arched window, chiefly used in English Gothic architecture.

Portico - centerpiece of a house or a church with classical detached or attached columns and a pediment. A space forming an entrance to a building, with roof support on at least one side.

Roof - *hipped*: roof with sloped instead of vertical sides. *Mansard*: roof with a double slope, the lower slope being larger and steeper than the upper. *Rafter*: roof-timber sloping up from the wall plate to the ridge. *Purlin*: longitudinal member laid parallel with wall plate and ridge beam some way up the slope of the roof.

Tie-beam - beam connecting the two slopes of a roof across at its foot

Collar-beam -tie-beam applied higher up the slope of the roof

Strut - upright timber connecting the tie-beam with the rafter above it

Sashed windows - wooden windows opened by means of a pulley of cord.

Spire - tall pyramidal or conical pointed section used of a church

Stable door - wooden door in two sections.

Stoep - raised platform in front of a house.

String course - projecting horizontal band or moulding set in wall surface

Stucco - plaster work

Tracery- intersecting ribwork in the upper part of a window, arches or vaults.

Transept - transverse portion of a cross-shaped church.

Vault - arched roof or ceiling

Veranda - open platform with roof (usually iron) and wood or iron railings

SCOPE OF THE HISTORICAL RESEARCH

As the first phase of the cultural mapping of GAENP includes an archaeological and cultural aspect, the historical aspect will be confined largely to the European discovery of South Africa from the 15th Century, the subsequent settlement of the Cape by Dutch, French and British settlers during the 18th and 19th Centuries, the establishment of missions, British expansion in the eastern Cape, Dutch resistance and trek from the eastern Cape and movement towards the north and ultimately the Union period after the Anglo Boer War (1899- 1902). The period around the two World Wars (1914 –1 945) is also covered as it was these upheavals that brought political and economic changes to the eastern Cape and these are also reflected in social movement, the ups and downs of individual prosperity and property ownership. The historical aspect of the cultural mapping of GAENP covers those sites that fall within the 60- year-protected period ie all sites older than 1940s. The cemeteries form an exception as these are protected regardless of age. What has not been covered which will fall into the historical aspect for the second phase of the cultural mapping are the forced removals and the fragmentation of groups due to political influences, the establishment of townships like Nomathansanqa at Addo where only 10% had lived in the township for more than 20 years and over 50% came from farmsⁱⁱ. Where these people originally lived will provide indications of their settlement, where their forefathers are buried and further sites.

Concentration on two areas: Nanaga as a varied site involving trade, farming, education and religion and Kirkwood as a newer town on the borders of the GAENP which can benefit enormously from the injection of tourists traveling through the town.

HISTORICAL BACKGROUND TO THE EASTERN CAPE WITH SPECIAL REFERENCE TO THE GAENP

The early Portuguese explorers from Diego Cao onwards continued navigating the Atlantic and then Indian Oceans. The practice of erecting inscribed limestone crosses to proclaim the Portuguese advance towards the East, was started by Cao in the Congo and at Cape Cross and continued by Dias at Kwaihoek and possibly at St Croix where a wooden cross was erected. In 1938 Eric Axelson discovered the fragments of the Kwaihoek cross; the St Croix cross had long disintegratedⁱⁱⁱ. Today the stone copy of the padrao positioned by Portuguese Captain, Bartholomeu Dias in 1488 on Kwaihoek falls within the footprint of the Park. The earliest shipwreck in the area from Schelmhoek to Cannon Rocks was that of the British East Indiamen *Doddington* off Bird Island in 1755^{iv}. The 17 survivors (of 136 rescued) of the *Grosvenor* (on Transkei coast in 1782) must have been one of the first European groups to meet the indigenous peoples in the eastern Cape. Expeditions like the one headed by Jacob van Reenen, set out to find the survivors of the *Grosvenor*. Van Reenen's diary records places like Wolwefontein and crossing the Zondags River^v (where the railway station and Lake Mentz are today). He met Xhosa chiefs like "Sakka" of the Gqunukwebe whose son Cungwa (or Congo) was to move into the area known even today as Congo's Kraal.

The Dutch farmers who moved from farming in the Western Cape now moved to the eastern Cape. In the 18th Century, Lucas Meyer who later owned Rietfontein the farm on which Grahamstown was built in 1812 owned according to the quitrent system(1776 – 1818)^{vi} the farm of Jammerfontein in Alexandria.

Travelogues written by Carl Beutler, Lieutenant William Paterson, Rev John Campbell, Anders Spaarman, de Mist, Burchell mention very early landmarks like the Sundays River,

the Addo Drift Inn (or Zondags Drift Inn or the Elephant or the Castle) the oldest building of which date to the 1820s. As the Sundays River area became known, the Missionaries moved in: the Moravians chose to establish Enon in 1818 on the farm of Jacobus Scheepers (where there was also a military post)^{vii} along the Witterivier and much later in 1889 the Trappist Monks to establish Dunbrody^{viii}. Enon Mission pioneered the citrus industry and German missionaries and their families lived there. The Mission provided a school, a bakery, a shop, a smithy and a carpenter's shop as well as a church and pastorie for the community.

By the time the Enon Mission had been flourishing for a number of years, the Boer farmers were well established in the southeast. The frontier wars left its mark on the Boers as well. In the 1800s the Boers and the Xhosa clashed in what is known as the Slagboom (or Toll bar) ambush. Over 70 Boers clashed with the Xhosa who had settled in the valley. The clash occurred along a narrow path. Years after the event Thomas Pringle described the event^{ix}. The exact location is unknown. This took place before the famous Stockenstrom ambush at Doornek.

Another ambush took place in the south. One of the Voortrekker leaders, Karel Landman's earliest homesteads stood at Marant's Drift^x, a portion of the original farm, Melkhoutboom. The Drift near the Boknes River is named after Lieutenant Marant and who was ambushed along with his party of Khoi levies. These crossings on rivers were ideal ambush spots.

For Andries Stockenstrom the son of the Governor Sir Andries Stockenstrom the ambush came at Doringnek (Doornek or Doorn Neck) after the young Ensign met with the Xhosa chief Ndlambe and continued his route to meet up with Colonel Graham at his Coerney camp instead of staying put in the abandoned farmhouse in the Zuurberg. Motivation for the Xhosa ambush was the news of another attack or other treacherous incidents^{xi}. The ambush at Doornnek led to a harsher British policy. Again the exact position of the ambush is not known (Dr CJ Skead gives it as 4 km north of the Zuurberg Inn between the Coerney and Wit Rivers^{xii}).

The impact of the Frontier Wars was not felt in this western part. The important Zuurberg pass was being completed with convict labour in the 1840s. It was then that Ann's Villa became such a strategic site – not only for supplying food for the labour force but as a school, blacksmith, etc. A link with later history was another route: the path taken by Smuts Commando in 1901 through the Zuurberg was the same one used by Sir Harry Smith in 1851 bringing troops for the 8th Frontier War.

The village of Bayville (established in the 1870s; later grew into Kirkwood named after James Somers Kirkwood who lived at Hillside and kick started the Citrus industry) played an interesting role in the Anglo-Boer War of 1899-1902 when the depleted starving Smuts Commando advanced through the Zuurberg, raiding Ann's Villa (while the British Troops hid in the hills), surviving ambushes at Bedrogfontein, being defeated in a skirmish at Brakkefontein, attacking British troops at Deer Cottage, swooping passed Korhaansdrif to the post office and shop at Bayville.

Another multi-purpose settlement was Ann's Villa where the shop, school, hall, bakery, smithy, taproom and homestead provided a focus for travelers and the community. Just as Ann's Villa was a mecca for the Zuurberg travelers so the Gorah farm was a mecca for hunters. The earliest Khoi owners were the Salies some of whom assisted Vermaak in the building of the now beautifully restored homestead. The famous elephant hunter Pretorius knew the Gorah which was also a sporting attraction with its tennis parties. Not only were

there white hunters the Xhosa hunted as well in 1807 Gqunukhwebe Chief Chungwa asks permission from Colonel JG Cuyler to stay in Landman's Bush, Alexandria to hunt bushbuck, blue duiker and oribi before moving his kraals from the van Staden's area.

The Union period – 1920s saw the establishment of larger houses as the Oudstshoorn ostrich farmers after the boom ended (houses like Goedehoop and Ruimte in Kirkwood), moved north and the Graaff Reinet farmers moved towards Darlington and down to Kirkwood. Nanaga, Paterson and Addo developed with the intersections of routes into the interior; Addo more so because of the Park, the Citrus Industry and the Sundays River Scheme. Alexandria remained a farming community with some development because of the coastal route and tobacco industry. Lake Mentz built over the village of Darlington in 1918 - 22^{xiii} changed farming prospects in the Sundays River Mouth to Korhaans Drift areas but not as much as expected. The history of the area around the Lake Mentz is largely unresearched. Only the area known as the Moot has produced a family history entitled *My Plek, My Mense* by O Dorfling with special emphasis on farms like Brakkefontein and Prospect.

HISTORY METHODOLOGY

The historical research follows these stages:

- Secondary/written resources including newspaper cuttings and files in the History Museum and Cory Library, Grahamstown, University of Port Elizabeth Library and Port Elizabeth Library;
- Telephonic contacts followed by interviews, some tape recorded others not;
- Targeted areas like Addo – a very old area on the Sundays River and on the borders of the GAENP, Nanaga – an intersection of trade, hotel accommodation, farming and religion and Kirkwood – a town on the borders of GAENP with both British and Dutch/Afrikaans influences with developments in hotel accommodation, small holdings, citrus farms, schools, post office and churches;
- Well-known sites eg. Those on the Smuts commando route during the Boer War, the Dias cross, Barkly Bridge, Ann's Villa, Enon Mission, the Gorah.
- Relatively unknown sites mainly farmhouses in developed areas (newly acquired farms in GAENP)

Database notes

- Where there is a original farm name this is stated in brackets after the name given on the 1:50000 map reference.
- Where there are groups of buildings under one name only one entry is given to cover the complex; details are given under Site description eg. Enon Mission, Ann's Villa, Addo Drift Inn.
- Site description: single-storey is presumed unless double-storey is stated.
- Date: the oldest date is given eg in the case of a complex of dwelling the date of the oldest; in the case of a cemetery the oldest gravesite.
- Where there is a cemetery associated with a complex or group of buildings, the cemetery is given a separate entry e.g Mount Robert farm house and cemetery are separate entries.

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- ^x Skead, CJ 1993: 363-4
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