Value of the San Rock Art in The uKhahlamba Drakensberg World Heritage Site

By Tommy Topp

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Value of the San Rock Art
in the
uKhahlamba Drakensberg
World Heritage Site (in South Africa)

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I herewith declare that I am the sole author of the current master thesis according to art. 51 par. 2 no. 8 and art. 51 par. 2 no. 13 Universitätsgesetz 2002 (Austrian University Law) and that I have conducted all works connected with the master thesis on my own. Furthermore, I declare that I only used those resources that are referenced in the work. All formulations and concepts taken from printed, verbal or online sources – be they word-for-word quotations or corresponding in their meaning – are quoted according to the rules of good scientific conduct and are indicated by footnotes, in the text or other forms of detailed references.

Support during the work including significant supervision is indicated accordingly.

The master thesis has not been presented to any other examination authority. The work has been submitted in printed and electronic form. I herewith confirm that the electronic form is completely congruent with the printed version.

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Klagenfurt, 1 June 2009 Signature:
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Cover Design
By Dawn Topp using one of our photographs of the San Rock Art sites known as Khanti 1 in the Southern Berg.

Photograph Credits
All the photographs in this thesis were taken during the first field trip by either, myself, Barbara Müller or Michael Hochkofler.

Map Credits
Maps of the Berg on pages 19,22,24 and 26 have been edited by Dawn Topp and were originally sourced from the KwaZulu-Natal Tourism Authority.
1. Introduction

The uKahlamba Drakensberg World Heritage Site

The area known as the uKahlamba Drakensberg World Heritage Site (from here on referred to as the Berg or the Park) in South Africa, is dominated by a mountain range which runs approximately North to South for about 180 kms along the Park’s western boundary, it is 243,000 ha in size with some of the peaks reaching heights of up to 3,400m above sea level. The eastern side of the mountain range is more like a steep escarpment which rises above the valleys below by anything up to 1,400m over a very short distance. On the west side of the mountains the land, which is still quite mountainous, drops off more gradually towards the west through the neighbouring country, The Kingdom of Lesotho.

Fig 1: Location of the Park within South Africa

The Park, which plays a large role in supplying high quality water to the province of Kwa-Zulu Natal and other parts of the country supports a diverse range of ecological niches resulting in a rich biodiversity and a high number of endemic species. In addition to this the Park also offers cultural and spiritual inspiration as well as recreational experience which includes ecotourism (see Annexure 1).

Besides being inscribed as a World Heritage Site (in the year 2000) for both ‘exceptional natural beauty and cultural importance’ (one of only 25 mixed sites in the world) it was also designated as a Ramsar Site (in the year 1997) for the following reason.
"The Drakensberg is regarded as the most important mountain catchment in South Africa due to its high yield and water quality, supplying rural, agricultural, urban and industrial users downstream."¹

The Park with its many caves and rock shelters is home to thousands (between 25,000 and 40,000) of San Rock Art paintings.

"with the largest and most concentrated group of paintings in Africa south of the Sahara, made by the San people over a period of 4,000 years."²

Fig 2:  Dawn view of Hodgen’s peaks in the Southern Berg

The area is extremely beautiful, awe inspiring, rugged and most challenging to hikers and climbers alike. Nearly all of the area in the park’s boundaries are in a pristine condition and as such makes the park one of those places that contributes to that small percentage of the terrestrial surface of the planet that still has very low to no human impact (authors observation).

¹ Extract from the RAMSAR inscription
² Extract from UNESCO World Heritage Centre
Conservation in the area goes back a long way, to a time when concerns regarding the exploitation of indigenous forests were expressed in reports to the Natal Colonial Government in 1880, 1889 and in 1902, these lead to certain sections of the park (as we know it today) being established as protected areas by the Natal Colonial Government in 1903, where a section of land in the Giant’s Castle area was proclaimed as a ‘Game Reserve on Crown Land’ (Government Notice No. 735 of 29 October 1903). Over the last century more and more sections of land were proclaimed, (last in 1989) adding to the eventual size of the Park.

The San People

The Bushmen who are also referred to as the San people are the oldest living group of peoples who populated most of Southern Africa, they were Stone Age people who practised a hunter-gathering existence and had probably been in the area from the time of the Middle Stone Age (200,000 to 30,000 years ago).

“\textit{The first conclusive evidence for San presence in the Park dates back to almost 8,000 years ago, although circumstantial evidence suggests that the San inhabited parts of these mountains at least 20,000 years ago.}”

Although the San (very few in number) are still in existence in the inhospitable (desert/very dry) regions of Namibia and Botswana, the San people that inhabited the Drakensberg mountains are long gone,

“\textit{with the last reported sightings in the Little Berg being in about 1890}”

The history of the San in the Drakensberg was only documented from the time that the European settlers arrived in the area, in the early 19\textsuperscript{th} century. By this time the African cattle herding

\footnotesize{3} \textit{Heard, Duncan. et al, Integrated Management Plan 2006 -2011, uKhahlamba Drakensberg Park World Heritage Site, section 3.5.8, page 19}

\footnotesize{4} \textit{Irwin, Dave and Pat. (1992) A Field Guide to the Natal Drakensberg. page 4.3}
people had already been in the area for many centuries, having gradually migrated from Central Africa. These two peoples appear to have existed side by side in a somewhat harmonious way. However the rise of Zulu military power (in 1816), and the consequent expansion of their influence and control of the general area, caused massive displacement of all the peoples of the region. Shortly thereafter the arrival of the European settlers, seeking out new land, added to this general displacement and in turn changed the relative harmony that had existed for many generations and eventually brought about the extinction of the San in this region.

The story of their extinction is certainly a very sad period of South African history. By about 1840 the European settlers in the area, with their habit of hunting for sport, started to deplete the stocks of game in the areas used by the Bushmen for hunting (for food and resources), this meant that the Bushmen found themselves with little option but to rustle Settlers and African herders cattle, horses and sheep. Of course this was not a new phenomenon, as it has been recorded that this had been going on with the African herders for a long time, but now as there were more herders and settlers occupying the land this meant that the Bushmen became more and more desperate for food and resources. The period between 1840 and 1870 was a truly turbulent time for all the peoples of the region with the continuous rustling activities of the Bushmen. The new provincial administration’s inability to satisfactorily solve the problem and the policy of shooting Bushmen (almost on sight) eventually led to the extermination of the Bushmen from the region. All that is now left behind of these peaceful people, they were never known as a warlike people, who lived in harmony with nature are their paintings.

"G W Stow, a 19th century ‘explorer’ to whom we owe much of our present knowledge of these people, recorded that a ‘Bushmen’ who was shot dead in the Maluti mountains in about 1866 was probably one of the last of the San artists. He was carrying a belt to which were

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Wright, John B, (1971) Bushmen Raiders of the Drakensberg 1840-1870
attached ten antelope horns, each filled with a different pigment – perhaps his equivalent of an artist’s palette.”

San Rock Art

It is well known that the Park contains the largest concentration of rock art in South Africa with between 25,000 and 40,000 paintings at about 550 sites. It is also known that there are many sites which are, although some are privately known, not recorded and as such officially unknown. The author and his team, whilst on a field trip in Nov 2008 (see Annexure 5), found four previously unknown sites. It is totally in the realm of possibility that there remain many sites in the Berg which are still unknown.

In addition to this, San Rock Art is the most well known of all the rock art in Southern Africa,

“with some sources saying that it is amongst the most famous rock art in the world”

From these paintings one can see and learn much about how the San people lived, how they hunted, the clothes they wore, their religious beliefs and practices, their weapons and even historical events. (Some paintings even show Boers (European Settlers) on horseback and armed.

The paintings, which can be broadly categorised into three main groups, (Animals, Humans and historical incidents) give the feeling, from a laymen’s perspective, that they are mere depictions of everyday life, however the art very often represents the San peoples religious believes and practices. These include many examples of shaman (medicine men/women) in various trance dance postures. It is now believed that these shaman would use these trance dances to harness supernatural power to enter the spirit world and perform important tasks such as;
healing the sick, controlling the weather, controlling the movement of game and visiting far away places.

The Fig 2: San Rock Art said to be depicting a scene from a ‘Rain Dance’

The Drakensberg mountains was probably never an ideal place of permanent habitation by humans and was most likely used on a seasonal basis by hunter gatherers passing through, or as a place of refuge (there are many places where one could hide), and it is possible that it was used more often by the shamans because of the solitude it offers, much like the places that the monks of Europe used in older times (isolated hill tops, lonely islands on lakes etc). It has been said that these sites were to the shaman of the Bushmen like the cathedrals in the capitals of Europe.

The local shaman (not bushmen) of today still visit these sites for spiritual purposes and it is known that they scratch off some of the paint and use it to give power to the medicinal potions that they use today.
San Rock Art and the new South Africa

Let us consider that since the first truly democratic elections in 1994, which heralded in a new era for South Africa, the new government has introduced many changes including a new ‘Coat of Arms’. (Left)

The Human figures on this new coat of arms are derived from the Linton stone, a Bushmen painting now kept in the Cape Town museum and the motto (IKE E: /XARRA //KE) in the scroll at the bottom is written in the Khoisan (Bushmen) language and means ‘diverse people unite’. So at the national level this indicates an element of the value and appreciation of the bushmen as a unique heritage to all South Africans.

It should also be borne in mind that all South African children learn about the Bushmen in the 8th grade of school as it is part of the curriculum on the history of the country.

2. Background and Purpose of this Thesis

Personal Background and Motivation

The uKhahlamba Drakensberg World Heritage Site is well known to me, I have spent much of my spare time in the Park as a mountain guide, done map reading exercises in the Park for the Mountain Backpackers Club, hiked in almost every part of the Park, worked as an honorary Field Ranger, used the Park as a model for many of my assignments for this Management of Protected Areas Program, and enjoyed it’s outstanding beauty as a tourist.

On one of my trips to the Park in February 2008 I was in discussion with the Officer-in-Charge of the Cobham Station in the Southern Berg, I asked him if there was anyway in which I could be of assistance to him. Without hesitation he said “Yes,
you can help me with the Bushmen paintings.” And that’s how this all started.

It was during this work which included; discussions with Park officials, perusing documentation related to the Bushmen paintings, and a field trip in October/November of 2008 where my team and I verified up to 10% of the known San rock art sites in the Berg, that I realised that by establishing the value of the San Rock Art in the Berg I would in effect contribute to the protection of the paintings.

**Purpose**

I intend to get an overview perspective of the ‘money value’ of this valuable cultural heritage by establishing through a sample of surveys, interviews and discussions;

- Visitors willingness to pay to protect the paintings
- Visitors willingness to pay to see the paintings
- Tour operators value of this cultural heritage
- Park officials value perspective of this heritage
- Cultural Authority’s (Amafa) value perspective of this heritage

It is also envisaged that the results, recommendations and conclusions of this thesis will be of value to the management of the Park, giving a ‘snapshot’ of the current awareness, contributing to future protection methods and assisting the management with regards to goals, objectives and future planning of this valuable cultural heritage.

**Research**

In order to get the necessary information for this thesis I needed to conduct some research on the whole subject of San Rock Art in the Berg. Here I did two field trips to the area and communicated with a number of stakeholders, checked the existing documentation and other relevant administration
systems, and got a visitor perception with regards the Rock Art. (see Annexure 5 for a report on the first field trip)

The research focused on assessing, locating and describing the existing rock paintings in the Park with the aim of providing for a foundation of information for conserving this prehistoric cultural heritage. Furthermore, the cultural heritage was to be valued in money terms in order to describe the potential value for conservation, for tourisms, to local businesses, and to provide the necessary data for further analyzing potential conservation policies and strategies.

3. Methodology

Overview

The methodology used for this thesis was firstly to do a field trip (see the pilot project in Annexure 5) to the area;

- to evaluate the current situation with regards to the Bushmen paintings,
- to test the content and methodology to be used for the visitor and tour operator surveys
- to determine a likely strategy/process in order to conduct meaningful stakeholder interviews and discussions. (Park officials, Amafa and Rock Art Research Institute official)

Then, secondly, to go back to the area a few months later to conduct;

- Interviews, discussions and presentations with;
  - Park officials
  - Amafa officials (Custodians of all heritage sites in the province)
Theoretical Background to Cultural Heritage Valuation

Although the techniques of evaluating non-market environmental goods worldwide has been done over the last 40 years, the application of these techniques to cultural heritage is quite recent.8

Cultural heritage goods, as with environmental goods are referred to in economics as a ‘Public Good’. This means that it is firstly; non-excludable (which means that it is technically infeasible to keep users from enjoying it9) and secondly that it is non-rivalled (meaning that multiple individuals can enjoy the public good without interfering with each other’s enjoyment10). As public goods are not traded on (traditional) markets we need to apply non-market valuation techniques in order to estimate a ‘monetary’ value to these.

The San Rock Art, as a public good has both a use-value (i.e. visiting a site) and a non-use value (i.e. payment to protect the paintings without actually visiting or using them) and as such the best method to use in estimating the monetary value of this public good is to apply the contingent valuation method (CVM), whereby visitors are asked what they are willing to pay (WTP) to visit and/or to protect this cultural heritage.11

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11 The self proof of San Rock Art being a national cultural heritage is its inclusion in South Africa’s Coat of Arms (see page 13)
Details of the Methodology

Initial evaluation of the current situation

An overview evaluation of the current situation with regards to the Bushmen paintings was done during the two visits to the area in October/November 2008 and February/March 2009. I visited over 50 sites in the sample area (walked about 150 kms), spent a great deal of time going through the various documents and rock art administrative information systems used by the Park (all old fashioned manual systems, no computer data base), interviewed Field Rangers and Amafa accredited guides and custodians, spoke to visitors who do their own self guided tours (which is actually not allowed but never the less done by quite a few people, as this is what they have always done), interviewed and had discussions with various officials of the Park.

Interviews, discussions and presentations

Throughout the second field trip I conducted a series of interviews, discussions and in some cases brief presentations with various stakeholders. All were extremely supportive, answered my questions, asked questions and offered suggestions which in most cases were helpful.

The content of some of these interviews was general rather than specific with the main purpose, from my perspective, of trying to get an understanding of what is going on regarding the whole issue of the paintings in the Park, and to see if this indicated what value these paintings give to the Berg from the perspective of the stakeholders.

- Park officials
  - Oscar Mthimkhulu, Biodiversity Conservation Coordinator.
  - Sonja Krüger, Regional Ecologist West uKhahlamba
  - John Crowson, Senior Conservation Manager, Southern Berg.
- Eduard Goosen, Senior Conservation Manager, Northern Berg.
- Charl Brümmer, Conservation Manager, Cobham
- Stephen Richert, Conservation Manager, Royal Natal
- Ann van Eyssen, Ecotourism Coordinator, Ezemvelo Wildlife
- Themba Mbuyazi, Hospitality Manager, Giants Castle

- Amafa officials
  - Celeste Rossouw, Senior Rock Art Officer
  - Thandeka Mlaba, Rock Art custodian and guide, Giants Castle
  - Raymond, Rock Art custodian, Kamberg
  - Joel, Rock Art custodian, Didima.
  - Shipo (not his real name), stand-in untrained guide (not accredited by Amafa) at Royal Natal

- Rock Art Research Institute and Rock Art Mapping Project.
  - David Pearce, Rock Art Project Officer
  - Carl Grossmann, Heritage Documentalist, Heritage Documentation Unit, Programme of Geomatics University of KwaZulu-Natal

- Natal Museum
  - Jeremy Hollmann, responsible person at the museum for Rock Art in the province. Unfortunately I was unable to meet with Jeremy as we kept missing each other and ended up having a brief talk on the phone.
Fig 3: Map of the Park (the dark green along the border with Lesotho)

Tour Operators Surveys

I was interested to get a sample of tour operators to see if they placed any value on the Bushmen paintings. During the second field trip I conducted telephonic tour operator surveys (Annexure
7: Tour Operator Survey) with 25 companies in the Northern, Central and Southern Berg (Fig 3).

Some of these operators are very small businesses that personally conduct tours to sites either in the Park or to sites on their own land. Whereas others were guest houses that outsourced tours for their clients or hotels that either outsourced tours or had their own guides as was the case with Cathedral Peak Hotel which is mentioned later.

In most cases I was able to speak to either the owner or the manager of the company and I sometimes spoke to the person responsible in the manager’s absence.

All of those operators surveyed were most helpful and the results can be seen below.

**Visitor Surveys**

During the first field trip I spoke to a number of day visitors and campers with regards to the protection of the paintings. These discussions which were quite open, honest and candid were of tremendous help to me in formulating the final design of the visitor survey. (Annexure 6: Visitor Survey)

During the second field trip visitor surveys were conducted in various parts of the Berg and in Johannesburg using the methods mentioned below. Because of the size of the Park I decided to select one main management unit in each management section of the Park, namely North, Central and South. In the North I selected the Mahai Campsite at Royal Natal because of its large volume of campers from the most highly populated areas of South Africa. In the Central section I selected Giant’s Castle because of the attraction to the well known Main Cave Bushmen Painting site. In the Southern section I selected Cobham because of its huge popularity amongst hikers, campers and the high volume of Bushmen painting sites (most not open to the public but well known to the regular visitors). These were then tabulated using an excel spreadsheet to show visitor demographics, their awareness of the paintings in the Berg and
to measure the visitor’s willingness to pay an increase on their entry fee to protect the paintings, and their willingness to pay for guided tours to the paintings.

These surveys were conducted in Johannesburg, the biggest city in South Africa which is approximately 300kms north of the Park. In addition to this they were conducted in the Park at selected management units in the Northern Berg, the Central Berg and the Southern Berg. The surveys were mostly done by me (about 80%) with the help of a family member in Johannesburg and local Park officials on site.

**Johannesburg**

The biggest city in South Africa, Johannesburg (commonly known in South Africa as Jo Burg) here I got a volunteer (a member of my family) to hand out a number of surveys. We had a long discussion regarding the purpose of the surveys and she was quite motivated to help, I gave her copies of the surveys which she handed out to some of her students and their parents (she is a senior teacher and department head in a private school). Although I understand that these are not really true visitors to the Park, the Berg is a well known tourist destination to the people of Jo Burg. (55% of those surveyed had been to the Berg before)

In total she did **18 surveys**.

**Southern Berg (Cobham Fig 4, number 16)**

During this second field trip I was based for most of my stay at Cobham (Fig 4, no. 16), I commissioned the help of the Desk clerk in the visitors centre to hand out surveys when I was not available. This worked well as sometimes I was busy talking to campers or away at other sites or attending surveys, quite often I would get the opportunity to see these day visitors as well and so they got the Bushmen painting story from both of us, we made a good team.

In addition to this I personally spoke to day visitors, campers, hikers and tour groups about the paintings and the work I was
doing. These discussions were sometimes with individuals or in pairs or in small groups depending on the circumstances. In most cases I would explain the purpose, have a short discussion and then leave them with the survey document to give them the time to think about their responses. I would then, return later to collect the completed survey, maybe answer a few more questions, have some more discussion, sometimes sit down at their campsite and join them for a cup of tea. Sometimes I did not get a second chance to see the visitors and they would leave their completed survey at the visitors centre for me. Nearly everyone I spoke to was open and very supportive towards my work, it was a really wonderful experience.

In this area 69 surveys were completed.

![Fig 4: Map of the Southern area of the Park.](image)

**Southern Berg School Group (Cobham)**

On one occasion there was a group of school children (around 12 years old) from the provincial capital of Pietermaritzburg who were on a two day hike as part of a school awareness program. The officer in charge explained to the two adults and the children about the work we were doing and asked them all to fill out the survey document. They took these with
them and apparently at the end of their first day, at the overnight hut, they completed the documents and these were handed in to us after the hike.

They completed **21 surveys.**

**Northern Berg, German (teaching) students who were doing a period of practical teaching in South Africa**

Whilst at the Mahai camp site at Royal Natal (Fig 5, no.10) in the Northern Berg there was a group of German students who were camping overnight, most of them had visited the Berg before in the preceding weeks. I went over and spoke to them individually and in small groups, explained my work, they were very interested and agreed to do the surveys. I left them with the survey documents and some of them returned these to me the next morning.

They completed **9 surveys.**

**Northern Berg, British tour group**

Again whilst at the Mahai camp site there was a group of British tourist (nearly all retired) who were passing through in Campervans on a five week holiday of South Africa. I went from campervan to campervan, where they lived usually in pairs, explained my work, sometimes entered into long discussions about the Bushmen paintings in the area (40% did not know about the paintings), had some tea or coffee, left them with the survey docs and returned later to collect them and sometimes another cup of tea.

They completed **10 surveys.**

**Northern Berg, Mahai Camp site at Royal Natal (Fig 5, number 10)**

The Mahai camp site is the most popular camp site in the Park, it is the closest to the most densely populated areas of South Africa. I stayed at the camp site for four nights and as in the case at the Southern Berg, I spoke to everybody about the work I was doing. Sometimes I spoke to individuals,
sometimes pairs and sometimes in small groups, explained the purpose, had short and long discussion and then left them with the survey document to give them the time to think about it. I then returned later to collect the completed surveys, maybe answer a few more questions, had some more discussion, more tea or coffee and once I was invited and accepted dinner. There was a huge amount of open discussion and support for my work.

In addition to this, the day visitor area was some distance away from the camp site so I spoke to the security guard (a man called ‘Umfana futi’ which in English means ‘another boy’) and asked if he would hand out the survey documents to the day visitors, he agreed and actually got back 7 surveys.

In total for the area we got **71 surveys** at the Mahai camp site (referred to as the Northern Berg in the graphs below).

*Fig 5: Map of the Northern Berg*
Central Berg, Giant’s Castle (Fig 6, no.9)

This area of the Park has no camp site with visitors either coming for the day, or hiking out from this point or staying in the luxurious chalets offered by the Park. The area is quite far away and generally frequented by foreign tourists. (84% of the surveys were completed by foreigners) It is also one of those areas where visitors are able to go on a guided tour to a San Rock Art site and as such many of the visitors know about the paintings. (84% knew about the paintings)

As it was not peak holiday season the occupancy was relatively low, about 30%. The desk clerk told me which chalets were occupied and I went and ‘knocked on doors’ the response, as always, was great. Visitors were happy to listen to my story, asked questions about the paintings and completed the visitor surveys. Yes, and I was invited for tea.

Whilst there, I was lucky enough to encounter a bus load of German day visitors who were passing through and unfortunately did not have time to do the guided tour to the Bushmen painting site known as ‘Main Caves’.

Fig 6: Map of the Central area of the Park
I don’t understand how a tour operator can take tourists all the way out there and only give them lunch in the restaurant and let them stand on the balcony and look at the mountains.

Anyway I went into the restaurant table to table and in my best German, which was obviously good because many of them asked me to translate the menu for them, proceeded to tell them about the Bushmen paintings and my work. About half completed the survey docs and some asked for more information.

In total I did 19 surveys

The total number of surveys that were completed and processed is 217.

4. General Results

Evaluation of the current situation

Overview

Based on the information gathered during the first field trip and interviews with the various stakeholders during the second field trip I have been able to get a clearer picture of the current situation with regards to the paintings. Although this part of the thesis is not a monetary evaluation it does give some insight into the non-monetary value component.

All of the stakeholders agreed that the paintings are of huge value to the Park even although they cannot say what monetary value they add to the Park.

The Park officials, who are the management/monitoring body of the paintings, currently do not have the resources to do their allotted tasks. This is a huge problem for them as they really do want to do more and see this as a valuable public task.

Amafa, the officially appointed provincial body tasked with looking after heritage sites, seems to be more interested in
heritage sites elsewhere in the province. An example of this is that there is hardly any mention of San Rock Art in the Park on their official website. In addition to this they have an extremely small budget which barely covers the cost of training their accredited guides and supplying them with some basic equipment for field trips. They are a ‘compliance’ body passing rules and decrees and are often seen by the Park officials as an ineffective administration body.

**Distribution**

The Rock Art in the Berg is spread across the length and breath of the Park with some of the sites quite far apart from each other, and in other areas there are larger clusters of sites. This is generally a result of the geological nature (availability of caves and shelters) of the particular area.

**Condition**

Site conditions that I have seen vary depending on the exposure to fire, weather conditions, sunlight, vegetation growth, water damage, or human and animal impact. Sites that are regularly visited with a guide are in relatively good condition, whereas those that are visited without a guide show signs of damage caused by humans (graffiti and vandalism).

Sites that are not known to the general public are either in good condition or show signs of damage for the reasons mentioned above (animals, water, vegetation etc).

**Protection Methods**

In order to answer this question I need to go back nearly 10 years to the time just prior to the Park being declared a World Heritage Site, when there was a lot of activity around the cultural component of the Park. I suspect that much of this activity was initiated in order to comply with the cultural requirements for World Heritage status.

At this time the Zwa-Zulu Natal Conservation Service (previously known as the Natal Parks Board and later to become known as
Ezemvelo Wildlife, as it is now known) was a newly amalgamated conservation agency responsible for nature conservation in KwaZulu-Natal and, the authority in charge of the Drakensberg Park (DP).

This new authority initiated the Cultural Resources Management Plan (CURE) for the Natal Drakensberg Park. It is important to note that this plan was included in the World Heritage Committee Nomination Documentation Appendix 6, submitted by the Park in it’s application for World Heritage inscription and was accepted as such.

The mission of this plan is:

"to promote the conservation and public appreciation of archaeological and historical resources in the Natal Drakensberg Park in accordance with conservation, tourism and wilderness management objectives."\(^{12}\)

The first objective of this plan is:

"to identify the cultural resources present, and examine their value in terms of the overall mission and purpose of the DP."\(^{13}\)

The three components of the strategy whereby CURE will manage the cultural resources are:

"The implementation and maintenance of conservation measures to curb the natural and unnatural deterioration of sites.

The promotion of an appreciation of cultural resources in the DP.

The promotion of research opportunities, site recording and monitoring, and the establishment and maintenance of databases."\(^{14}\)


This mission, the objectives and the strategy, which has by and large been integrated into the current management plan,

"4. Promote the conservation management and public appreciation of all cultural resources within the Park in accordance with statutory regulations. (extract from the Integrated Management Plan 2006 to 2011)"

This is the most crucial part of the Park’s Cultural Resource Management Plan and if the Park was complying with this, then it could be said that they do place a high value on this cultural heritage, however it would appear that this is not the case. As, in spite of the newly (2008) designed ‘Cave/Shelter Monitoring Form’ (Annexure 8 below), the current protection methods are almost non-existent, most of the sites cannot be found, the staff do not know where they are, they do not have the time to look for these (missing) sites or monitor the ones they know of, databases are outdated and not maintained, much of this is due to current heavy work loads and possibly staff capacity. In addition to this there is no dedicated budget for this ‘valuable’ cultural resource.

**Public Awareness**

As mentioned earlier in this thesis there is a great awareness of the wealth of paintings in the Berg, however if one is to evaluate the appreciation of this cultural resource then I have to say that many of the visitors, especially the South Africans (whose cultural heritage this really is), were not happy that there are not always guides to take them to the paintings. The current situation is that only Amafa accredited guides or custodians may take visitors to heritage sites, however these guides are only regularly available at some of the management areas in the Park. (i.e. Didima, Kamberg, Royal Natal, Giants and possibly Injisuthi)

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The situation in the Didima area (page 24, Fig 5, no. 20) is quite interesting in that the Park authorities offer paid guided tours for R65 per person, and in the same area you have a well known hotel ‘Cathedral Peak Hotel’ that offers unpaid guided tours to the sites as a service to their guests. Both using guides or custodians who are accredited by Amafa.

I spoke to a number of visitors, who know where some of the sites are, and visit these sites, yet say nothing to anyone about this. Of course this is an unsatisfactory situation as they take their own visitors and one does not know if they apply the correct protocol when visiting these sites. These friends in turn take their friends and so on and the end effect is that there is a high possibility of human damage being caused which we don’t know about because there is hardly any monitoring taking place.

Then on the other hand there where visitors, both local and foreign, who were most unhappy that they could not visit a site because of the lack of a guide (more than 85% of the visitors surveyed said they would like to visit the paintings). The situation is unsatisfactory and falls short of the second component of the strategic plan.

"The promotion of an appreciation of cultural resources in the DP"¹⁶

Even though the paintings clearly have an ‘existence value’¹⁷ there were a few visitors I spoke to who said that they would not be willing to pay an increase on their entry fee if they did not have a possibility to visit the paintings.¹⁸

**Monetary value generated by the Park from guided tours to the rock art sites**

Some management units within the Park do know how many visitors are going on guided tours. Of those units I visited or

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¹⁸ Comment: This is not really a problem as some people do place a higher existence value to cultural goods, whereas others don’t assign any monetary value to this. It is very much an issue of preference and not right or wrong.
contacted by phone I found that there are different ways of doing this and these are as follows:

- In the Royal Natal area, they have no idea of how many visitors go on official (with an accredited Amafa guide) tours as there are no records. There is a road sign ‘Rock Art’ where the guide sits and waits for visitors to arrive, the visitors pay R25 each and they go off and visit the site. It should be noted that on the day I went to speak to the guide I found a ‘stand-in’ guide who was not accredited by Amafa, he wanted R10 and knew only where they were and what paintings could be seen, nothing else.

- In the Didima area the Park employs three accredited Amafa guides at R3,000 per month each (plus uniforms, days off and other Park benefits). The park controls the sale of tickets for the guided tours (R65 per person or R200 if the group is less than 4 people) and also uses these guides to do the 4X4 drives up Mike’s Pass (another tourist attraction). At the time of me making my final enquiries they were not able to give me the information regarding the number of visitors per year, but did tell me that they had sold 75 tickets between Jan 2009 and 13 April 2009.

So they are basically losing money on these tours. As mentioned above they are competing with the Cathedral Peak Hotel that offers tours for free to their guests and takes between 15 and 150 guests a day to the sites in the area.

- At Giants Castle, where approximately 60% of their visitors are foreigners, they sell tickets, at R25 each, to go on a guided tour of one of the most well know San Rock Art sites (Main Cave) in Berg. In 2008 they sold 5,000 tickets which equals R125,000 per year. The tours are conducted by an Amafa accredited guide who is paid R80 per day (approximately R28,800 per year) by the Park, she has no uniform, no days off and besides being picked up each morning in the staff bus gets nothing else from the Park.
At Kamberg, you pay the accredited guide R25 for a visit to, probably, the best San Rock Art site in South Africa known as Game Pass Shelter. In 2008 they got 1,138 visitors to the site. (R 28,450)

Tour Operator Surveys

As mentioned earlier I decided to do some tour operator surveys to see if they placed any value on the paintings. I knew that if I was too direct with my questions (see annexure 7), such as asking for monetary values I may not have got a good response. So my aim here was rather to get an overview perspective of the value the paintings are to the companies that either did tours or outsourced the business to other tour operators.

The survey was a relatively small sample with the majority (64%) of those surveyed being small family/single owner businesses that either conducted tours or outsourced the tours. Medium sized businesses made up for 28% of the survey and, again, they either did the tours themselves or outsourced this business. All of those surveyed knew about the paintings, with nearly two thirds of their customers asking to visit the paintings. (See Table 1 below)
In spite of this high percentage of customers wanting to see the paintings only just over half of these companies offered tours to sites or included Bushmen painting information in their advertising material.

On the issue of ‘the monetary value’ nearly two thirds of the operators said they were either of no value or of low value to their business. (Table 1 below)

<table>
<thead>
<tr>
<th>Size of Business</th>
<th>Small Business</th>
<th>Ltd Company</th>
<th>National Concern</th>
<th>International Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>64.00%</td>
<td>28.00%</td>
<td>8.00%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do you know about the paintings</th>
<th>Yes</th>
<th>100.00%</th>
<th>No</th>
<th>0.00%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Do your customers ask to see the paintings</th>
<th>Yes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>72.00%</td>
<td>28.00%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do you offer tours to see the paintings</th>
<th>Yes</th>
<th>56.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>44.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What value are the paintings to your business</th>
<th>High value</th>
<th>Middle value</th>
<th>Low value</th>
<th>No Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16.00%</td>
<td>8.00%</td>
<td>32.00%</td>
<td>40.00%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do you include Bushmen paintings in your advertising</th>
<th>Yes</th>
<th>55.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>45.00%</td>
</tr>
</tbody>
</table>

Table1: Tour Operator Survey

5. Visitor Survey Results

The visitor’s survey was designed with three main components, namely; the demographics part, the part dealing with awareness and then the part dealing with visitor’s willingness to pay for either a guided tour or to protect the paintings.
In some cases I have excluded school children and students at college or university, these groups are sometimes pooled together and referred to as ‘Students’ in most cases it is quite self explanatory what is meant.

**Demographic results of the Visitor Surveys**

Although the demographic information from the surveys show some interesting results which are listed below, I have chosen not to use all the information as some of it is either not relevant to this thesis or the results are rather inconclusive at this stage and may need to be investigated further at a later date.

**Age Groups (Fig 8)**

The age groups of the respondents, excluding students who are obviously under the age of 30, shows that 44.63% are in the age group below 40 years.

![Age groups of those surveyed](image.png)

**Fig 8: Age Groups of survey respondents**

This is largely due to the fact that most of the visitors to the Berg are hikers and the hiking is somewhat strenuous. Overnight hiking in the Berg often requires carrying all you may need, including, tent, sleeping equipment, emergency equipment and food etc.
Many of the campers surveyed where either of that group that enjoys the hard day walks or those with children under 12 years old enjoying camp life, such as playing ball games, riding their bikes or frolicking in the nice pools that abound in the Berg.

**Employment Categories (Fig 9)**

Respondent’s employment categories, particular amongst the South Africans, was weighted in favour of those employed in the private sector and self employment, together these two made up 56.16%.

![Employment Category Graph](image)

**Fig 9: Employment Categories**

Self employment is a growing phenomenon amongst white South Africans and this is borne out by the survey results which show this group as the highest at 27.31%. School pupils and university students made up 19.90%. The lowest group at 5.09% was for those respondents who are unemployed, which is understandable.

**Economic Income Groups (Fig 10)**

Again for this group I have excluded students for obvious reasons. The majority of the respondents (58.28%) earn more than R20,000 per household per month, with 41.72% of them actually earning more than R25,000 per household per month.
Just over half of the South Africans (excluding students) surveyed earn more than R20,000 with the average household monthly income for all South African respondents being R19,353.54. At this point it should be noted that the national average household income per month for all South Africans is approximately R14,169.21 (Annexure 11).^{19}

This survey did not address the question of how many families have two income earners even although this is relatively common in many middle class South African families. This also shows that the Berg is clearly quite popular amongst the middle to higher income earners. The overnight costs of staying in any one of the many guest houses, resorts, hotels or Park chalets is out of the reach of average income earners. Camping is probably the most affordable.

This economic information is supported by the next graph which deals with education levels of the respondents.

---

Education Level of visitors (Fig 11)

This group once again excludes the students as they (college and university students), by and large, earn less than R5,000 per month. Those income earners with college and university education make up 83.43% of the respondents in this group.

As mentioned earlier most of the visitors are from the white race group who have nearly always had compulsory schooling and access to university education, whereas schooling for blacks was not compulsory during the apartheid era. However since the end of this era there has been a marked increase in university education amongst blacks.

Citizenship of respondents (Fig 12)

It is well known that foreign visitors are generally prepared to pay more than the locals for the same service, so whenever I had the opportunity to survey foreigners I would do so. As was the case with; the German student group at Royal Natal, the British Pensioners at Royal Natal and the German (bus) Tour Group at Giants Castle.

The split for the surveyed respondents as can be seen in Fig 12 is South Africans 68.66% and Foreigners at 31.34%. I was not able to survey every visitor in the entire Berg so these results, I
believe, are not a true reflection of the split between South Africans and foreigners who visit the Park.

![Citizenship of respondents](image)

**Fig 12: Citizen split of the respondents**

**Visitor Awareness regarding the paintings**

The following series of graphs is very interesting as it gives a good indication of visitor awareness with regards to the paintings and shows, again, to some extent how the park is meeting the second strategic component of their Cultural Resource Management Plan, which is:

"The promotion of an appreciation of cultural resources in the DP"\(^{20}\)

In addition to this I found some discrepancies, particularly in the Johannesburg area, which lead me to believe that the relatively new name of the Drakensberg Park, the ‘uKhahlamba Drakensberg World Heritage Site’ is not well known amongst some people. An example of this is where a number of respondents said they had not been to the uKhahlamba Drakensberg World Heritage Site.

Drakensberg before, however responded that they had been to the ‘Northern Berg’ or ‘Central Berg’ or ‘Southern Berg’ whatever the case may be.

**Knowledge of the Paintings (Fig 13)**

The visitors in all the groups who responded to the surveys had a high percentage of knowledge about the paintings in the Berg.

![Visitors who knew that there were paintings in the Berg](image)

*Fig 13: Visitors who knew that there were paintings in the Berg*

As can be seen in Fig 13, 76.04% of respondents knew about the paintings. The highest percentage of knowledge was for those visitors in the Giant’s Castle area (84.21%) and this could be because of the awareness of ‘Main Caves’ which is a well known tourist destination.

**Visitors who have seen the rock art in the Berg (Fig 14)**

The respondents in this graph are the percentage of visitors who knew about the paintings and had seen them before. For this graph, with the exception of the Giant’s area, I have decided to exclude; the school group, the German students, the British pensioners, and the group from Johannesburg. The reason for this is because the number (raw score) of respondents that had actually seen the paintings in the Berg was very low. However their numbers have been included in the ‘Total’ percentage. Although the Giant’s area raw scores are also low it has been
included here to show how few of the visitors on this day knew about the paintings but did not visit them.

Fig 14: Respondents who have seen paintings in the Berg before

When one compares the information in Fig 13 (visitors who know about the paintings) with the information in Fig 14 (visitors who had seen the paintings before), the following needs to be noted:

- In the Southern Berg, which is well known as a fantastic hiking area for both hard and easy hikes, and for its large number of Bushmen paintings, there is very little difference between those who know about the paintings and those who have seen them. This was also borne out in my discussions with visitors who often prefer to do their own ‘self guided’ tours to the paintings as many of the sites are well known to these visitors.

- In the Northern Berg, as with the Total of all the respondents, the difference between the two graphs is greater.
Visitors that would like to visit the paintings (Fig 15)

The next graph shows that the number of visitors that would like to see the paintings is very high, with the total at 85.87%. This graph speaks for itself and does not need much more discussion and will be discussed more in conjunction with Fig 16 (Visitors that go to the Berg to visit paintings)

![Bar chart showing visitors' preferences for seeing paintings](chart.png)

**Fig 15: Visitors who would like to see the paintings**

Visitors that go to the Berg to visit the paintings (Fig 16)

Again, as with Fig 15, I have chosen not to show some of the group because their raw scores are very low however their scores are included in the overall total. As has been borne out in the previous graphs the Southern Berg is a destination for visitors who go to the Berg to see the paintings. It should be pointed out at this stage that as far as the non-availability of accredited Amafa guides is concerned, the Southern Berg is one of those areas that probably has the biggest problem.

The Central Berg with 36.84% going to the Berg to see the paintings is understandable as it is a well known destination for foreign tourists who wish to visit Bushmen paintings and the vast majority of those surveyed in that area (94.74%) were foreigners.
The respondents who go to the Berg to visit the paintings, in the Northern Berg (21.13%) and the Total of all respondents (26.73%) is very low when one considers the high percentage of visitors from the Northern Berg and the Total respondents who know about the paintings (81.69% and 76.04% respectively) and those who want to visit the paintings (86.67% and 85.87% respectively).

Some of this can be explained as a number of visitors do go to the Berg for other reasons, however this should be investigated further as it is possible that more awareness is required.

![Visitors that go to the Berg to see paintings](image)

**Fig 16: Visitors that go to the Berg to see paintings**

**Visitor Surveys and their ‘Willingness to Pay’**

In order to apply a monetary value to the paintings I have decided to use the contingent valuation method (CVM) which has been used for over forty years\(^\text{21}\) to assign monetary value to resources which were previously thought to have only intrinsic value and are not traded on markets. This method which entailed asking the surveyed respondents what they are willing
to pay (WTP), either to protect the paintings or to participate in guided tours to the paintings.

This method is quite useful as it helps with the estimation of

‘values where markets do not exist or where market substitutes cannot be found. For these reasons, CVM is widely used to measure existence values, option values, indirect use values and non-use values’.²²

As mentioned above, my decision with regards to the visitor surveys is to measure the visitors willingness to pay more to enter the Park (on their entry fee or as an additional levy) in order to protect the paintings. Secondly to measure their willingness to pay for guided tours to the paintings.

The publication Economic Values of Protected Areas states that:

"the concept of total economic value is now a well-established and useful framework for identifying the various values associated with protected areas."²³

And goes on further to say that:

"The total economic value of a protected area consists of its use values and non-use values. A protected area’s use values are in turn made up of its direct use values, indirect use values, and option values. Non-use values include bequest values and existence values."²⁴

Using the ‘Total Economic Value Model’²⁵ as a guideline (Fig 17 on the next page) it is clear to see that a willingness to pay to protect the paintings is a non-use value of ‘existence’ and ‘bequest value’ to the park.

²² Phillips, Adrian (1998), Economic Value of Protected Areas, Guidelines for Protected Area Managers p21
²³ Phillips, Adrian (1998), Economic Value of Protected Areas, Guidelines for Protected Area Managers p11
²⁴ Phillips, Adrian (1998), Economic Value of Protected Areas, Guidelines for Protected Area Managers p11
²⁵ Phillips, Adrian (1998), Economic Value of Protected Areas, Guidelines for Protected Area Managers p11
Whereas the willingness to pay to go on a guided tour of the bushmen sites is a ‘direct use value’ ostensible for recreation, tourism, education and research.

![Fig 17: Total Economic Value](image)

The existence value that the paintings offer to the Park merely because of their very existence and because people are willing to pay to keep (protect) them there even if they cannot see them. In addition to this the paintings also have a bequest value as others will benefit in the future from their protection. As has already been mentioned every respondent, except one, said that the paintings should be protected for future generations, and by paying for their protection they actually bequest these paintings to the next generation. As far as the use values are concerned, if visitors are willing to pay to visit the paintings then this gives value to the Park. This value is a use value that the paintings offer to the Park. Let us consider that if there were no paid guided tours to the Bushmen paintings then the use value would be restricted to their education and research value that they would offer.
‘Willing to Pay’ to protect the paintings

Visitors surveyed were asked if the paintings should be protected and if the answer to this was ‘Yes’ then they were asked if they were prepared to pay to protect these, if the answer was again ‘Yes’ they were asked ‘How much would they be prepared to pay’ and for the possibly answers they were given a number of choices. (Annexure 6 – question 5)

![Visitors who are “Willing to Pay” to protect the paintings](image)

**Fig 18: Percentage of visitors ‘Willing to Pay’ to protect the paintings**

As far as the question ‘Do you think the bushmen paintings should be protected for future generations?’ is concerned, only one respondent out of the total of 217 said ‘No’ (one of the school children)

The total percentage of respondents who are ‘willing to pay’ to protect the paintings was 79.07%. The South Africans who are willing to pay was 73.65% whereas the percentage of foreigners who are willing to pay was 91.04%.
How much are visitors willing to pay to protect the paintings? (Fig 19)

The second part of the question on ‘willingness to pay’ was to ask the respondents how much they were willing to pay.

Obviously, as can be seen in Fig 18 below, school children are also willing to pay R8.34, and the total number of respondents (excluding students) are willing to pay R14.47. As can be expected the two groups of predominately foreign visitors at Giant’s Castle and the British pensioners are willing to pay R18.60 and R15.25 respectively. The South Africans, excluding students (which is not graphed) are willing to pay R13.62 to protect the paintings.

![The amount visitors are “Willing to Pay” to protect the paintings](image)

**Fig 19: Willing to Pay to protect the paintings**

It needs to be mentioned at this stage that the current entry fee is R20.00 so by taking the combined total of R14.47 that the respondents are willing to pay to protect the paintings, in effect means an increase of 72.35% on the entry fee or as an additional levy.
Not willing to pay to protect the paintings (Fig 20)

As far as the 20.93% of respondents who are not willing to pay to protect the paintings are concerned I decided to exclude the students from this graph (Fig 20), because 50% of them said they were not willing to pay as ‘they could not afford it’ as I felt this may have an adverse effect on the results.

![Bar chart showing reasons why visitors, excluding students, are not willing to pay](image)

Fig 20: Reasons why visitors, excluding students, are not willing to pay.

The issue of ‘transparency’ (30%) was of concern to a number of those I spoke to, including foreigners, and this is borne out in these results.

The combined percentage of respondents who said they already ‘paid enough tax’ or ‘paid enough to enter the park’ was 42.50%.

Those who said they ‘could not afford it’ was 20% and the final point measured, those who said ‘art could not be valued in money terms’ made up only 5% of the total respondents excluding students.

Willing to Pay for a guided tour

Although there are possibilities to go on guided tours in the Park, this facility, with the exception of a few places (Didima, Giant’s Castle, Kamberg and Injisuthi), is not well advertised and as
such not many tourists are not using it. In actual fact a number of the visitors I spoke to did not know much about the possibility to visit the sites.

The general rate for going on a guided tour is R25 and at Didima it is R65. As will be seen lower down visitors are not prepared to pay anywhere near that for a visit, so something will undoubtedly have to be done in the future.

---

**Figure 21: Percentage of visitors willing to pay for a guided tour**

Much of what the Park is already doing has already been mentioned above in the section headed ‘Monetary value generated by the Park from guided tours to the rock art sites’

In this section of the visitor’s survey they were asked “if the uKhahlamba Drakensberg World Heritage Site conducted guided tours to visit the Bushmen paintings” would they be willing to pay. If they answered ‘Yes’ they were then asked ‘how much’, and were given a number of choices. (Annexure 6 –question 6) The percentage of respondents willing to pay for a guided tour is 76.39% and if the students are excluded from the total this percentage increases to 84.18%.
The graph below (Fig 22) is quite self-explanatory and again it is clear that a high percentage of foreign visitors are willing to pay to go on a guided tour. In the case of Giant’s Castle it is 100%, with 90% of the British pensioners expressing their willingness to pay.

**How much are visitors willing to pay for a guided tour? (Fig 22)**

In this part of the survey, in which visitors were asked how much they were prepared to pay. All the groups surveyed were willing to pay, however the school group and the German students group were only willing to pay a small amount to participate in a guided tour compared to the other groups.

The total of R13.26 is calculated excluding the school group and the students as this has an adverse effect on the results because a high percentage of both these groups said they could not afford it or that the entry fee was already high enough.

![The amount visitors are "Willing to pay" for a guided tour](image)

*Fig 22: The amount visitors are prepared to pay for a guided tour.*

As Fig 22 (‘what are you willing to pay’) speaks for itself I’m not going to go into the amounts that each group is willing to pay, but rather I’d like to discuss the disparity between what they are willing to pay and what current guided tours cost.
As has been mentioned earlier the cost of guided tour is R25 or R65 or free (if you are a guest at the Cathedral Peak Hotel) and the respondents have said they are willing to pay R13.26. I am not sure how the Park or Amafa came up with the current rates but it is possible that these may need to be investigated further.

**Not willing to pay for a guided tour (Fig 23)**

The percentage of visitors not willing to pay for a guided tour was 23.61%. Once again the graph below (Fig 23) excludes the school group and the students group who mostly said they either could not afford it or the park entry fee was high enough.

![Fig 23: The reason why visitors are not willing to pay for a guided tour](image)

Self exploration at 35.71% is the highest reason, with more than 60% of these respondents coming from the Southern Berg. The next highest was ‘I pay enough to enter the Park’ at 32.14%.

**Existence Value of the paintings**

As has been mentioned earlier (on page 13) the importance of the San Rock Art as a national heritage to the people of South Africa is partly demonstrated by the fact that;

- there are San Rock Art figures on the new ‘Coat of Arms’ for the country,
• the Khoisan language is used in the scroll of that same Coat of Arms, and,

• the story of the Bushmen is included in the school curriculum for all children in South Africa.

When one considers that the very existence of this rock art is of a high value to the country and the world (a reason for the Park’s world heritage status) and as such, gives the San Rock Art of the uKhahlamba Drakensberg World Heritage Site,

"with the largest and most concentrated group of paintings in Africa south of the Sahara, made by the San people over a period of 4,000 years."

an existence value to the people of South Africa and to the World for that matter.

In order to place a per year monetary value on the existence of the paintings in the Park, “the existence value”, I have taken the information from the visitors survey and calculated it based on the economic income groups of the South Africans surveyed (excluding students) and their willingness to pay to protect the paintings. The average monthly household income of the South Africans surveyed (excluding the students) is R19,353.54 per month and they are willing to pay R14,47 to protect the paintings which is equivalent to 0.075% of their monthly income.

The average monthly household income of all South Africans (see page 35/36) is R14,176.47 per month (Annexure 11) and by taking this amount and multiplying it by the 0.075% we see that South Africans would be willing to pay R10,63 as a monetary amount per year to protect the paintings.

6. Monetary Value of the San Rock to the Park

On this issue of the monetary value of the paintings in the Park we have two categories to consider. Firstly that of the existence value to all South Africans and secondly the value that visitors

26 Extract from UNESCO World Heritage Centre
place on the paintings to either protect them (a non-use value) or to visit them (a use-value). The visitors are willing to pay extra on their entry fee or as a levy to protect them and are also willing to pay to visit, so this value equates to an income that the paintings generate to the Park on an on going basis. Whereas the existence value calculation indicates a hypothetical value of the paintings in the Park.

**Visitors WTP to protect the paintings**

In order to calculate the total value per year that the visitors are willing to pay to protect the paintings I have taken the average number of visitors per year to the Park which is 400,000 and multiplied this by the R14.47, the results are that visitors are willing to Pay:

\[
R\ 5,788,000 \text{ per year}
\]

**Visitors WTP to visit the paintings**

According to the visitor’s surveys 76.39% of the respondents said they are willing to pay R13.26 for guided tours. Taking the average number of visitors per year of 400,000 multiplied by the 76.39% means that 305,560 visitors who are willing to pay:

\[
R\ 4,051,726 \text{ per year}
\]

However if visitors are already paying R25 for guided tours and they are not complaining then the amount generated from guided tours will be greater. As R25 multiplied by the 305,560 visitors willing to pay to go on a guided tour will then be:

\[
R\ 7,639,000 \text{ per year}
\]

So the potential annual monetary value of the San Rock Art in the Park is between:

\[
R\ 9,839,726 \text{ and } R\ 13,427,000 \text{ per year}
\]
Existence Value of the paintings

As has been mentioned (page 50/51) the existence value of the paintings in the Berg to South Africans hypothetically equals R10,63 per year. Which, when multiplied by the total estimated current population\(^{27}\) of 48,4m it gives the paintings a hypothetical existence value of:

\[
R 514,492,000 \text{ per year}
\]

7. Recommendations and Conclusions

Based on the work done on this thesis and the financial calculations above, it is quite clear that the San Rock Art does have a monetary value and can further generate enough finance that will allow for its sustainability.

Firstly with regards to the more than half a billion Rand per year existence value of the paintings, measured using the visitor’s willingness to pay method, I believe that this figure may be a lot higher if a more detailed scientific study was undertaken to determine this.

Secondly visitors are willing to pay to protect and to visit the sites and this, in turn, will generate enough income to make the paintings more sustainable.

Recommendations

Management of the Cultural Heritage

The Cultural Resource Management Plan, formulated more than 10 years ago, needs to be dusted off, re-looked at, modified to suite today’s requirements and implemented without delay.

\(^{27}\) The Economist
The Park should appoint a Cultural Manager to drive the cultural component of the Park’s management plan. This person should further be given a budget that is adequate enough to implement a newly designed Cultural Resource Management Plan.

Most of the management units, particularly those that have sites that are visited, and those with a large number of sites to monitor, should appoint either a ‘Cultural Field Rangers’ or an ‘Assistant Cultural Field Ranger’ who will also perform normal Field Ranger duties as their secondary function. They should report to the local Conservation Managers and be held accountable for the ‘cultural component’ of their work which should always come first and foremost in their daily routines. Of course these new appointments should not be made without the appropriate level of training in both cultural as well as nature conservation practices and possibly be remunerated as per Annexure 2 on page 62.

The Conservation Managers should be the ultimate person held responsible for the cultural component of the management unit.

On the subject of monitoring, the management should do more monitoring in those areas of the Park where it is known that there is a high possibility of visitors going, unguided, to sites that are know to them (i.e. in the Southern Berg which had a high percentage of visitors who said they did not want guided tours because they preferred self exploration).

The verification of all ‘known’ sites should be done as a matter of urgency, using modern mapping technology, photographic records, site directions, site descriptions and any other relevant data that is required. This inventory is crucial for the management of the paintings.

I believe that at the moment the management and control of the paintings in the Park is not in compliance with, and most likely does not meet the standards agreed to at the time of World Heritage status being awarded to the Park. I believe if an open and transparent investigation was carried out by the World Heritage Centre, the Park may be placed under some external pressure to rectify the situation.
Guided tours

It is clear from this research and thesis that the whole issue of guided tours needs to be investigated further and a plan of action implemented. Visitors have said they are willing to pay R4,1m to R7,6m per year for guided tours, this is a lot of money and can be put to good use, however some of the following issues need to be investigated further:

- employment status of guides,
- remuneration and accountability of guides,
- training and duties of guides (including site monitoring),
- availability of guides,
- consistency and re-evaluation of guided tour fees,
- visitor payment procedures for guided tours,
- concessions/packages/special deals to hotels and operators that want to do guided tours,
- documentation of guided tours,
- design of a data base of information regarding the guided tours, and
- advertising guided tours throughout the Park.

My recommendations on the issue of guides is that the Park should offer full time employment to these guides who can also perform Field Rangers duties in quiet times as a secondary function (as is presently being done at Didima with the Amafa guides). These ‘Cultural Custodians/Guides’ should be properly trained in all aspects of their jobs and possibly remunerated as per Annexure 2 on page 62.

Added to this, if these guides were under the control of the Park authorities they could then work together with the Cultural Field Rangers as a team and as such support each other with regards to the whole cultural function.

The offer of full time employment will also offer more job security and would most likely help with the particularly high turnover of Amafa accredited custodians. It should be noted that the
These guided tours could also be incorporated into organised hiking trails such as ‘The Giant’s Cup Hiking Trail’ which:

- could contain guided bushmen painting ‘loops’ to the sites that are already open, so as to make it more attractive to visitors,
- could open up more bushmen painting sites and include these as additional guided ‘loops’ along the trail to create maximum visitor appreciation and awareness,
- should be internationalised (like the Otter Trail or Milford Sound etc), as this would bring in more international tourists.
- The Giant’s Cup Hiking Trail together with the new loops could be re-named the ‘The Bushmen Hiking Trail’ and marketed as a unique experience of walking in the footsteps of the Bushmen, or something like that.

If this is done then the price of doing the ‘Giant’s Cup’ trail could be increased not only to cover the added costs of running the trail but also to add value to what the visitor is experiencing.

Let us not forget the issue of visitors who would like to visit the paintings (85.87% of those surveyed – Fig 15 on page 41) and those who do visit the paintings (26.73% of those surveyed – Fig 16 on page 42), this disparity of nearly 59% of visitor respondents shows that here is an opportunity that should not be lost.

**Bushman Painting Levy**

Visitors have said they are willing to pay R5,8m per year to protect the paintings. As has already been mentioned there is no budget at the moment, this money could be used to finance the cultural component of the Park’s management plan and as such work towards the protection and sustainability of the paintings. With regards to this Levy the following points need to be considered:
• Foreigners (who do not pay tax in South Africa) should pay more to enter the Park, which ultimately gets some of it’s income from the state.\(^\text{28}\),

• the levy could be included on the entry fee or charged as a separate levy fee for the protection of the paintings,

• this fee could be either a once a year card that you sell to visitors (thereby giving your frequent visitors an added benefit) or a fee every time visitors enter the Park,

• Rhino Card members should have this levy included in their annual membership fees,

• there should be a proper recording system and supporting data management base around this levy system so as to comply with the fundamental principles of transparency related to the use of public funds.

**Conclusions**

As has been mentioned, the paintings in the Park have an annual hypothetical value of R514m and additionally have the potential to annually generate between R9,8m and R13,4m as local revenues.

The annual staff cost, as tabulated in annexure 2 (on page 62), is R0.795m. So if the ‘Bushmen Painting Levy’ was R6.00 per person then this multiplied by the 400,000 visitors would equal R2,4m per year, which is more than enough to pay for the management and monitoring of the sites. The security and maintenance of the paintings is vital to the protection of this valuable cultural heritage and here the need for strong and direct management should not be underestimated.

The employment status and remuneration of the ‘Cultural Guides’ is an issue that still needs to be evaluated. However as has been recommended the guides should be given full time employment and be remunerated as per the schedule in annexure 2 (on page 62).

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\(^\text{28}\) According to the KZNWildlife 2007/2008 Annual Report on page 108, they get a state subsidy equivalent to 63% of their total income. The Park is a part of KZNWildlife and I am not sure how much funding the Park gets from them, but I believe that a percentage of their financial needs are derived from this source.
which would cost R0.374m per year. So the R4.1m to R7.6m per year that can be generated from guided tours is adequate enough to cover the guides employment costs and additional awareness costs that will be incurred by the Park.

In order to create an understanding of the cultural significance and realise the tourist potential of the paintings, the Park should consider launching an awareness campaign not only in South Africa but certainly in the international market as well. Further to this the Park should actively encourage documentaries and articles (scientific, historic, touristic and informative) on the paintings in global publications and other sources of mass media such as, National Geographic and Discovery Channel etc, environmental and tourist publications etc, and most scientific journals etc.

On the issue of tourism and the paintings, once the Park has appointed dedicated staff to manage the paintings and conduct guided tours to the sites they should; open up more of these sites to the public, introduce package tours, and, offer both short and long trips to sites on weekends and public holidays when you have the higher volume of visitors in the Park. Greater awareness and visitor experience adds further to the value of the paintings. For South Africans it also works towards creating a sense of pride in this valuable heritage.

The social needs on the state of South Africa such as; health, pensions, housing, schooling, infrastructure upgrading and development, and job creation etc, place an ever increasing burden on the state’s financial resources. As such the state (a major sponsor of the Park29) will most likely be forced to redirect more and more of these financial resources away from nature and conservation. A small example of this is that whilst writing this thesis I received (unconfirmed reports) that the heritage budget of Amafa has been cut by R6m for 2009.

In order for the paintings to be made financially sustainable I believe that the ‘Levy’ and the ‘Guided Tours’ as mentioned in

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this thesis should be used as the financial generator that will ultimately make the San Rock Art in the Park sustainable.

8. References


*KZN Wildlife*, http://www.kznwildlife.com/site/


*Phillips*, Adrian (1998), Economic Value of Protected Areas, Guidelines for Protected Area Managers (Task Force on Economic Benefits of Protected Areas of the World Commission on Protected Areas (WCPA) of IUCN, in collaboration with the Economics Service Unit of IUCN).


RAMSAR wetlands international,


UNESCO World Heritage Centre. uKhahlamba Drakensberg Park
http://whc.unesco.org/en/list/985


9. Annexures

Annexure 1: Extract from the Park’s Integrated Management Plan 2006-2011 (page 1)

The significant values of the Park are:

**Natural and cultural values.** These are of outstanding universal significance and importance as recognised under the World Heritage Convention, and incorporate the following:

- Superlative natural beauty and aesthetic value of the area;
- The exceptional biological diversity, particularly the diversity of species and habitats, and the large number of globally threatened and endemic species;
- The diverse system of natural wetlands; and
- The exceptional concentration, quality, diversity of subject, detailed depictions, and spiritual significance of San rock art. It is regarded by many to be the finest prehistoric rock art in the world, having a high degree of complexity of meaning, and including some of the last rock art ever painted.

**Water Production.** The Drakensberg range of mountains constitutes the principal water production area in southern Africa and is thus critical to supporting both the people and the economy of the sub-continent.

The Park ensures that a significant portion of this mountain catchment area is conserved and managed to ensure the sustained production of high quality water.

**Eco-cultural Tourism.** As one of the largest protected areas in the country and South Africa’s only World Heritage Site listed for having both natural and cultural values of outstanding universal significance, the Park is a cornerstone of the country’s tourism industry and a major destination for both domestic and international visitors.

**Wilderness.** The largely undeveloped and intrinsically wild character of the area result in vast wilderness areas that provide outstanding opportunities to experience solitude and for spiritual renewal.
## Annexure 2: Potential Annual Cultural Staff and Guide Costs

### Potential Cultural Staff Costs

<table>
<thead>
<tr>
<th>Job Title and area of responsibility</th>
<th>Annual costs in 000's</th>
<th>Additional Site Responsibility</th>
<th>Number of sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Manager - Whole Park</td>
<td>200</td>
<td></td>
<td>550</td>
</tr>
<tr>
<td>Cultural Field Ranger - Garden Castle</td>
<td>60</td>
<td>Bushmens Nek</td>
<td>80</td>
</tr>
<tr>
<td>Cultural Field Ranger - Cobham</td>
<td>60</td>
<td>Loteni</td>
<td>100</td>
</tr>
<tr>
<td>Assistant Cultural Field Ranger - Kamberg</td>
<td>48</td>
<td>Highmore and Mkhomazi</td>
<td>49</td>
</tr>
<tr>
<td>Assistant Cultural Field Ranger - Monks Cowl</td>
<td>48</td>
<td>Culfargie and Injasuti</td>
<td>16</td>
</tr>
<tr>
<td>Cultural Field Ranger - Giants</td>
<td>60</td>
<td></td>
<td>126</td>
</tr>
<tr>
<td>Cultural Field Ranger - Cathedral Peak</td>
<td>60</td>
<td></td>
<td>144</td>
</tr>
<tr>
<td>Assistant Cultural Field Ranger - Royal Natal</td>
<td>48</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td><strong>584</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Plus an additional 30% buffer for other employee benefits (like uniforms, communications, transport etc) and Social Security costs

Total **R 759**

### Potential Cultural Guide Costs

<table>
<thead>
<tr>
<th>Job Title and area of responsibility</th>
<th>Annual costs in 000's</th>
<th>Additional Site Responsibility</th>
<th>Number of sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Guide - Garden Castle</td>
<td>36</td>
<td>Bushmens Nek</td>
<td>80</td>
</tr>
<tr>
<td>Cultural Guide - Cobham</td>
<td>36</td>
<td>Loteni</td>
<td>100</td>
</tr>
<tr>
<td>Cultural Guide - Kamberg</td>
<td>36</td>
<td>Highmore and Mkhomazi</td>
<td>49</td>
</tr>
<tr>
<td>Cultural Guide - Monks Cowl</td>
<td>36</td>
<td>Culfargie and Injasuti</td>
<td>16</td>
</tr>
<tr>
<td>Cultural Guide - Giants</td>
<td>36</td>
<td></td>
<td>126</td>
</tr>
<tr>
<td>Cultural Guide - Cathedral Peak x 2</td>
<td>72</td>
<td></td>
<td>144</td>
</tr>
<tr>
<td>Cultural Guide - Royal Natal</td>
<td>36</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td><strong>288</strong></td>
<td></td>
<td>550</td>
</tr>
</tbody>
</table>

Plus an additional 30% buffer for other employee benefits (like uniforms, communications, transport etc) and Social Security costs

Total **R 374**

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Value of the San Rock Art in the uKhahlamba Drakensberg World Heritage Site by Tommy Topp

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Annexure 3: 1st Extract from Bushmen Raiders of the Drakensberg 1840-1870

<table>
<thead>
<tr>
<th>Persons Raided</th>
<th>Locality</th>
<th>Size of Raiding Party</th>
<th>Number of Animals Stolen</th>
<th>Date</th>
<th>Page Reference in Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Speirs, James McKay</td>
<td>Mogeni</td>
<td>22</td>
<td>1</td>
<td>June 1850</td>
<td>151</td>
</tr>
<tr>
<td>Thoinis Botha, Willem Tosen</td>
<td>Fort Nottingham</td>
<td>5</td>
<td>3</td>
<td>Aug. 1856</td>
<td>153</td>
</tr>
<tr>
<td>J. Kritzinger</td>
<td>Fort Nottingham</td>
<td>?</td>
<td>62 sheep</td>
<td>Jan. 1859</td>
<td>153</td>
</tr>
<tr>
<td>Gert Naude, Africans</td>
<td>Fort Nottingham</td>
<td>6 or 7 Bushmen</td>
<td>3</td>
<td>July 1860</td>
<td>154</td>
</tr>
<tr>
<td>Joseph Few</td>
<td>Boston</td>
<td>8 Bushmen</td>
<td>12</td>
<td>Oct. 1860</td>
<td>156</td>
</tr>
<tr>
<td>Zikhali</td>
<td>Bergville Area</td>
<td>6 Bushmen</td>
<td>8</td>
<td>Nov. 1860</td>
<td>156</td>
</tr>
<tr>
<td>Robert Speirs</td>
<td>Mageni</td>
<td>7 or 8 Bushmen</td>
<td>18</td>
<td>Feb. 1862</td>
<td>157</td>
</tr>
<tr>
<td>Africans</td>
<td>Upper Mkhomari</td>
<td>67</td>
<td>37</td>
<td>Mar. 1862</td>
<td>159</td>
</tr>
<tr>
<td>Unnamed farmer</td>
<td>Upper Thukela</td>
<td>5 Bushmen</td>
<td>Sheep</td>
<td>Aug. 1863</td>
<td>160</td>
</tr>
<tr>
<td>Langalibalele</td>
<td>Bushman’s River</td>
<td>7</td>
<td></td>
<td>Nov. 1863</td>
<td>161</td>
</tr>
<tr>
<td>Thomson</td>
<td>Fort Nottingham</td>
<td>?</td>
<td></td>
<td>Apr. 1864</td>
<td>161</td>
</tr>
<tr>
<td>Mandisa</td>
<td>Mlambonja river</td>
<td>14 Bushmen and Sotho</td>
<td>10</td>
<td>June 1868</td>
<td>169</td>
</tr>
</tbody>
</table>

Annexure 4: Extract from Bushmen Raiders of the Drakensberg 1840-1870, in which it refers to the extermination of Bushmen.

The North west, another detachment performing the same duty at the North Eastern outlet, and a third to the heights above.

My main body having entered the river bed to the Eastward the party hitherto concealed proceeded to arrest the people occupying the gorge. These people proved to be Bushmen, and resisting, a skirmish ensued which lasted about half an hour and ended in their dispersion.

Twenty five horses were captured, amongst which were eight of the stolen animals.

The Bushmen lost several of their people in the skirmish, amongst whom I regret to state some women fell from stray shots by the natives . . .

One woman and six children, unwounded, were brought in prisoners.

Those of the Bushmen who were armed with guns fired upon my party, and the others fought with their bows and arrows but I am glad to say without casualty on our side. Four or five Bushmen escaped over the rocks.

The official report is very reticent; fortunately there are other sources which fill in some of the details of what took place. The Natal Mercury’s correspondent in East Griqualand, who may have encountered the expedition on its return march some weeks later, reported that sixteen or seventeen of the Bushmen were shot and seven taken prisoner. Some thirty-five years later Robert Speirs was almost certainly referring to this incident when he told his interviewer Ergates, “The trapped Bushmen were exterminated; in the official report the word used is — ‘dispersed’.”

Value of the San Rock Art in the uKhahlamba Drakensberg World Heritage Site by Tommy Topp

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Annexure 5:  Pilot Project Oct Nov 2008

Bushman Painting Project in the Cobham Area of the uKhahlamba Drakensberg Park

A pilot project aimed at finding ways to support the local Protected Area Manager with regards to the exact whereabouts of the archaeological sites in a section of his area of operation, and with the establishment of a ‘best method’ for future exercises of this type in the uKhahlamba Drakensberg Park.

Contents
1. Introduction
2. First steps
3. Success and methodology
4. Administration
5. Sites not on archaeological records
6. Top five sites
7. Future considerations
8. Credentials
1. Introduction

As a result of discussions in February 2008, between Tommy Topp and Charl Brümmer (OIC Cobham) regarding the proper locations of the Bushmen Painting sites, in which it was established that even though the main rock art sites (where there are a lot of paintings in the same place) are well known and documented, there are many other sites that have either not been well documented (using more modern methods) or can no longer be found. Often this is because the site was only documented on a map, which may have been incorrectly plotted, or because it is just too difficult to find the exact location of the site which may be a single rock in amongst many others.

Part of the OIC’s duties (amongst many others) is the protection of these sites. However if the exact whereabouts of paintings are not known then, clearly, they cannot be protected from events like fire or damage caused by long grass brushing against the paintings, or against vandalism and treasure hunting. As a result of this it was apparent that something had to be done to identify the exact location so that these sites can be properly monitored and protected.

Tommy offered to put together a small team of volunteers to go out into the field as ‘Honorary Rangers’ to properly map and document the sites using modern GPS technology, photographing the paintings, photographing the sites from a distance and creating an easy-to-use excel spreadsheet as a data base for further use by the management of the Park.

After further discussions by email and telephone it was decided to run this field project in late October/early November 2008. The Park agreed to give the team accommodation and ranger support (where needed) and the team would use their own GPS, photographic and computer equipment.

Fig 1: Team looking for Bushmen paintings. L to R, Toti (field ranger), Tommy (project leader), Barbara, Zulu (field ranger) and Mike. Picture taken at Pholela Shelter 1
Between February and August 2008, Tommy put together his small team of volunteers, namely, Barbara Müller an environmentalist and protected Area management consultant from Austria, Michael Hochkofler a volunteer environmentalist from Austria and Tommy Topp an ex-South African with many years of experience in management and leading hikes in the Drakensberg Mountains (see section 8 for credentials of the team).

2. First steps (early mistakes and some small successes)

The team arrived at Cobham in the late afternoon on the 13\textsuperscript{th} of October, were met by an official of the Park who handed over relevant documentation of archaeological sites in the area. The next day the team went out into the field to test GPS equipment and get acquainted with the general area before going through the material and breaking the area up into workable parcels. At this stage it should be mentioned that we had some problems getting the GPS to balance with the GPS plots that had previously been done for some of the sites. The first two days were not successful and only after Charl returned to Cobham from Pietermaritzburg were we able to calibrate our GPS to that used by the Park, which is in degrees and seconds.

In addition to this we made further progress with the use of two field rangers who knew where some of the sites were located. At this point it should be noted that there is not one field ranger who knows where all the sites are, in actual fact most of the site locations are unknown to the field rangers including those rangers who have been here for a long time.

We also went out and had some small successes using the archaeological records and existing map plots and some common sense with regards the likely whereabouts of the sites, which more often than not are in prominent shelters which are protected from the weather and sometimes with a good view of the area.

3. Success and methodology

After the first few days we started to get really good at finding the sites using:

- Existing map plots which were sometimes out by more than a Km. (Fig 3)
- ‘Direction to the site’ as recorded in the archaeological records (Fig 2)
- ‘Description of site’ from the archaeological records (Fig 2)
- ‘Contents of site’ from the archaeological records (Fig 2)
- Previous GPS plots (about 10\% had these plots – but not all were reliable)
- Very often searching rock bands in the general areas indicated by the records
- Getting to understand the area, looking for likely prominent sites as most of the sites are prominent with good views of the surrounding area.
In some cases we were unsuccessful and could not find the site at all. In other cases while searching for the site we found previously unrecorded sites which we numbered 1001, 1002 and so on. A lot of time was spent searching rock bands as the archaeological records, although very helpful, did not always agree with the map plots.

About half of the work was done using Cobham as a base and day walking out to the sites and then returning to Cobham or driving by car to the Sani area and then walking from there to the site locations. The other half of the sites visited were done from base camps out in the Park, usually in an area which was quite far from Cobham and more central to a certain cluster of sites. We found that we were able to cover the area more effectively using the base camp method.

The biggest challenge for us, as mentioned above, was the fact that the archaeological records and the map plots were not always reliable. These records which are decades old had problems such as:

- Manmade features such as ‘forestry fence lines’ and ‘gates’ no longer exist.
- Fire breaks were unreliable as these were either not visible, no longer in use or changed.
- Some of the site records mentioned only artefacts which have most likely been removed and so it was not always clear if we had the right site or not.
- The paintings may have faded over time or been damaged by fire or water etc and can no longer be seen and this created some uncertainty.
- The estimation of distance from a prominent point on the ground was not always that accurate.
- The directions were often given from one known site (i.e. Cobham Shelter) to the next and if you could not find the ‘known site’ then it became very difficult to find the next site and so on.
- Not all the sites have archaeological records.

Fig 2: Archaeological records

Note: 1. The Location is totally unreliable as it was obtained using a ruler placed on a map to get the co-ordinates, not a GPS. 2. The description was more often than not helpful. 3. The contents section was helpful but not always reliable as some of the paintings no longer exist or in the case of artefacts they have been removed.
The map plots, which have most likely been plotted from one map to another, were also not always that reliable and were sometimes out by Kms. This we confirmed when we eventually found the site which had the metal tag identifying the site but the map plot showed it in a completely different area.

In conclusion as far as the methodology is concerned the best methods are:

- Use archaeological records and map plots as a guide, not as an absolute.
- Use of local knowledge (i.e. field rangers or anyone else that knows where the sites are).
- Checking all prominent locations (i.e. large rocks and shelters).
- Look for metal tags (Fig 4) at bottom left of site to confirm site number (note these are not always present).
- More emphasis to be placed on the distance photography as this will make it easier for the field rangers to find the sites in the future.
- Camp out close to clusters of sites so as to avoid time wasted on walking into the area.
- The GPS should be calibrated to the format used by the Park.
- Take photographs of everything that looks like a painting at the site.
- Have a note book to do in the field recording of information.
4. Administration

As part of the original idea we established an easy-to-use excel spreadsheet as part of the data base that can be upgraded by the Park officials whenever this is necessary. Part of the spreadsheet also included a more up-to-date description on how to get to the site.

Further to this we created a filing system whereby each site has its own folder which includes photographs of all possible paintings at the site as well as a distance shot (with arrows to show the location) of the site and a close up photograph of the site, this will make it easier for the rangers to find the sites. It is possibly that the photographs of these paintings may be of use for further research by the Park, AMAFA and other anthropological organisations.

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Fig 5: Extract of the data base

<table>
<thead>
<tr>
<th>No.</th>
<th>Area</th>
<th>Name of Site</th>
<th>Type</th>
<th>Activity</th>
<th>Date</th>
<th>GPS Code</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Drakensberg</td>
<td>Superman Shelter</td>
<td>Paintings</td>
<td>25/10/2009</td>
<td>26 45 37.05</td>
<td>28 45 0.56</td>
<td>29 45 0.56</td>
</tr>
<tr>
<td>2</td>
<td>Drakensberg</td>
<td>Superman Shelter</td>
<td>Paintings</td>
<td>25/10/2009</td>
<td>26 45 37.05</td>
<td>28 45 0.56</td>
<td>29 45 0.56</td>
</tr>
</tbody>
</table>

Fig 6: Example of a distance shot (taken from Ngenwe Pool area)
5. Sites not on the archaeological records

As mentioned above whilst searching for sites amongst large isolated rocks or in the various rock bands we found four previously unrecorded sites which we provisionally numbered and named:

- 1002 Mike’s Shelter
- 1003 Barbara’s Rock
- 1004 Mike’s Rock
- 1005 Barbara’s Shelter

Although these sites were not spectacular they did show that there is a real possibility that there are still undiscovered sites in the area.

In addition to this we also got information from a local in the area about another site of paintings only of rhebok all in white. (Fig 9)
6. Top five sites

Of the sites that we have seen we decided to list the top five sites for the number of paintings, their condition and their possible significance.
Fig 13: Gxalingenwa Shelter 1 (Raindance)

Fig 14: Gxalingenwa Rock 1 (Drummer Rock)
7. Future considerations

At first we would like to communicate the results of this pilot project to the relevant stakeholders with the aim of creating a platform for future discussion on the possibility of extending this type of exercise to the entire Park.

We believe that the results of this pilot project together with the support of the relevant stakeholders can be used to motivate potential donors to support a roll-out of the GPS mapping and photographing of all the archaeological sites in the Park. This in turn will be of tremendous practical value to the management of the Park.

If this exercise is extended to the rest of the Park it will best be done with more than one team and with a dedicated admin person and controller in support of these teams.

Based on our experience the entire project will probably take one team about 30 weeks, however if there were more teams (for example 3 teams) with an administrator and controller then it would probably take about 8 weeks.

In addition to the mapping efforts it would be an advantage if one or more field rangers in a protected area management unit of the Park should know where every site is.

Cobham, 2 November 2008

8. Credentials

Tommy Topp is an ex-South African with many years of experience hiking and leading hikes in the Natal Drakensberg Mountains for the Mountain Backpackers Club and a past member of the Mountain Club of South Africa. He also has a wealth of experience in Human Resources Management and as a General Manager, owner and founder of his own company in Austria. At present he is experiencing a ‘late-in-life’ new direction to work for nature. He is presently working on a Masters Thesis in Protected Area Management at the University of Klagenfurt in Austria, which will be completed in June 2009.

Contact details: tommy@the-english-coach.com +43-676-730 8887

Barbara Müller holds an MBA from the University of Vienna specialising in accounting and corporate finance. She worked as a financial analyst for investment banks like Goldman Sachs and Morgan Stanley in Germany and the UK. After a shift in personal values she took part in the Master of Science programme in Protected Area Management at the University of Klagenfurt in Austria where she graduated in 2008. Barbara is working as a consultant mainly on financing and local development issues of protected areas. She is
also associated with Earthmind in Geneva (Switzerland) – a network of consultants dedicated to sustainability. Barbara is also in touch with the Task Force on the Cultural and Spiritual Values of Protected Areas within the IUCN.

Contact details: babs_mueller@gmx.at +43-676-45 00 750

Michael Hochkofler is an environmentalist from Austria with strong interest in the conservation of cultural and spiritual values in protected areas. He has a background in photography and supported the team with all of its technical equipment.

Contact details: michael.hochkofler@gmx.at

Thanks

- Path Executive for the loan of a vehicle, a cell phone and internet connection for the duration of this project.
  Path Executive (Pty) Ltd Mobile: +27 836424033 james@pathexecutive.com
- OIC Cobham (Charl Brümmer) for his valuable support and encouragement for the project.
- Zulu, Shezi and Toti, the Field Rangers who helped show us some of the sites in the area.
- Margaret and Duma, for their logistical support from the office at Cobham.
Annexure 6: Visitor Survey

Bushman Painting Visitor Survey

As you may or may not know the uKhahlamba Drakensberg World heritage Site is only one of 25 sites in the world that has World Heritage Status for both Cultural significance and Natural beauty.

The cultural significance is that:

1. The rock art of the Drakensberg is the largest and most concentrated group of rock paintings in Africa south of the Sahara and is outstanding both in quality and diversity of subject.

2. The San people lived in the mountainous Drakensberg area for more than four millennia, leaving behind them a corpus of outstanding rock art which throws much light on their way of life and their beliefs.

The purpose of this survey is to help assess the value of the Bushmen Paintings to the uKhahlamba Drakensberg World Heritage Site.

Personal Details:

1. Sex: Male Female
2. Age Group: below 30 31 – 40 41 - 50 51 – 60 61+
3. Employment: Currently in school, University or College Retired
   Unemployed Self Employed State employed
   Private Sector
4. Income Group (in thousands of Rands per month for your household):
   <5 6 -10 11 - 15 16 – 20 21 – 25 More than 25
5. Education: What is your highest level of education?
   Elementary School Secondary School College University
6. Nationality: SA Other – visitor to SA Other, living in SA
   Specify country

Questions on the paintings:

1. Have you been to the uKhahlamba Drakensberg World Heritage Site before? Yes No
   If Yes: a. Which area off the Berg have you visited before?
   Northern (Royal Natal, Cathedral Peak, Champagne Castle,
   Culfargie, Monks Cowl and Injusuti)
Central (Giants Castle, Highmoor, Kamberg and Mkhomazi)
Southern (Loteni, Cobham, Garden Castle and Bushman’s Nek)

b. How often do you visit the Park per year?
   
   Once  Twice  Three times  Four times  Five times  more than 5 times a year

2. Do you know that there are bushmen paintings in the uKhahlamba Drakensberg World Heritage Site?  
   Yes  No

   If Yes: Have you been in the past to visit bushmen paintings?  
   Yes  No

3. Do you go to the berg to visit bushmen paintings?  
   Yes  No

   If No:  
   a. Why not?  
      Too much effort  Not interested  
      Not allowed to visit the sites  
      Seen them before  Other things to do

   b. Would you like to visit the paintings?  
   Yes  No

4. Are the paintings important to you?  
   Yes  No

5. The uKhahlamba Drakensberg World Heritage Site has over 25 000 paintings at about 500 different locations, the authorities are making a concerted effort to protect these as many are threatened by: fire, weather conditions, vandalism, treasure hunting and the passage of time.

   Do you think the bushmen paintings should be protected for future generations?  
   Yes  No

   If Yes: Would you be prepared to pay to protect them?  
   Yes  No

   If Yes, how much would you be prepared to pay, if this was included as a part of the entry fee to the uKhahlamba Drakensberg World Heritage Site (in Rands)?

   
   0  1 – 3  4 – 6  7 – 9  10 – 12  13 – 15  16 – 18  19 – 21  22 – 24  25 +

   If No: Why not?

   I pay enough to enter the Park
   I already pay enough tax which should cover this
   Cannot afford it
   Art cannot be valued in money terms
   Not enough transparency with financial issues
   Other - Specify: ________________________________
6. If the uKhahlamba Drakensberg World Heritage Site conducts, or conducted, guided tours to visit the bushmen paintings would you pay to visit these?

Yes   No

If Yes: How much (in Rands)?  1 - 5  6 - 7  8 - 10  11 - 15  16 +

If No: Why not?

I pay enough to enter the Park

I already pay enough tax which should cover this

Cannot afford it

Art cannot be valued in money terms

Not enough transparency with financial issues

Other - Specify:_____________________

Annexure 7: Tour Operator Survey

Bushmen Painting Tour Operator Questionnaire

Company Details:

Size of Company: Family/single owner business
Company with more than one owner/Ltd
Part of a larger group/national operator
Part of a larger group/ International operator

Type of Company: Small eco-tourism operator
Large eco-tourism operator
Multiple types of tours
Secondary tour operator (ie B&B/Hotel/Guest Hse etc)

The Questions:

1. Do you know about Bushmen paintings in the uKhahlamba Drakensberg World Heritage Site? Yes   No

2. Are there any Bushmen paintings in your area of operation? Yes   No

3. Do you offer these to your guests? Yes   No

If No: Why not? Not enough interest  Not profitable enough

Too much effort  Done by other tour operators

Not our type of business
If Yes: How popular are they? Very Moderate Not Very

4. Do your customers ask; To visit the Bushmen paintings
   For information
   Very seldom ask about these

5. Are these paintings of any value to your business? Yes No
   If Yes: How valuable? High Moderate Low

6. Are Bushmen paintings included on your advertising material?
   Yes No
Annexure 8: Cave/Shelter Monitoring Form

CAVE/SHELTER MONITORING FORM

Management Unit: _______________________

Name of the cave/shelter: _______________________

Visit number: ______ of ______ visits required per year

Maintenance work at a cave/shelter can be done by a custodian but must first be cleared with the Conservation Manager. General maintenance includes:

1) Trimming vegetation growing very close to paintings because it rubs against the art.
2) Carrying dead wood out of the shelter because it poses a fire threat.
3) Trimming vegetation in the shelter if it poses a fire threat to rock art.
4) Ensuring that visitors to rock art sites are accompanied by an Amafa accredited custodian who will relate the code of conduct and supervise behaviour.
5) Picking up all litter/waste and removing fire rings and removing candle wax from the ground.
6) Candle wax may not be removed from a rock surface within 10m of paintings.
7) Reporting any construction or maintenance problems along the path leading to the cave/shelter and at the shelter, e.g. fences, signs and boardwalks.

The following maintenance work requires a permit and may require a Heritage Impact Assessment and an Environmental Impact Assessment before starting:

1) Adaptation: The construction of fences, signs, boardwalks, formal paths.
2) Restoration: The construction of a site museum, kiosk, restaurants, toilets.
3) Stabilisation: Removal of post-contact graffiti younger than 100 years.
4) Stabilisation: Removal of lichen, moss, algae and nests near or covering a painting.
5) Stabilisation: Removal of candle wax over or near (<10m) any paintings.
6) Stabilisation: Rock surface rehabilitation.
7) Stabilisation: To prevent a water-wash area and lime, silica and salt accretion over paintings.
8) Stabilisation: Stabilisation treatment to the parent rock surface.

Frequency of monitoring:

Caves/shelters with art open for visitation: Once a month
Caves/shelters with art not open for visitation: Once a year
Caves/shelters on the EKZNW booking system: Once a month
Other caves/shelters: Once a year
<table>
<thead>
<tr>
<th>CRITERIA FOR MONITORING</th>
<th>MEASURE</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disturbed area</td>
<td>Size of the area in m² that is disturbed inside</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Size of the area in m² that is disturbed outside</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evidence of erosion on the floor inside</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>Any visible effects of disasters e.g. fire, floods, mud or rock slides</td>
<td>YES</td>
</tr>
<tr>
<td>Interference with rock art by people, vegetation, water or animals</td>
<td>Any sign of human or animal visitation</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>Type of impact (e.g. trampling, litter, water)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Any vegetation interfering with rock art</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>Does vegetation outside pose a fire threat</td>
<td>YES</td>
</tr>
<tr>
<td>Rock fire rings / fire scars. All fire rings must be removed by observer</td>
<td>Total number of rings / scars</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Distance of fires from rock art</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type of impact on rock art (e.g. heat, soot, candle wax)</td>
<td></td>
</tr>
<tr>
<td>Graffiti / Vandalism</td>
<td>Number of occurrences of graffiti</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is there new graffiti/vandalism</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>Type of graffiti (painted, scratched, written)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type of medium used (chalk, paint, charcoal)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Location of graffiti in relation to rock art (explain where it is, e.g. on or above)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Content (e.g. names, dates)</td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td>Number of items of litter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of items of toilet paper / human waste</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of occurrences of candle wax</td>
<td></td>
</tr>
<tr>
<td>Cut / damaged vegetation</td>
<td>Number of grass tufts impacted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of trees impacted (cut or broken)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of bushes impacted (branches cut or bushes removed)</td>
<td></td>
</tr>
</tbody>
</table>
Annexure 9: Research Project Registration

Dear Mr. Topp

Confirmation of Project Registration

We are pleased to inform you that your project entitled “The Value of The San Rock Art to the uKhahlamba World Heritage Site” has been registered with Ezemvelo KZN Wildlife with myself as the project coordinator. Your project registration number is “DR/20091/09” and should be quoted on all correspondence and reports emanating from the project. A vehicle display card and researcher identification card are enclosed for your use.

The Conservation and Ecotourism Managers responsible for the reserves that your project will be conducted in have been informed of your project. Please arrange all visits to the reserve and make arrangements for accommodation well in advance with the Conservation and Ecotourism Managers (contact details available from me). The Conservation Manager of the reserve is responsible for security and discipline, and researchers must acquaint themselves with the local regulations before commencing work. Please ensure that you are in possession of the relevant permits and have signed an indemnity form.

A list of KZN requirements for projects registered in our reserves is enclosed for your attention. The format for the annual progress report, due in April every year, will be emailed to you.

I wish you success with the above project. Please contact me if you require any further assistance.

Your Sincerely

Sonja Krugger (Ms.)
Regional Ecologist West uKhahlamba

Klagenfurt University
Klagenfurt
Austria
E22/1
February 20, 2008
Annexure 10: Schedule of some of the current costs in the Park (Adult rates per day)


Entry Fee
To Park R20 to R25 (depending on area)
To San Rock Art Centre R40

Hiking/Walks
Overnight hiking R40
Giant’s Cup Hiking Trail R60
Mountain Hut R45
Guided walks to Rock Art R25 to R65

Accommodation
This differs from area to area and depends on the luxurious nature of the accommodation
Chalets R240 to R460
Lodge R520
Camping R46 to R70
Camping (with plug points) R74 to R80

Other
Horse Rides R110 (per hour)
Lamergeyer Hide R170
Fishing Permit (bag limit 10) R35 to R65

Special Rates
Rhino Gold Card R495 per year (free entry fee plus some other benefits

South Africans (over the age of 60 and students) get a 20% discount on accommodation.
Annexure 11: Relevant statistical information on South Africa

South African Statistics

GDP per head (at market prices) in US$*  $5,669.00
Exchange rate to SA Rands (May 09)  8.312
GDP per head (at market prices) in SA Rands  R 47,120.73
GDP per head per month in SA Rands  R 3,927

Number of households in South Africa**  13,261,000
Population**  47,851,000
Average population per household  3.61

Average monthly income per household using the latest GDP per head figures and the latest household figures  R 14,176.47

* The Economist