THE MANAGEMENT AND CONSERVATION OF ROCK ART SITES AND PAINTINGS IN THE UKHAHLAMBA-DRAKENSBERG PARK, KWAZULU-NATAL, SOUTH AFRICA

By

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Submitted in fulfilment of the requirements for the degree of Masters of Geography
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July 2011

DECLARATION

I, the undersigned hereby declare that this dissertation submitted for the degree of Master of Arts in the Department of Geography, Geoinformatics and Meteorology at the University of Pretoria, is my own and original work, except here acknowledged. This work has not been submitted for a degree at any other tertiary academic institution.

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ABSTRACT

The uKhahlamba-Drakensberg Park (UDP) is a World Heritage Site known for its cultural San heritage and its natural beauty, which is advertised as a world tourist attraction. Tourism is a debatable issue with regards to its negative and/or positive impacts on rock art along with commodification aspects. Negatively, visitation of sites increased natural deterioration of the site, the art and challenges for cultural resource management. While increased awareness of rock art conservation is a positive aspect through tourism and developments, contributes optimistically. San heritage is unique, defining our cultural identity and has the power to encourage national unification.

The aim of this project is to assess the complexities of tourism developments and its immediate impacts at different rock art sites in the UDP through an analysis of management and conservation methods. The monitoring of these mentioned methods applied is important as it evaluates the effectiveness of past techniques and provides suggestions for other rock art sites. The current conditions at nine study sites in the UDP were investigated under three main criteria; deterioration of the sites and paintings through natural and human impacts, tourism developments and management. Data collection followed principles such as; site mapping, narrative recording, graphic documentation, and is represented in evaluation tables.

Results concluded that common management methods were implemented at sites to provide standard conservation practices, but every site had room for improvement. The results have led to the formulation of recommendations that can be applied at other rock art sites and can contribute to future management and conservation protocols. The study highlights the unique demands made on rock art sites by tourism and concludes with final comments and recommendations.

THE TERM 'BUSHMAN' & 'SAN'

The correct nomenclature for southern Africa's hunter gatherers is a debatable topic as there are negative connotations linked to both the names "Bushmen" and "San" (Lewis-Williams & Dowson, 1992). The 'San' were the indigenous people of southern Africa and were hunter-gathers. Early Dutch settlers in the Cape referred to these indigenous people as "Bosjeman" which when translated into English means 'Bushman' - a term initially used to describe a way of life but that later deteriorated in meaning to mean an inferior form of human or even a sub-human in the race-based namings used from the 18th-20th centuries. 'San' is thought to be a Nama word that translates as 'bandit' or 'vagabond' (Lewis-Williams & Dowson, 1992). As time passes different terminology and viewpoints come into play, today the exonyms 'Bushman', 'San', 'First People' and even the formerly and still sometimes pejorative 'Bosjeman' are used. 'San' is the generally accepted term, though it remains an exonym (name applied from the outside), rather than an ethonym (name from the inside) (Deacon, 1994; Solomon, 1998). Ideally, we should refer to each group by the name they gave themselves – their ethonym – but in dealing with the archaeological identities of southern African hunter-gatherers, this is impossible, necessitating overarching terms like 'San'.

In this dissertation only the term 'San' will be used - unless another term is used in, cited literature – and I reject any negative connotations the term may have.

"Conservation will not happen by itself, there is a need for intervention if the art is not to be damaged wittingly or unwittingly by visitors..."

Deacon (1993)

ACKNOWLEDGMENTS

I would like to express my sincere thanks to the following:

- My supervisor, Dr Sven Ouzman for providing me extensive information on rock art and insightful comments throughout my Masters as well as presenting with him at the Geoscience/Geoheritage Conference in June 2009.
- My co-supervisor Professor K.I. Meiklejohn, for introducing me to the topic and motivating me to further my studies in a Masters degree.
- Prof P.D Sumner for providing me opportunities to access my study sites.
- Ingrid Booysen and Barend van der Merwe for their help in creating the maps used in this project.
- Prof K.I Hall for his suggestions and talks concerning my project.
- Prof A. Horn for all his support in the final stages of submission
- Gerda Venter for accompanying me on fieldtrips to the study sites and Spencer Durant and Taryn Bigwood for their ongoing support and motivation.
- The National Research Foundation, for financial assistance under the project and the Department of Geography, Geoinformatics and Meteorology for their support.

My appreciation extends to my family; my parents and brother for their interest, support and involvement in my topic, visiting rock art sites with me and ideas. Special thanks goes to my mother, Lynn Fordred for her input, assistance and helping me to edit my work.

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ABBREVIATIONS AND TERMS

- **Amafa aKwaZulu-Natali:** Provincial authority in KwaZulu-Natal
- **BCE:** Replaces ‘BC’ AND ‘BP’ – measured as the present being ‘1950’
- **Ezemvelo:** Previously known as Natal Parks Board – a conservation authority
- **ICOMOS:** International Council on Monuments and Sites
- **IP:** Intellectual Property
- **MSA:** Middle Stone Age
- **NHRA:** The National Heritage Resources Act
- **KZN:** KwaZulu-Natal
- **RARI:** Rock Art Research Institute
- **SARADA:** South African Rock Art Digital Archive
- **SAHRA:** Southern African Heritage Resources Agency
- **SASI:** South African San Institution
- **TARA:** Trust for African Rock Art
- **UDP:** uKhahlamba-Drakensberg Park
- **UNESCO:** The United Nations Economic, Scientific and Cultural Organisation
- **WIMSA:** Working Group of Indigenous Minorities in Southern Africa

CHAPTER 1: ROCK ART PRINCIPLES

The focus of this study revolves around the advantages and disadvantages of tourism developments at rock art sites when aiming to conserve the sites and paintings. Tourism development advantages are raising money, rock art awareness and the opportunity to enjoy existing paintings in a natural setting. Disadvantages, for instance are alternating the site and increasing the probability of negative human impacts such as graffiti and vandalism which deteriorate the art. These advantages and disadvantages are integral to the future of conserving rock art. Throughout the undertaking of this project, rock art is acknowledged as a fragile cultural heritage under threat (Coulson & Campbell, 2001). Management and conservation methods were thus examined in the selected study area, The uKhahlamba-Drakensberg Park (UDP), to determine the results of these mentioned methods, especially linking to tourism developments. Rock art and tourism development studies were researched throughout this project and will be discussed in the chapters that follow, this in turn will allow for a better understanding of the methods contributing to the conservation of rock art.

1.1. Study aim and objectives

Natural deterioration of rock art is largely uncontrollable and cannot be halted; or at least not to the degree that would justify the expense involved (Hoerlé, 2005). Therefore, suitable methods have been and are still currently being investigated to conserve rock paintings from natural factors (Hall *et al*., 2007; Venter, 2011). Tourism developments increase the awareness of rock art conservation by creating infrastructure explaining rock art and provides the opportunities to view the paintings. In turn these tourism developments contribute positively to local communities within the proximity of sites by means of job creation and local infrastructure growth. However, these tourism developments create advantages and disadvantages as mentioned above, that cause debatable issues in the implications of these developments at sites.

The aim of this project is to assess the complexities and the paradox (the fact that we want people to visit heritage rock art sites, but such visitation is potentially harmful) of tourism and its impacts at rock art sites in the uKhahlamba-Drakensberg Park through an analysis of correct management and conservation methods.

The UDP was selected for this project as it was proclaimed by the United Nations Education, Science and Cultural Organisation (UNESCO), as a World Heritage site (WHS) for its cultural (San rock art paintings) and natural heritage (Map 1). The selection of study sites were chosen according to sites that were:

- advertised as sites opened to the public to view the art and are developed for tourism and visitation;
- sites that were not advertised to the public to view, which are not developed for tourism and visitation. These sites were compared with the selected tourism developed sites in the same reserves, and;
- rock art centres open for visitation.

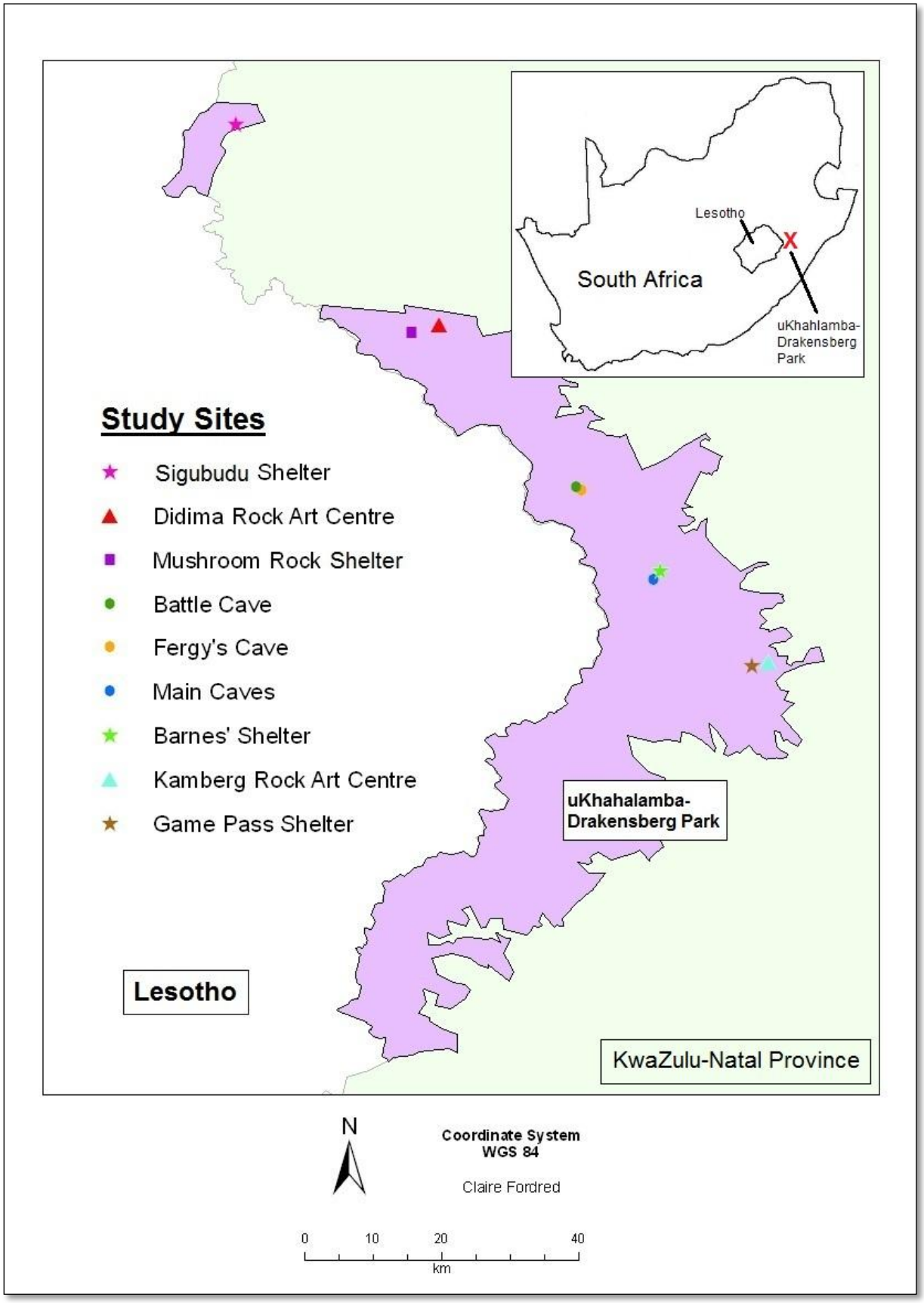
Lewis-Williams & Blundell's book – *Fragile Heritage; a rock art field guide* (1998), was used to selected sites that were in published literature, as well as a number of pamphlets that were collected for the UDP especially for advertised rock art sites. Nine study sites were selected in total so to meet the three stated points made above; these sites were (Map1);

- Two rock art centres:
    1. Didima Rock Art Centre
    2. Kamberg Rock Art Centre

- Five sites opened for visitation and developed for tourism:
    3. Sigubudu Shelter
    4. Mushroom Rock Shelter
    5. Battle Cave
    6. Main Caves
    7. Game Pass Shelter

- Two non-tourism developed sites that were not advertised for visitation.
    8. Fergy's Cave: in Injisuthi Camp
    9. Barnes' Shelter: in Giant's Castle Game Reserve

The study area and the landscape's people are discussed in the following chapter and the study sites are examined, discussed and compared in detail in Chapter 6 and 7.



Map 1: Location map of study sites in the uKhahlamba-Drakensberg Park.

In order to achieve the research aim, the project's objectives were decided on, with the assistance of three main criteria, which were used to assess the selected study sites. These criteria being:

1. *Deterioration of the site and rock art:* caused by human visitation and natural impacts;
2. *Tourism and development:* of the selected regions and study sites and;
3. *Management and conservation methods:* of the rock art sites and paintings.

The overall objectives of the study was to use the methods of this study as discussed in Chapter 3 along with these three mentioned criteria to;

- analyse the current conditions at all nine sites;
- to discuss and compare the findings and;
- to provide potential recommendations for rock art locations.

1.2. Significance of the study

The assessing of the management and conservation methods applied at UDP rock art sites is important as it evaluates the effectiveness of past methods and provides further suggestions for conservation methods at other locations. It also justifies the importance of conservation and that further methods should be investigated to meet different needs and tourism development, related conditions.

There has been a great deal of research and documentation on the location, conservation, interpretation and archaeological importance of rock art in southern Africa (Deacon, 1994, 2006; Meiklejohn & Hattingh, 1995; Lewis-Williams, 1986, 2002; Lewis-Williams & Dowson, 1992; Ouzman, 2001; Whitley, 2005). Currently, research is being done on the deterioration of rock art and new methods of conserving rock art in the uKhahlamba-Drakensberg Park, South Africa (Meiklejohn, 1994, 1997; Hoerlé, 2005, 2006; Hall *et al.,* 2007, Leuta, 2008, Venter, 2011). However, little has been written on the complexities of tourism at rock art sites in the UDP. The results of this study will highlight the current conditions of the selected study sites focusing on the:

- state of the site and paintings;
- the tourism and developments of the site and area, and;
- the management and conservation of the rock art and sites.

In turn, the overall findings will draw attention to this project's paradox, the strengths and weaknesses of specific conservation methods used in the UDP and the recommendations will provide useful contributions to South Africa's rock art conservation activities.

1.3. Structure of the dissertation

Chapter 1 introduces the paradox of tourism advantages and disadvantages at rock art sites in the UDP, while investigating the management and conservation methods taking place at the selected study locations. The main focus area of this study: the uKhahlamba-Drakensberg park - is introduced and the reasons why it was selected. The Chapter defines rock art and discusses it as a world phenomenon, with great aesthetic history and important cultural heritage at both an international and national level. At a national level, the significance of South Africa's rock art as part of the county's history is mentioned, drawing special attention to the San culture.

Chapter 2 describes the physical environment of the Drakensberg and the history of the people that have lived within its landscape. The formation of this mountainous region is described, with a summary of the climate, flora and fauna. The archaeology of the San of this region is discussed and how, by means of their art, we are still able to learn of their cultural beliefs. Unique details in their paintings, pigments, used and their lifestyle are explained to help understand how the San used their environment as a dependable physical and spiritual resource in their life. Chapter 3 outlines and defines the methodological approach, explaining the way in which the study was conducted - providing the foundation of this project and its results. Three main criteria were used to investigate each site; rock art deterioration caused by natural impacts, human impacts, and the impact of tourism and site management. Assessment factors were created, explained and formulated into different tables which were used to analyse the rock art sites to obtain observations and results.

Once, the principles above have been discussed in detail, Chapter 4 follows with the explanation of tourism – the core subject of the entire study. Chapter 4 defines the tourism industry, types of tourism, a tourist and the relation and impacts of tourism at rock art sites. Chapter 5, dealing with rock art conservation, acts as the empirical core of the study. The terms 'conservation' and 'preservation' are defined. Conservation of rock art ideally contributes to decreasing the rate of rock

deterioration and paintings – if done on a scientifically sound and responsible manner. In order for conservation to take place at sites, management methods need to be put into place at rock art sites. Thus Chapter 6 deals with factors of management, which seen as a resolution for negative tourism impacts and conservation. The Chapter defines management and looks at direct and indirect management methods at rock art sites. It incorporates a literature review throughout the chapter, with previous instances of management methods used worldwide. Chapter 7 - 'Sites and Results' is a detailed summary of the selected study sites based on the three main criteria as mentioned. Chapter 8 - is a discussion of the results and recommendations for the management and conservation of rock art sites in uKhahlamba-Drakensberg Park and beyond. The Chapter concludes with final comments.

1.4. The historical background of rock art and its importance

Rock art is found across the world and is a fragile heritage (Clottes, 1997). The environmental and human impact on rock art needs to be addressed in order to conserve it for future generations to experience it in its natural and cultural setting. Rock art is divided into three main categories; rock paintings (also known as pictographs), rock engravings, (also known as petroglyphs), and geoglyphs (natural objects used as designs, i.e. a boulder a shape of an animal) (Anati, 1993). The focus of this study is on rock art paintings in the UDP. These rock paintings can be found on the walls and sometimes the ceilings of rock shelters (Solomon, 1998; Coulson & Campbell, 2001; Whitley, 2005). Whitley (1998b) describes rock art as landscape art that consists of designs, motifs and paintings on natural surfaces such as boulders, cliff walls, caves, ceiling's and on the ground surface. However rock art is defined by South Africa's National Heritage Resources Agency as:

*"**Rock art -** being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within ten meters of such representation"* (NHRA, 1999:6).

As society develops the 'natural' environment is diminishing due to the expansion of a 'cultural' environment in terms of increasing development and human growth in populations, deforestation and pollution. Therefore, these elements mentioned above are adding to the threat of conserving existing rock art (Coulson &

Campbell, 2001). In addition to natural influences on the disappearance of rock art, human impacts are the primary damaging factor i.e. graffiti and vandalism. People's lack of knowledge in respect to the vulnerability of rock art and how to behave in its presence, are contributing factors from human impacts (Bednarik, 1993; Lewis-Williams, 1992; Coulson & Campbell, 2001). Urgent attention is needed to salvage and manage the rock art that exists in order to extend the lifespan of this fragile heritage.

Rock art is a fundamental part of the world's heritage, showing the antiquity and value it has, giving us insight into our ancestors' thoughts and lifestyles (Lewis-William & Dowson, 1994; Leakey, 1996; Coulson, Campbell, 2001, Whitley, 2005). It is a source of historical testimony that illustrates the different religious practices, beliefs, ways of life, cultures, economic and social activities that were practiced, representing the intellectual life that man developed so long ago (Anati, 1993; Clottes, 1997; Coulson & Campbell, 2001).

Clottes (1997:15) states that *"rock art constitutes one of the essential components of humanity's cultural and religious heritage and it possesses a universal value"*. Rock art is an old form of art dating to approximately 77 thousand years, i.e. Blombos ochre – what may be the world's oldest piece of 'art', consisting a complex patterned engravings found in South Africa (Henshilwood *et al.,* 2002; Wadley *et al*., 2004; Smith, 2006) and 40 thousand year old art in Australia (Watchman, 1992). Today, rock paintings are appreciated for their aesthetic beauty and because they are the *"most immediate link surviving between ourselves and the Stone Age"* (Johnson & Maggs, 1979:8). It is, however, important to note that the significance of rock art varies from continent to continent, but all have common factors, which show that rock art was an internal part of their social fabric and culture, and often having strong religious and spiritual underpinning (Robertsen, 2009).

Long before the first developments of writing in Egypt approximately 5 500 BCE, rock art stands as a testimony to human creativity and artistic imagination and provides a common heritage for humanity (Anati, 1993). Rock art is a declaration to the long occupation of people living on the land and represents one of the longest enduring traditions of artistic expression (Solomon, 1998). Therefore, rock art can be described as an essential part of an archaeological 'record', giving the world more insight into its ancient cultures, myths, ideologies and cosmography. Societies without a tradition of writing recorded its history through spoken stories which have

been passed on for generations (Coulson & Campbell, 2001). Thus, rock art is a means of communicating and leaving behind what was believed through enduring visual motifs (Yates *et al*., 1990). Rock art has creative qualities and symbolism that are highly regarded around the world. However these creative qualities have been exploited through the process called commodification which is when one uses aspects of cultures and ideas to create products to sell or use to make money. San rock art has been commodified in a number of ways in the UDP and is discussed throughout the project. These facts and more are reasons to manage study and conserve rock art. However, because of the rock paintings surface's weathering naturally, the art is seen as fragile. Nowadays, rock art is also used as a tourism attraction. Pamphlets and books are available on open rock art site destinations, for example, Lewis-Williams & Blundell's book (1998) *Fragile Heritage; a rock art field guide*, for South Africa. In depth work has been done in Australia dealing with tourism impacts (Loubser, 1991; Bednarik, 1993; Hedges, 1993; Sullivan, 1995; Whitley, 2005). An increase in these published sources of information represents a growing interest in rock art and its use as a tourism attraction. Sullivan (1995), however, does point out that visitation strategies such as the number of people visiting a site at a time, rotation of sites being open to the public and asking an entrance fee with a guided tour are now among the necessary strategies used to conserve the rock and paintings surfaces.

There are an enormous number of rock art sites around the world – perhaps numbering in the hundreds of thousands or more - but one must remember that they only represent a fraction of what used to exist (Clottes, 1997). No matter where rock art is situated, in caves, open air shelters, or in the open, the art is exposed to natural impacts - and some sites are also challenged by human impacts. Though each continent has equally magnificent rock art sites, along with smaller sites uninteresting to tourists but of great interest to archaeologists, the price of such fame is often considerable. The rock art found at Chauvet Cave, Cosquer and Lascaux are regarded, somewhat Euro-centrically, as the world's most famous rock art paintings, dating to between 17 000 – 35 000 years ago (Clottes, 1997). Lascaux is an excellent example of the vulnerability of rock art when impacted by tourism, which was re-discovered in 1940 and was opened to tourist visitation (Coulson & Campbell, 2001). Lascaux had to be closed in 1963 because the constant influx of people had led to an increase in moisture levels, which in turn led to the growth of algae and micro-organisms on the cave walls threatening the art work (Graff, 2006). Currently, Lascaux is again threatened by microbes growing in the cave floor. The rising

numbers of visitors to sites such as Lascaux threatens the rock art's existence and the environment where the art occurs (Coulson & Campbell, 2001). The very visitation and enjoyment of viewing rock art sites leads to the site's deterioration and even its destruction. Thus, there are advantages and disadvantages of tourism at a rock art site which is the paradox in this study.

1.5. Southern African rock art

Southern Africa is the custodian of some of the richest treasures from the Later Stone Age and historic periods, and has some of the world's greatest concentrations of sites (Johnson & Maggs, 1979; Batchelor, 1988; Anati, 1993; Deacon, 1994; Lewis-Williams & Blundell, 1998; Bassett, 2001). One of the most well-known examples is 'The White Lady of the Brandberg' which was 'discovered' in 1917 by Reinhoud Maack, a German officer – famous for being considered 'proof' that exotic, light skinned people made 'San' rock art – a view that is now discredited (Pager, 1989). Another example is the Apollo 11 Cave, which was dated with the aid of a painted stone excavated from archaeological layers, reliably shows that some of southern Africa's rock art is 27 000 years old (Thackeray, 1983; Pager, 1989; Solomon, 1998).

Blombos, being another example – as noted already. Documented interest in rock art in southern Africa dates back to the eighteenth century when early travellers recorded their findings (Johnson & Maggs, 1979). From 1930 until the 1950s the development and interest in archaeology grew rapidly in southern Africa due to the abundance of archaeological sites that were discovered (Johnson & Maggs, 1979; Loubser, 1991). However, interest in rock art was limited largely to avocational researchers until Patricia Vinnicombe and David Lewis-Williams' work in the late 1970s and early 1980s (Vinnicombe 1976; Lewis-Williams, 1981, 1983, 1986) revolutionised our understanding of the hunter-gatherer or 'San' rock art as being shamanistic and involved with medicine people, or, shaman's, interactions with a spirit world that was believed to reside behind the rock face (Lewis-Williams & Dowson, 1994).

1.6. San rock art in South Africa in relation to world rock art

Rock paintings and rock engravings are found in different parts of South Africa and are rarely found at the same site, with the exception of northern Limpopo province and areas of the Karoo (Morris, 1988; Yates & Parkington, 1994). Dense

concentrations of rock paintings are found at the UDP foothills and in the Eastern Cape, South Western Cape, Southern Cape, Mpumalanga and the Free State provinces. Many South African sites identify San heritage by means of outstanding paintings some of which dates back to 4000 BP (Lewis-Williams & Blundell, 1998; Coulson & Campbell, 2001). Whereas the first publications of rock art were on the Palaeolithic cave art of Europe, during the early 20th century, South African rock art had firmly established itself only by the 1950s when world interest was drawn to it (Coulson & Campbell, 2001).

The interest increased when Laurens van der Post and Lorna Marshall wrote of their experiences living with the San in the Kalahari, describing how the San lived in harmony with their environment (Solomon, 1998). One needs to appreciate the importance of the symbolism in San rock art paintings as well as their role as an invaluable historical record of a lost era, of a people that have existed from pre-colonial days to present times, and as a major contributor to South Africa's diverse history. Hence, it is essential that we do all that we can to conserve this record of the San who have played such a historical role in the development of the country.

1.6.1 Rock art of the UDP – materials

In the UDP the rock art is mostly brush-painted. The porous sandstone provided the San with the ideal canvas, by absorbing pigment in such a way that paintings remain relatively well-preserved (King, 1942; Briggs, 2006). Our understanding of the durability of the paintings lasting for so long is, as yet, imperfect. Here, yet again, is another contradiction found in rock art as these paintings must have some nature of durability as many still exist today. The concept of rock art being stereotyped as fragile is thus over-stated. The investigation of this project's tourism paradox (as discussed about) is self-evident knowledge. However, it's these complexities that conjured the critical enquiry of how fragile rock art is then. These San rock paintings are commonly applied with much the same natural substances as are other rock art found around the world. San paintings have been applied either by brush, spatula or with the use of fingers (Solomon, 1998; Bassett 2001). The paintings were drawn, filled with paint with detail added last. Another technique was to outline an image and fill it in by precisely smearing paint with a finger (Solomon, 1998). The main colours that were used were red, yellow, black and white (Solomon, 1998). The natural substances that were used to formulate the different pigments were ochre or hematite for shades of red and oranges, limonite for yellow,

gypsum/lime for white and manganese oxide and charcoal for black (Solomon, 1998; Coulson & Campbell, 2001; Robertsen, 2009). The white pigment being the first to fade as it preserves the most poorly because of its relatively large grain size; making absorption between the sandstone's quartz grains difficult (Solomon, 1998; Meiklejohn, 1994). Rock art production is not understood as solely technologically manufactured, but is often also a ritual action (Whitley, 2005).

There are numerous themes in rock art – and each has to be understood in its specific social and historic context. There are few universal themes or meanings. Their variation is according to the place, period, myths, religion and different lifestyles (Clottes, 1997). In Western Europe the Palaeolithic caves are full of animals. Northern and southern Africa has a combination of human and animal paintings on the walls of rock shelters (Clottes, 1997). There is a clear subject preference in painting throughout different parts of South Africa. The subject matter of the paintings varies from human beings, animals, items of material culture to Spirit World subjects – indeed the entire corpus was imbued with a shamanistic meaning (Vinnicombe, 1976). Human figures were painted in a number of different postures, with males being more common than females (Vinnicombe, 1976). The San regarded the eland antelope as sacred (Vinnicombe, 1976; Winberg, 2001) – indeed, the San of the Drakensberg were known as the 'People of the Eland'. They thus, inter alia, used eland blood with a dry pigment to make paint. The eland blood was seen as containing a supernaturally potent essence that was then infused into the 'image' – although in a San's understanding that 'image' was a spirit world animal emerging from behind the rock face (Lewis-Williams, 1986, 1987). Paintings of the eland are dominate in most regions in South Africa and are particularly favoured in the UDP.

Some paintings are indicative of the time of when they were painted, for example, images of European settlers, horses and wagons (Solomon, 1998). Paintings were either done individually or as part of a cluster filled with paintings; some paintings were painted on top each other known as 'superimposing' making it hard to distinguish individual paintings (Lewis-Williams, 1992; Solomon, 1998). San art can be interpreted at different levels, namely shamanistic and through a social identity aspect – approaches that overlap and that are not mutually exclusive (Hone *et al.,* 1998). The stylistic appearance of rock art evolved over the years in ways not yet fully understood, but shaded polychrome - multi coloured images (Anati, 1993) – are, for some reason, restricted mainly to the Drakensberg area (Hone *et al.,*1998; Coulson & Campbell, 2001).

The San artists had a relationship with their rock canvas and their medium; creating detailed artwork with a symbolic resonance (Bassett, 2001). Artists often used the physical features at the sites in their paintings; animals appear or disappear into cracks seen as portals into the supernatural/religious world (Solomon, 1998; Lewis-Williams, 2002). When viewing rock art, paintings should be viewed as complete clusters not individual, framed artworks. The placement of the work on the rock face, crevices, cracks, and corners should also be considered as they add meaning to the images. San artists selected specific rock faces for their canvases, these surfaces obviously convey meaning as do the repetition of an image and the superimposition of images (Lewis-Williams, 1983; Lewis-Williams & Dowson, 1992) (Fig 1.1).

Fig 1.1: Examples of advertised UDP rock art shelters open for visitation.
Left: Game Pass Shelter, *Right:* Main Caves.

Research problems exist in the historically-specific interpretation of rock art. It is very difficult to ascertain the true meaning of the art and to explain the chronological placement of this culture and lifestyle historically (Lewis-Williams, 2002). Problems arise due to the fact that people are continuously guessing the meaning of the art, as the artists who created the work no longer exist and the San culture of today has been westernised. But at least the guesswork is educated, informed by a valuable archive of San ethnography that helps approximate the emic understanding of the art

1.7. Selected study area – uKhahlamba-Drakensberg Park details

The uKhahlamba-Drakensberg Park (UDP), which is part of the Drakensberg Mountain Range, was the selected study area for this project. The mountain range runs down the eastern side of South Africa creating a natural barrier between what is today KwaZulu-Natal province and Lesotho (Map 1). The UDP was

declared a World Heritage Site (WHS) on 29 November 2000 (Briggs, 2006; UNESCO, 2000). The UDP begins in the region of Royal Natal National Park and ends at Bushman's Nek in the south running for 150 kilometres and is over 240 00 hectares (Bright, 2005) The deterioration and weathering of rock art are dependent on natural and human impacts on the rock art and their sites. Account must be taken of the geology of the Drakensberg area when trying to determine why some rock paintings weather faster than others (Pope *et al*., 2002). Volcanic basalt makes up the High Berg of the Drakensberg mountains and has a less resistant and porous sedimentary layer beneath it. Beneath the basalt, is the Clarens Formation or 'cave sandstone' (Rudner, 1989; Hatch & Corstorphine, 2010). It is in this less resistant sandstone layer in the 1600-1800m above sea level band where rock shelters are formed and where the San left their mark through their paintings (Lewis-Williams & Dowson, 1992).

1.8. Threats to rock art

The term deterioration comes from the verb of deteriorate "*to become worse"* (Hornby - Oxford, 2010:414).The two major threats to rock art deterioration is natural weathering and human impacts (Hall *et al*., 2007). These types of impacts are discussed below before moving on to the following chapter so to have a summarised understanding of natural and human impacts.

Natural impacts

Natural phenomena that effect the deterioration of rock art include external elements such as exposure to sun, dust, wind, rain and water flow in shelters, roots, plants and lichen and internal processes within the rock itself (Meiklejohn, 1994; Bassett, 2001; Hall *et al*., 2007). It has been long accepted that rock-weathering processes contribute to the deterioration of rock art (Batchelor, 1990; Meiklejohn, 1997). Studies are on going to investigate sources that aggravate the weathering processes in order to learn more about natural weathering and find applicable methods to conserve rock paintings (Hoerlé, 2005). The 'natural' reasons for the deterioration of paintings are complex, with a number of interactions directly linked to the environment, the rock and the pigments used making it a very difficult task to manage and protect the art. Thus, bedrock properties, structure and stability are the first factors to be considered when determining the vulnerability of weathering processes and the condition of the rock art site (Viles, 1995). Furthermore, rock properties including porosity, micro-porosity, permeability, saturation co-efficient and

water absorption capacity involve the rock's ability to absorb moisture and the movement of water within the rock (Rosenfeld, 1988). These factors are important considerations as the UDP is a mountainous region with high rainfall. Natural factors concerning climate and the vegetation are all important factors involved in the weathering of rock paintings. Natural factors and human impacts are concentrated on in this project.

The microclimate of a rock shelter is very important as the temperature and moisture levels are two major environmental controls, with moisture frequently being considered the most crucial to the deterioration of rock (Batchelor, 1990; Loubser, 1991; Meiklejohn, 1994; Hoyos *et al*., 1998). The presence of moisture allows the growth of plants, bacteria, fungi, algae, lichen and mosses - all of which affect the surface of the rock art clusters by weakening the cement between quartz grains of sandstone breaking down the rock physically and increasing the chemical alterations of the rock minerals (Yates *et al*., 1990; Eastwood *et al.,* 1994; Viles, 1995; Adamo & Violante, 2000). The movement of larger plant roots open up rock joints, widening cracks and damage the rock overall (Batchelor, 1990). Animal movement and micro-fauna found at sites also have a physical impact on the rock surfaces and accelerate the weathering processes by loosening weathered rock and increasing other endogenetic impacts (Bednarik, 1993). Larger animals, rub against the surfaces, move rocks, increase the moisture and stir up dust, which sticks to the paintings.

The UDP is a mountainous area with steep topography rock art found under overhangs and shelters have a steep inclination, which favours the removal of the products that have been weathered and also the exposure of bare rock surfaces. Other important natural impacts that increase the deterioration of rock paintings are granular disintegration and exfoliation, salt efflorescence, hydrological impacts, bush fires, and changes in tree protection from the sun, rain and aeolian erosion (Gale & Jacobs, 1991; Bednarik, 1993; Eastwood *et al.,* 1994*;* Clottes, 1997). Halting these natural deterioration factors, may, however, prove to be impossible in cases where geologic and chemical attributions are concerned, so it was decided to focus attention on the potentially more destructive impacts – at least in the short term – but also more manageable impacts, those of human visitation.

Human impacts

Humans; intentionally or unintentionally, cause damage to sites. Some human impacts can be addressed as cultural factors which lead to natural factors too, for

example - the change of land for agricultures can alter and/or cause natural impacts, i.e. increased chemical water seepage. Cultural and natural factors are thus not easily separated which one will see in Chapter 7. To truly experience the essence of San rock paintings, one must see them in their physical context but, sadly, allowing visitors access to sites has negative consequences that encourage the weathering rates of the paintings and site through such mechanisms as (Bednarik, 1993);

- stirring up dust: which sticks to the paintings, blocking the rock;
- vandalism: such as graffiti and;
- the general increase in the physical wear and tear at a site.

It remains, however, a debatable topic whether visitors should still be allowed to visit any or all rock art sites. Besides direct impacts of human actions on paintings such as touching or vandalism, humans also introduce changes in atmospheric conditions, which accelerate the natural weathering processes and deterioration of rock art (Bednarik, 1993). Luckily, human impacts are potentially more manageable than natural impacts.

Today's existing rock art has already survived many threats, but it has been identified that deterioration of paintings has occurred where there has been an increase in light, changes in humidity, increasing temperatures and exposure to carbon dioxide especially at sites where there is heavy visitation (Rosenfeld, 1988). From these changes and conditions at a site, other 'natural' weathering factors establish themselves and add to the deterioration of the paintings. External organisms are introduced to a site through people visiting and leaving biodegradable debris behind at a site, which creates a feeding ground for fungi, bacteria and other micro-organisms and in time can also develop on the paintings themselves (Leuta, 2009). Increasing development for tourism increases (Rosenfeld, 1988; Leuta, 2009);

- dust on site and dust sticking to the paintings;
- the light source at a site, which in turn promotes plant growth and moisture;
- physical site interventions - boardwalks and fences for protection and;
- aesthetic and acoustic damage - removing natural vegetation.

Human impacts can be further sub-divided into general and intentional impacts.

General impacts

General impacts are the everyday human-induced effects that have changed the environment. The developing world is increasing its industrial developments and therefore atmospheric pollution. Atmospheric pollution introduces new products as airborne dust particles, increasing the acidity in rainwater and affecting the chemical balance in the natural environment (Rosenfeld, 1988; Walderhaug, 1998). Also agricultural and other land management practices that affect hydrology.

Additionally, every human or animal that visits a site affects the microclimate by means of heat emission through the skin and through radiation and the production of carbon dioxide through respiration (Hoyos *et al., 1998*). This has been documented for enclosed shelters, such as caves; however there is no documentation on open shelters (Graff, 2006). In South Africa, the rock shelters are luckily predominantly in the open air and are less susceptible to damage caused by the microclimate when compared to cave sites. However, this does not mean that the microclimate has no influence on the weathering of paintings. The artists themselves were also contributors to the weathering of rock art, as some lived in and around the shelters (Rosenfeld, 1988). Included in these contemporary impacts are those made by archaeologists and conservators. Paradoxically, these are the people who principally have the art's best interests at heart, but also have a tremendous impact or footprint on the art. Tracing, photography, dust from excavations, and radio carbon dating of paintings are all problematic and act as negative impacts (Loubser & den Hoed, 1991). One cannot disregard the management and conservation activities that occur at rock art sites around the world and these 'professional' activities must also be included in site management plans. In contrast to these general human impacts are intentional and malicious impacts (Hoerlé, 2005).

Intentional impacts

Intentional impacts on paintings include (Bednarik, 1990; Eastwood *et al.,* 1994; Wright & Mazel, 2007); scribbling, scratching, aiming at them as target practice, attempts to remove the paintings through, chiselling them out, throwing stones at them, making fires next to the art, graffiti applied with different materials over the paintings, touching the painting, wetting them and disturbing the deposits on site. The main intentional impacts revolves around accessibility to a site. Rock art sites are easier to access than ever before with increasing development in the form of national parks, road networks, better footpaths, and greater awareness of site locations, community-based tourism and so forth. Rock art vandalism takes many

forms. Many European farmers and travellers having preconceived ideas of the San and their art, which they saw as primitive and crude and saw no reason why these drawings should not be defaced by scribbling or scratching over them, using them as target practice or even trying to remove them (Wright & Mazel, 2007). Vandalism continues in various forms from chiselling paintings out, throwing stones at them, making fires next to the art, graffiti applied with charcoal, pencil, paint and the use of varnish, painting and drawing imitations and their names all over the rock art panels (Wright & Mazel, 2007). Other human impacts on rock art include, touching the painting, wetting them and disturbing the deposits on site and the removal of artefacts (Bednarik, 1990; Eastwood *et al.,* 1994).

1.9. Summary

The tradition of San rock painting faded in the nineteenth century and does not appear today (Lewis-Williams & Dowson, 1992), though many San still make art today – just not on rock overhangs (Winberg, 2001). The paintings that have been recorded and the ones that exist today are the most visible symbol of the many San cultures past and present – as well as forming an important part of contemporary national identity by, for example, appearing in South Africa's new Coat of Arms (Smith *et al.*, 2000). The concepts discussed in this Chapter has emphasised the importance of rock art and the need for its management and conservation. In order to do this, we need to understand the context of the landscape and the history of the San who have left behind this invaluable cultural heritage. The following Chapter provides a summary of the landscape and the people of who created the rock art.

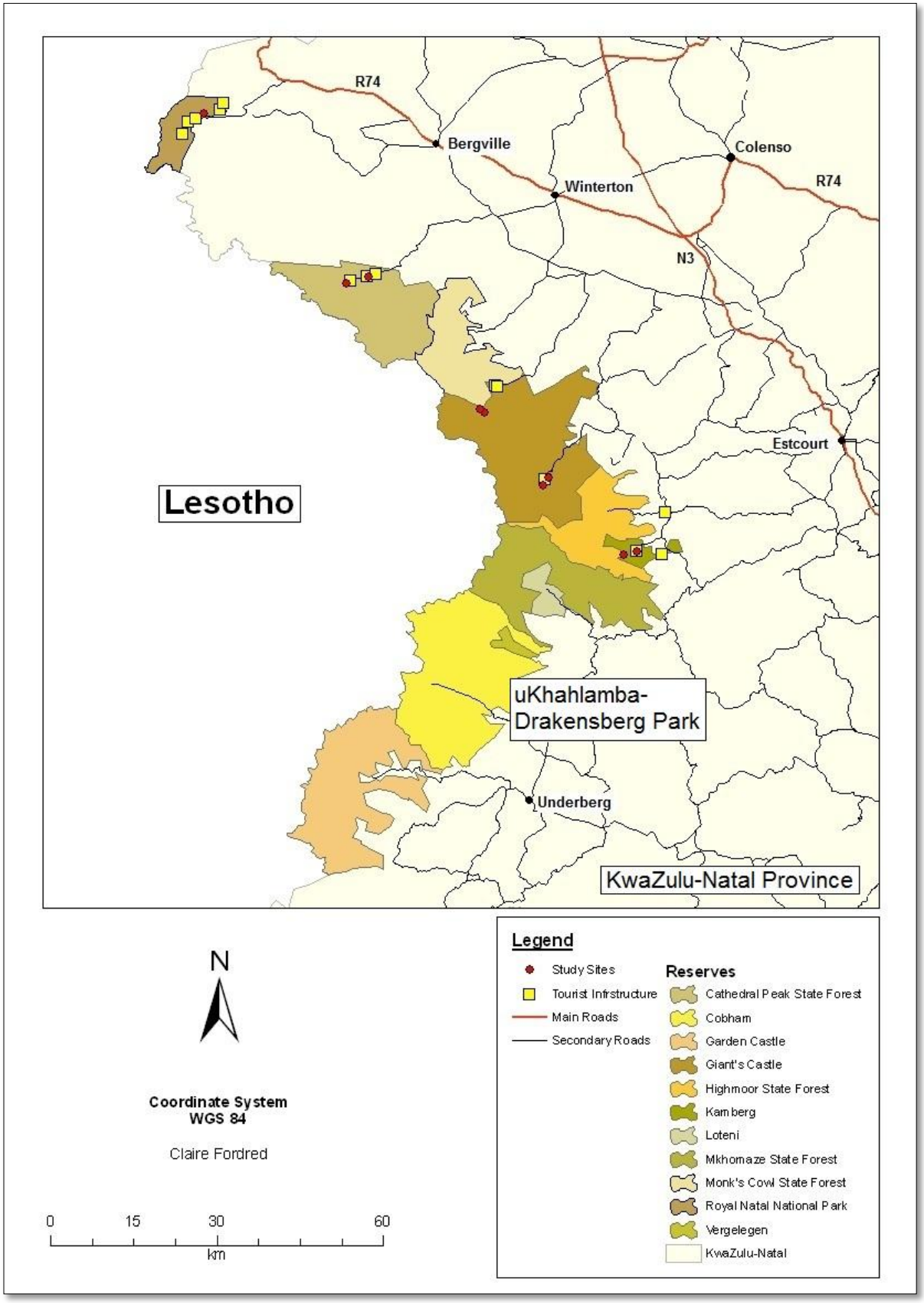
CHAPTER 2: THE UKHAHLAMBA – LANDSCAPE AND PEOPLE

Here, this Chapter introduces the physical landscape of the uKhahlamba-Drakensberg Park (UDP) and a brief history of the people that have lived in this mountainous region, focusing on the San. The Chapter aims to provide the reader with information to understand the context of the UDP and have a general impression of the study area.

2.1. The physical landscape of the uKhahlamba-Drakensberg Park

The origins of the Drakensberg Mountains date back to when it was part of the Gondwanaland land mass (Pearse, 2006; Wright & Mazel, 2007). Over the past 250 million years or so, the Drakensberg has formed and re-formed (Briggs, 2006) (Fig 2.1). Using an appropriate archaeological metaphor, layers of history and meaning have been added to this landscape. The Chapter will unfold using this metaphor explaining the formation of the physical landscape of the UDP and the people that have settled in the area, ending with the current situation. The Drakensberg Mountains is one of South Africa's most spectacular mountain ranges covering an area of 242 813ha (Porter, 1999). It extends from the north eastern parts of South Africa southwards to the border of KwaZulu-Natal Province and Lesotho, continuing into the Eastern Cape Province. An accumulation of reserves make up the UDP, which is a small part of the Drakensberg Mountains (Map 1 – see pervious Chapter and Map Appendix) (Map 2).

The Drakensberg itself is an inland mountain range with a diverse topography with physiographical features, altitudinal range and biological diversity (King, 1972; Porter, 1999). The most western part of the park lies at 29º 45' E and extends to 28º 52' E, the most northern area is located 28 38'S and extends to 28º 46'S and the southern part lies between 28º 55'S and 29º 55'S (Porter, 1999). The mountain range's altitude varies from between 1400 and 3000m above sea level (a.s.l) and is positioned between 100 and 300km from the Indian Ocean (Schulze, 1979). The Drakensberg range comprises of two rock types, it is capped with hard dark igneous basalt that has been eroded to form steep cliffs with a softer rock type below called Clarens Formation sandstone (Willcox, 1956; Vinnicombe, 1976; Mazel & Wright, 2007). The sandstone erodes easier than the basalt creating over hangings where the San left their art located between 1600 and 2000m a.s.l (Lewis-Williams & Blundell, 1998; Hoerlé, 2006).



Map 2. Location map of the reserves that make up the uKhahlamba-Drakensberg Park.

The Drakensberg area was once made up of separate game and nature reserves that were combined together as one (World Heritage Site) WHS in 2000. The UDP is made up of 12 protected areas/national parks and equivalent reserves (Table 2.1). A provincial conservation authority known as Ezemvelo KwaZulu-Natal Wildlife (EKZNW) manages the park (Briggs, 2006). Four areas of the UDP, Mdedelo, Mkhomazi, Mzimkulu and Mlambonja are proclaimed as Wilderness areas representing 117 765ha, 48, 5 % of the UDP (Porter, 1999).

	Area Name	**Year of Proclamation**	**Area (ha)**
1.	Cathedral Peak State Forest	1927	32 246
2.	Cobham State Forest	1927	30 498
3.	Garden Castle State Forest	1951	30 766
4.	Giant's Castle Game Reserve	1903	34 638
5.	Highmoor State Forest	1951	28 151
6.	Kamberg Nature Reserve	1951	2980
7.	Loteni Nature Reserve	1953	3 984
8.	Mkomazi State Forest	1951	49 156
9.	Monk's Cowl State Forest	1927	20 379
10.	Royal Natal National Park	1916	8 094
11.	Rugged Glen Nature Reserve	1950	762
12.	Vegelegen Nature Reserve	1967	1 159
		Total	125 048 ha

Table 2.1. The reserves that make up the uKhahlamba-Drakensberg Park (Porter, 1999).

From these twelve reserves, nine study sites were selected in four reserves for their tourism development, rock art sites that are open and closed for visitation. Rock paintings weather at an uneven rate and one of the key reasons for this is the geology of the area where rock art is found.

To understand this better, the geology of the Drakensberg needs to be examined. Geology refers to the nature and formation of rocks and minerals (Huggett, 2003). The Drakensberg geology is relatively simple as it is predominantly made up of igneous and sedimentary rock layers that lie more or less horizontally (Irwin *et al*., 1980).

2.1.1. The Geology of the uKhahlamba-Drakensberg Park

The formation of the Drakensberg escarpment is linked to the geomorphic history of the subcontinent, including the division of the Gondwanaland super-continent (Pearse, 2006). The Drakensberg Mountains represent an outstanding example of the formation of an escarpment, in terms of the processes and geological sequences that formed this escarpment (Porter, 1999).

Drakensberg geology is characterised by a *"thick sedimentary succession which is capped by an accumulation of basaltic lava, comprising the upper part of the Karoo Supergroup succession which has a composite thickness of up to 700m"* (Porter, 1999:16). The Drakensberg was shaped and moulded primarily by the flowing water of the past, but also through wind and other forms of erosion (Irwin *et al.,* 1980). The rivers found in the UDP today flow throughout the year and have their source in the high basalt peaks of the mountain range (Hatch, 2010). The Beaufort Group (Fig.2.1) is exposed at the foothills of the escarpment and are characterised by sandstone and mudstone, which currently forms low cliffs along a river course (Porter, 1999; Hatch, 2010). The Molteno Formation overlies the Beaufort Group forming predominate scarps (Lewis-Williams & Dowson, 1992; Hatch, 2010). The Elliot Formation is exposed below the sandstone cliffs of the Clarens Formation, in the hill slopes, which is about 250m thick (Porter, 1999). The sandstone succession is 150m thick. The high Drakensberg comprises of basalt units up to 1370m thick (Porter, 1999).

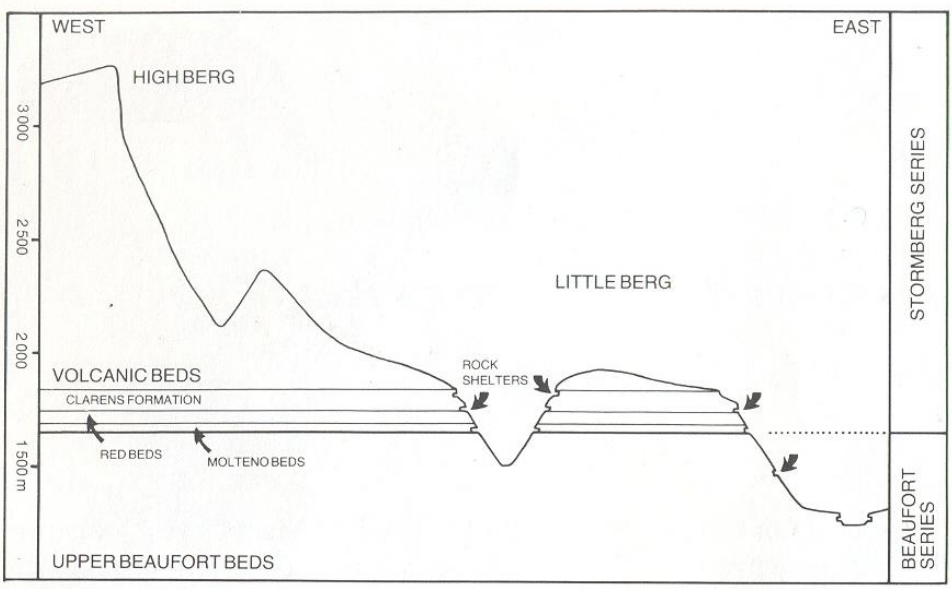


Fig 2.1. A representation of the geology of the uKhahlamba-Drakensberg Park (Lewis-Williams & Dowson, 1992).

It is this Clarens Formation that is most germane to this project. Sandstone is a sedimentary rock that is a product of the weathering of igneous, metamorphic and sedimentary rocks (Loubser, 1991). It is a combination of weathered quartz grains and the insoluble products of rock weathering (Loubser, 1991). The Clarens Formation is made up of a high proportion of an Aeolian deposit, which has been laid down by the wind; the cross-bedding is an indicator of this (Truswell, 1970; Irwin *et al.,* 1980; Meiklejohn, 1994). It is thus a combination of siltstone and medium-grained sandstone, making it soft, crumbly and less resistant compared to other rock types (Hatch, 2010). Indeed, its original name was 'Cave Sandstone', mainly because of the occurrence of shallow overhangs and shelters (not caves proper) found in this rock layer (Truswell, 1970) (Fig 2.2). These shelters are prone to weathering, thus the deterioration of rock paintings (Rudner, 1989; Batchelor, 1990; Lewis-Williams & Dowson, 1992; Meiklejohn, 1994).

Fig 2.2. An example of a sandstone rock art shelter - Game Pass Shelter (Photographs: C.L. Fordred).

2.1.2. The Climate

Climate is a major factor shaping the environment, influencing weathering rates and temperature (Gore, 2005). Climate is regarded as the average daily weather pattern recorded over a time span of at least 30 years, while weather is the day to day state of the atmosphere (Tyson *et al.,* 1976; Schulze, 1997). The Drakensberg once endured near-glacial conditions between 15 000 and 26 000 years ago, with an average temperature of 5ºC lower than experienced today (Wright & Mazel, 2007). Subtropical anticyclones influence the climate in the Drakensberg; this determines atmospheric stability of subsiding air which creates dry winters and wet summers. In summer, the subsidence inversion rises above the escarpment creating an influx of humidity blown from the Indian Ocean in a south-westerly wind forming

thunderstorms (Porter, 1999). The UDP's mean annual temperature is approximately 16ºC but varies considerably on a seasonal and diurnal perspective (Porter, 1999; UNEP, 2000; Hoerlé, 2005). During summer, temperatures can reach up to 35ºC on north-facing slopes at lower altitudes (Porter, 1999). The lowest temperatures can plummet to -20ºC at night on the summit plateau (Porter, 1999). Frost is common in the Drakensberg. During the winter season, the Drakensberg receives 70 to 80% of possible sunshine hours and 50 to 60% during the summer season (Tyson *et al.,* 1976). The UDP is one of the least drought prone areas in southern Africa (Tyson *et al*., 1976; UNEP, 2000). The summers in the UDP are warm and wet making moisture-dependent mechanisms more predominant and act as a perpetrator of rock art deterioration (Ollier, 1984; Lewis-William & Dowson, 1992; Meiklejohn, 1994). The annual rainfall in the UDP is 450mm in the southwest; 1000-1100mm in the northeast while the high Drakensberg receives 1800-1900mm (UNEP, 2000; Wright & Mazel, 2007). January and February normally experience the heaviest rainfall with the wet season being classified as the five wettest months of the year starting from November to March (Leuta, 2009).

Precipitation in these mountainous regions takes the form of rain, frost and snow which occasionally falls in the winter. Thunderstorms are common in the Drakensberg providing much of the summer rainfall; approximately 70 to 80% of the summer rainfall is orographic rain from thunderstorms (Irwin *et al.,* 1980). Thunderstorms can be divided into two types, the middle to late afternoon storms associated with a moisture discontinuity, moving across the country, generally from a westerly direction (Tyson *et al*., 1976; Irwin *et al.,* 1980, UNEP, 2000). Secondly, a storm that develops along the eastern edge of the escarpment (Tyson *et al*., 1976; Irwin *et al.,* 1980; UNEP, 2000; Leuta, 2009). Hail is uncommon in the Drakensberg on average being experienced only eight or nine times in a year (King, 1942; Tyson *et al*., 1976; Irwin *et al.,* 1980 UNEP, 2000). Schulze (1979) and Hoerlé (2005) describe lightning ground-flashes as regular in the Drakensberg and are the common cause of veld fires. San Rock paintings are thus exposed to a variety of weathering processes which accelerate the deterioration of paintings (Meiklejohn, 1994, 1997).

An important factor to note is that, the weather that the UDP experiences today differs from the type of weather that occurred at the various times when most of the paintings were estimated to have been painted. Therefore the paintings have experienced climate changes for perhaps the past 4000 years - in addition to the climate changes that are experienced today. Climate change and the effect it has

had on rock art would be an interesting topic to be researched in the future but is not a focus of this dissertation as there is not yet sufficient dating evidence for the UDP rock paintings.

2.1.3. Flora and Fauna

The effects of flora on paintings, is that it increases moisture content near the rock art, it brushes up against the art, the roots cause movement in the rock surface and lichen and moss sticks to the rock surface (Adamo & Violante, 2000). All of these have their own contributing factors, but all contribute to the natural deterioration of the paintings.

The Drakensberg's geology, climate, altitudinal range and the range of terrestrial physiographic features including wetlands, is the reason for the UDP's rich diversity in flora and fauna. Several other factors are related to the flora diversity, the past geomorphologic processes of uplift and soil erosion, the UDP's sub-continental position at the boundary between Cape and subtropical biota (Porter, 1999). These factors today support 2153 recorded plant species in the UDP (Porter, 1999) – a number likely to have been similar over the last 5000 years or so.

The Drakensberg mountains vegetation is divided into three belts according to its altitude, which coincide with three main topographical features, the river valley system, the spurs and the summit plateau. The low altitude belt falls between 1280-1830m with *Podocarpus latifolius* Forest community type and has diverse ranges of grassland and other vegetation community types. The mid altitude belt of 1830-2865m with *Passerina-Philipia-Widdringtonia* Fynbos as well as grasslands; fynbos, scrubland and woodland vegetation and the high altitude belt 2865-3500m with *Helichrysum Heath* as the different plant communities (Killick, 1990, 1997). The UDP is also the only true alpine tundra habitat in southern Africa with unique alpine tundra one of them being the *Erica – Helichrysum Heath* (Porter, 1999).

Another set of factors influencing the state of rock art is fauna, mainly brushing up against the art and urinating and defecating on and around rock art (Prinsloo, 2007). The rich diversity of flora parallels a rich assortment of fauna. The UDP is home to over 300 recorded bird species and 48 species of mammals (Anon, 2006). Common large mammals include the eland, mountain reedbuck, grey rhebok, grey duiker, klipspringer, bushbuck and oribi. The UDP's main predators are the leopard, black backed jackal, caracal, cerval, Cape clawless otter and the spotted

neck otter (Anon, 2006). Chacma baboons, porcupines, and colonies of rock hyrax are common throughout the park, while 30 species of amphibian, 18 species of lizard and 24 species of snake can also be found in the UDP (Anon, 2005; Anon, 2006).

2.2. The People of the uKhahlamba-Drakensberg Park

The focus of this project deals with the San of what is today the UDP. Below is a broad human history of the UDP**.**

2.2.1. General human history

One especially complex animal is us, *Homo sapien sapiens*. Paradoxically we are both responsible for the creation of rock art and also had a hand in its destruction. It is important here to note that the UDP is in no way a 'natural' landscape – for the past 30 000 years or more it has been home to many different kinds of people and is thus an uncultured landscape (Ingold, 1989; Ouzman, 1998). A cultural landscape "*embraces a diversity of manifestation of the interaction between humankind and its natural environment*" (Porter, 1999:13).

The UDP is not only important because of the cultural heritage of hunter-gatherers whose modern ancestors we call 'San', but of a diversity of groups including Bantu-speakers and European settlers. In other words, we are dealing with more than a layering of history; we are dealing with an 'enfolding' of people and landscape. Though this Chapter presents human history chronologically, from the oldest to youngest, one must remember that the older periods tend to be viewed through the lens of more recent, European settler history. Since the 1800s, these settlers came across the relics and artefacts of the UDP's past and tried to contextualise them within familiar frames of reference (Hone *et al.,* 1998). The systemisation of history and archaeology combined to piece together these artefacts into a series of synchronic stories about the UDP's past. The first excavation in the Drakensberg was conducted by Evans in 1905, followed by work by Wits University in the 1930s (Wright & Mazel, 2007). The irony here is that this interest in the San occurred only after they had ceased to inhabit the area as viable groups, though individuals were absorbed into, for example Nguni-speaking groups, and some of these descendants have since 'come out' about their San ancestry (Prins, 1994). Over the last 30 years archaeological and rock art research – much of it emanating from Natal Museum – has greatly expanded our knowledge of the Drakensberg's archaeology (Vinnicombe, 1976 & 1996; Mazel, 1982; Lewis-Williams & Blundell,

1998; Mazel, 2008). The gist of this research suggests an absence or at best very light presence of Early Stone Age artefacts – roughly the period 250 000-3 million years ago (Wright & Mazel, 2007). This is probably because our hominid ancestors such as *Homo habilis* and *Homo ergaster* preferred open plains and shied away from rock shelters, thick forests and mountainous terrain that characterised the Drakensberg (Pearse, 2006). Indeed in times past forest cover was often much thicker than today (Pearse, 2006; Hone *et al.,* 1998).

Our first clear evidence that humans arrived in this challenging landscape came sometime in the Middle Stone Age (MSA) anywhere between 30 000 - 250 000 years ago (Lewis-Williams & Dowson, 1992; Wright & Mazel, 2007). Materialised in the form of stone tools, the MSA is a vital period of our species history in which it is thought that quintessential human traits such as art, syntactical language and symbolic thought, developed (Hone *et al.,* 1998; Mitchell, 2002). The MSA evidence is, however, sparse and the most abundant evidence of human occupation comes from the Later Stone Age, which lasted from 25 000 years ago, well into historic times; an overlap that exposes a problem with simplistic chrono - or techno-centric definitions of ages and epochs when there is, for example frequent overlapping and palimpsest (Smith & Ouzman, 2004). Associated with hunter-gathers, who have latterly been known as ‘San’ or, as Patricia Vinnicombe calls them – based on ethnographic evidence - ‘People of the Eland’ (Vinnicombe, 1976; Pearse, 2006).

Their history is manifest in the many thousands of stone tools, food remains and rock paintings that have been found by archaeologists and others. The rock art forms the bulk of ‘berg art – the ‘classic’ polychrome eland, medicine dances and imagery relating to San shamanism. Exceptional finds include the San hunting kit found at Eland Cave in 1926 by Johannes and Anton Lombard who were grazing sheep in the area, and 1900 year-old pottery possessed by San discovered at the Collingham Shelter (Wright & Mazel, 2007). Artefacts and sites from 8000-1600 years ago are especially numerous, after which many hunter-gatherers moved into the Thukela Basin to interact more closely with Nguni-speaking farmers; returning the northern ‘berg’ around 600 years ago – more-or-less at the same time Bantu-speaking farmers moved in to the ‘berg’ proper (Porter, 1999; Coulson & Campbell, 2001; Wright & Mazel, 2007). These farmers lived in clustered homesteads; often with stone-walling, which created small villages that were self-sufficient - their middens containing a rich material culture – pottery, bones, beads, occasional discarded iron implements and copper jewellery (Wright & Mazel, 2007). From these

towns, as well as those established several hundred years earlier along the east coast of what is today KwaZulu-Natal is where today's Nguni groups established their identity (Pearse, 2006). These people enjoyed a variety of interactions with the resident San; that ranged from paying first rites' tributes, to trade, intermarriage and raiding (Lewis-Williams, 1992; Wright & Mazel, 2007). However, just prior to European arrivals in the late 18th century, Nguni-speaking farming communities were preoccupied with political and social changes amongst each other and neighbouring chiefdoms – a period of internal turmoil, known as the Mfecane took place (Bassett, 2001; Pearse, 2006). Factors causing these changes included the increase in population, political change and competition for land, which resulted in a period of conflict between the late 1700s into almost the 1850s (Wright & Mazel, 2007).

Major chiefdoms fought an accomplished attack on the Ngwane and were conquered by the Zwide chiefdom in 1810 while in the 1820's Shaka attacked the Chunu, chasing them out the area (Anon, 2006; Pearse, 2006; Wright & Mazel, 2007). During this time, the San moved to the foothills where new farming communities were developing; and established symbiotic relationships, including networks of trading and raiding across the land (Porter, 1999; Wright & Mazel, 2007). San rock art charts these interactions through depictions of rain-making and the first appearance in the art of domestic animals and non-San. At this point and, indeed, for all the uKhahlamba's human history, one must not forget what is today Lesotho, which many San and others used as part of their landscape of social, economic and religious connections. By the 1830s an escalating number of Boers (Afrikaans farmers) and English settlers moved into the mountains which caused great land, resource and ideological pressure on the San (Lewis-Williams, 1992). The large-scale arrival of Boers known as Voortrekkers who had left the British-occupied Cape Colony to seek independence caused considerable disruption (Willcox, 1956, Briggs, 2006). In the 1840s the Boers were involved in overthrowing Dingane and helping the Mpande leader to become the king of the Zulu's in return he permitted the Boers to occupy an independent piece of land near the Thukela (Pearse, 2006; Wright & Mazel, 2007). To stop Boer independence, the British imperial government annexed areas east of the Drakensberg and set up an administration in Pietermaritzburg from 1849-1851 where from 5000 British settlers entered the area (Wright & Mazel, 2007). The UDP had now changed from a sheltering and spiritual landscape, to a contested one. Stock raiding, wars between colonial government and numerous multi-ethnic groups, San and Bantu-speaking farmers from 'Nomansland' in the south to beyond Harrismith in the north, led to different parts of the landscape being used and bearing

traces of the activities of these times (Porter, 1999; Lewis-Williams, 1992). Defensible refuge sites and mountain passes into Lesotho and prime grazing areas where cattle edged out eland represent such places. For example, looking up towards Main Caves is 'Rock 75' where Lieutenant-Colonel Anthony Durnford's 75th Regiment – tasked with bringing Chief Langalibelele to colonial 'justice' - made their own rock art by deeply carving a '75' into the rock (Holiday, 1971; Lewis-Williams & Dowson, 1992). The late nineteenth century was a period of clearing the land - which included the hunting down and displacement of San, Bantu-speakers and multi-ethnic groups. Part of this displacement happened via the dramatic decrease in larger game animals through hunting and the conversion of 'wilderness' to pasturage (Hedges, 1993; Bassett, 2001).

This trend continued when the British annexed Natal in 1843 – though the 'berg' would remain a frontier zone until late into the 1800s. The annexation of Basutoland took place in 1868 and parts of eastern Griqualand by the end of the century (Wright & Mazel, 2007). By this time the famed *'Bushman raiders of the Drakensberg'* (Wright, 1971) had become clients of the BaSotho, and their rock art had adapted to show scenes of colonial violence as well as new animals and technologies – horses, guns, hats and so forth (Lewis-Williams, 2003; Wright & Mazel, 2007). The opening of a police post at Mokhotlong marks the closing of the UDP as a frontier region. A period of new developments, technologies and artefacts spread across the Drakensberg in the form of new houses, wagon tracks, fences, dipping tanks and the development of small villages with magistracies and trading stores on the fringes of the foothills of the Drakensberg (Porter, 1999; Pearse, 2006; Wright & Mazel, 2007). Railways were laid across the Natal province and the means of motor transport provided access to the foothills removing a sense of "remoteness" from the Drakensberg Mountains, this was the beginning of tourism development linked to the increase in numbers in the 1930s and 1940s of people living in the bigger cities (Porter, 1999; Pearse, 2006; Wright & Mazel, 2007). The notion of a finite and fragile 'nature' led to a broad awareness of the need for nature conservation and the management of cultural heritage; which led to the 'Bushman Relics Protection Act' in 1911- and act specifically concerned with rock art preservation (Deacon, 1994). Gradually, different regions of the Drakensberg were proclaimed as nature reserves with Giant's Castle Game Reserve being the first to be proclaimed in 1903 (Porter, 1999; Wright & Mazel, 2007). After World War II, South Africa's prosperity – at least for whites - spurred tourism and private development in the Drakensberg, leading to the 1947 formation of what became the

Natal Parks Board (Pearse, 2006). After elections in 1994, important shifts in the official policies of labour, land rights, welfare and conservation developments led to the 1997 merger of the Natal Parks Board and the Nature Conservation Department of the former Bantustan to form Ezemvelo, (Rogers, 2002; Wright & Mazel, 2007).

The settling of Bantu, Afrikaans, English and multi-ethnic groups in the Drakensberg had an impact on the mountain range by imprinting onto the landscape their names for people, places, mountain peaks and rivers. For example, the Boers named it the 'Drakensberg' - meaning Dragon Mountains after their trek of the fierce dragon back landscape (Derwent, 2000). While English-speakers prefer to call the area simply 'The 'Berg'. (Briggs, 2006). The AmaZulu who live in the shadow of the mountains call this mountain range the 'uKhahlamba', or 'barrier of spears' a term that imitates the sound of spears beaten against the war shields (Bright, 2005; Derwent, 2000). We do not know the San names for this area and probably never will. The twenty-first century has brought development and the shift from conservation *per se* to conservation that pays via tourism. The Drakensberg is portrayed and marketed as a destination for people interested in natural and cultural heritages (Ezemvelo, 2005). The Drakensberg as a physical entity changes extremely slowly, but the way in which it is perceived can change quickly and radically. For example, some people consider the Drakensberg a mountain to climb and or an outdoor destination. Others see only the birds; others still remember it as a place of dispossession and a few are drawn to its cultural heritages; notably rock art. What follows is a description that provides more depth on the people responsible for the bulk of Drakensberg rock art – the various San communities of the past – this has been included because this contextual approach impacts significantly on our current ideas and decisions in relation to managing rock art.

2.2.2 The San communities

All continents have indigenous people who have formed relationships with the land in order to stay alive. The seemingly 'natural' landscape is essential to their survival in both practical and mate-physical ways. We have, through research and despite an often horrific imperial and colonial history, come to understand some of the beliefs and life ways of these indigenous people (Tacon & Faulstich, 1993). Hunter-gathers are non-farming people – at least traditionally - whose survival was based on foraging and hunting for food (Johnson & Maggs, 1979; Vinnicombe, 1996; Whitley, 2005). The term 'Bushman' has had a derogatory connotation especially in

the southern African context for San people. For example, when the first European settlers arrived at the Cape they came across hunter-gathers speaking a language of clicking sounds. The Dutch called them “Bosjemans” in English meaning Bushmen (Lewis-Williams, 1990: 87). But history alters with different terminology and view points as time progresses (Deacon, 1994). A meeting was held in Johannesburg in June 1971 where archaeologists, historians, anthropologists, linguists and human geneticists came together.

It was agreed to use the term ‘San’ instead of Bushman when referring to the Bushman’s physical type (Tanaka, 1980). Solomon (1998: 7) describes the term San of becoming a “linguistic label” relating to the languages they speak and not because of physical aspects, which was described and misused with the term ‘Bushman’. Some researchers prefer the term ‘gatherer-hunter’ to foreground the fact that most – up to 70% of the historic San diet came from plant food, a domain of females, rather than the more talked about (but less productive) hunting by males (Solomon, 1998). Ideally, we should refer to each group by the name they gave themselves - their ethonym - but in almost all cases this is impossible, necessitating overarching terms like ‘San’. Today the exonym ‘San’ portrays indigenous people of southern Africa. These people have historically lived all over the southern parts of Africa in an astonishing variety of groups – for example, many San languages are mutually unintelligible. There is thus no single ‘San’ group - rather a wide variety of groups living a gathering and hunting way of life that predisposed them to a custodial ethos over land and resources and a shamanistic form of belief. These San knew the landscape well and planned their movements and locations seasonally to find food sources, the availability of water and where the lush grasses grew, where they would find herds to hunt at the right times of the year, to visit sacred sites and maintain spiritual resources - they were thus not aimless wanderers (Solomon, 1998). In terms of social organisation San lived both in nuclear families and larger agglomerations of such families. Physically, there was wide variation that belies the stereotype of short, yellow-skinned people, though the Drakensberg San do appear to have been of this type. Social-spatial organisation revolved around a three-part universe. The first part was their living space where people lived and was a place of safety, order and where rituals were preformed (Lewis-Williams & Blundell, 1998). The other two parts included the surrounding areas for hunting and the waterhole. The spiritual world was an intangible part of their life where it was found below or above the material world (Lewis-Williams & Blundell, 1998).

The San integrated their daily activities, religious beliefs, natural and supernatural realms in their art either through paintings or engravings. Since rock art was done by indigenous people it has been stereotyped as being done by 'primitive people' (Lewis-Williams, 1988; Coulson & Campbell, 2001) and their art has been looked upon as 'child-like', at least in colonial times. Indeed, this denigration was not just conceptual; it was also physical. The arrival of the European colonists had a highly destructive influence on the San from the way they were perceived to contributing to wiping out the San in the Drakensberg. Most Boers and English-speakers saw them as thieves and robbers, building a negative connotation and hunted down the San (Yates *et al*., 1990). The San people slowly disappeared during the nineteenth and early twentieth centuries; many fled to the high mountains and Lesotho while others were absorbed into farmer communities or became wage labourers for white farmers. Today, the remaining 120 000 or so San live in Angola, Botswana and Namibia, usually in impoverished contexts, with small groups in South Africa (Solomon, 1998; Whitley, 2005). Indeed, their rock art was not a passive chronicling of events – it was deeply involved in trying to manage and influence those events. The following are characteristics of UDP San paintings (Solomon, 1998; Porter, 1999; Lewis-Williams, 2003);

- diversity of subject matter, hunting, dancing, food gathering, fighting, ritual dances, animal and human figures;
- intricate detail, small images with lots of detail;
- monochrome, bichrome, polychrome and shaded polychrome techniques;
- The variety of positions of the subject matter.

Through the examination of the remaining paintings, we can see what they ate, wore, what equipment they used, and how they danced and played musical instruments (Willcox, 1956), in addition to highly politicised painted statements about land tenure and being-in-the-world. Indigenous people value rock art sites still today as they are sacred and are viewed as significant aspects of their culture (Whitley, 2005). Today we use the clues left behind by the San to understand their culture through their rock paintings which are protected by law.

2.2.3. Rock art - dating

Subject matters can help us date paintings by giving minimum time periods – for example, paintings of horses are unlikely to pre-date 1800 CE (Solomon, 1998). Yet for the main part, we have very few radiometric dates or 'numbers' for Drakensberg – and indeed South African rock art. Mazel and Watchman (2003) have

provided the most recent evidence dating the oldest known rock painting in the Drakensberg area to between 2000 to 3000 years ago with a majority of the images speculated to be around 800 years old; although a great deal more dating work is required to test this initial hypothesis. The subject matter in these paintings however, gives some clues to their dates. Paintings of European settlers in military uniforms and ox-wagons appear indicating a date of origin after the mid 1600s (Vinnicombe, 1976). One can also see paintings with horses; which only entered the Drakensberg area after the 1830s. Other paintings including British soldiers date back to around from 1864 when the British were in the area (Lewis-William & Dowson, 1992).Dating rock paintings is problematic as radiocarbon dating – even in its AMS form - depends on existing carbon to be dated (Vogel, 1995; Mazel & Wright, 2003). The basis of painting's paint is mostly made from inorganic substances, containing no carbon (Solomon, 1998). Individual images can only be dated if the paint was made from an inorganic ingredient, the method of dating is destructive and expensive and thus it is seldom used (Porter, 1999). If rock with paint on has been detached from the rock surface and has been integrated with deposits, other organic materials including charcoal can be dated suggesting when the rock must have detached from the shelters wall. A technique that has been used in the UDP dated the oldest painting from a rock shelter surface as being 2400 years old (Porter, 1999). Other paintings are easier to date as the subject matter helps to determine the time period (Lewis-Williams & Dowson, 1992). Superimposing of paintings is also another way to determine what paintings are older than others in a relative sequence (Dowson & Lewis-Williams, 1994).

2.3.3. Rock art - meaning

With the help of past research and extensive discoveries of rock art, today we have a better understanding of it especially with the help of Joseph Orpen who explored San beliefs as far back as the 1870s (Lewis-Williams, 2003). In the nineteenth century, Wilhelm Bleek, Lucy Lloyd and George William Stow also played important roles in laying the foundations for our present understanding of San rock art paintings (Lewis-Williams, 2003). All of this research would not have been possible without the help of the remaining San people being willing to talk about their beliefs and lifestyles (University of Cape Town, 2009). Unlike earlier views that the art was a simple record of daily life or a natural outpouring of talent, we now understand that the San painted because it was part of their religion and symbol system - a highly variable and often idiosyncratic set of beliefs known as

'shamanism'. Shamanistic beliefs centre on medicine people's interactions with a Spirit World. In southern Africa, the San artists used the rock surface as a veil or a portal that opened up into the spiritual world (Lewis-Williams, 2003). The paintings are thus not simple 'images' - in an understanding they were Spirit World Beings emerging into this world from behind the rock. It was in the 1870s that this new understanding of San rock art began to emerge through the research of Bleek and Lloyd's, but fell fallow for a century until the 1970s, when researchers such as Pat Vinnicombe and David Lewis-Williams examined San ethnography. This examination led to a realisation that the rock art revolved around supernatural, religious activities such as the rain making dance, female initiation and medicine rituals (Lewis-Williams, 2003). Some of these activities consisted of hallucinations that were experienced during a trance state. Paintings of therianthropes depicted this half human/animal state of unconsciousness (Solomon, 1998; Lewis-Williams, 2003).

Lewis-Williams & Dowson (1990) described their aesthetic approach and narrative approach when painting. He also suggests that one should never see the San's art as a series of literal photographs of what happened in their lives (Lewis-Williams, 1990). The concern of today is however to be able to see this art, as most paintings are inaccessible, fading or covered by graffiti. Many visitors to rock art shelters are unfamiliar with the way in which they need to look at the paintings and don't understand half of what the paintings are trying to tell them. The westernised behaviour of looking at a framed piece of artwork has been stereotyped around the world, with one naturally looking at the most important part of the art work (Lewis-Williams & Dowson, 1992). The fact that rock paintings are not framed makes it hard for many to grasp where to start looking (Lewis-Williams & Dowson, 1992). A good tip when viewing rock art is to be patient, take time to look at the rock art cluster and what the paintings are trying to depict will become easier (Deacon, 1994) - and go with someone who is informed. For more information on the interpretation of rock art in South Africa see work done by David Lewis-Williams (Lewis-Williams, 1983; 1986, 1990, 2002, 2003; Lewis- Williams & Dowson, 1992; Eastwood, 1994; Lewis-Williams & Blundell, 1998; Lewis-Williams & Clottes, 1998). The study of archaeology and anthropology has provided us with what we know about rock art today. Future research will take rock art studies to a new level of understanding as there is still plenty to understand and to interpret from rock art, this knowledge is key to our decisions about managing our rock art heritage. Now that a broad overview of the selected study area has been discussed as well as the San, the methodology used in this project can be described.

CHAPTER 3: THEORETICAL MATRIX AND METHODOLOGY

The aim of this project is to assess the intricacy of archaeo-tourism and its immediate impacts at different rock art sites in the uKhahlamba-Drakensberg Park through an analysis of management and conservation methods. The objective of the study was to analyse the current conditions at all nine selected study sites according to the three previously mention criteria looking at; site and art deterioration, tourism, management and conservation. Bear in mind that the rock art centres are described as a selected study site in this project but do not have similar aims as of the physical rock art sites i.e. aiming to conserve the rock art sites not centres. Chapter 3 discusses the methodological approaches explaining the way in which the study was conducted - which provided the groundwork of this study and the results in Chapter 7 'Sites and Results'.

3.1. Theory and research methods

There is no specific theory that can be pinpointed that would create the bodies (essence) of theory used in this project; this is mainly because rock art is such a diverse topic that can be researched from many different angles. This project's approach was thus undertaken to look at various studies and research on rock art including topics of conservation, management, tourism and development. The study is mainly a quantitative and the topics involved, lack directed theoretical weight and reflexivity. Due to this, difficulties arose linking observations and methods to similar studies. These topics are elucidated in the next four Chapters with the help of case studies and surveying for each focus which were necessary to define and understand in order to observe the rock art sites in a holistic approach to formulate correct observations and results for this study. Techniques and processes found in the literature were applied in this project which helped to evaluate the selected study sites (Deacon, 1993; Whitley, 2001 & 2005).

Recording and documentation as a means of conserving rock art

Rock art is recorded by people with personal interests such as amateur archaeologists, for ecotourism and for inspiration for artists, television/film crews, novelists, and for commercial tour operators for brochures (Loubser, 1991). These recordings are not without their physical and ethical problems such as the San demanding to be paid royalties and issues regarding non-San profiting from San art (Deacon, 2006). Methods of recording paintings include: tracing, redrawing, photographing, a written description, 3-D scanning, stereo-photos and scale

drawings (Johnson & Maggs, 1979; Loubser & den Hoed, 1991, Whitley, 2001 & 2005). These recording activities especially tracing – which involves coming into direct contact with the art should only be done by trained professionals with a strict set of guidelines and protocols (Whitley, 2001). Once these recording methods have taken place, they can also be used for site management and not only for research and documentation (Hoerlé, 2005). When first arriving at a site that has not been previously discovered and documented and after the necessary permission has been obtained to visit the site - fieldwork takes place. Fieldwork includes mapping the site, narrative recording of the site, graphic documentation, photographing, drawn data and general recording the rock art sites and clusters (Whitley, 2005). Rock art data collection has three main principles, site mapping, narrative recording and graphic documentation of the art (Whitley, 2005).

The site is recorded firstly as a whole using the same recording site forms and methods, given for each region and specific project (Deacon, 1993). The site recording is a summary of the site as a whole along with site mapping. The next narrative recording step is to record each cluster of rock art and its details (Whitley, 2005). Graphic documentation is the key to recording rock art correctly and is the main step in field research and recoding rock art data. It involves taking notes on key factors such as (Whitley, 2005):

- Aspect and orientation: in which direction is the art panel is facing, is its positioning vertical, horizontal or a combination of both;
- Superimposing: if there is an overlay of paintings present at the site;
- Natural features: are there natural features such as cracks, rock irregularities or other features the artists have used in their paintings;
- Condition: generally of the art panel, and;
- Graffiti and vandalism: is it present at the site.

Documentation techniques vary, depending on the location of the site, condition and the nature of the art. Today's techniques have advanced greatly with the introduction of 3D laser scanning unfortunately this is expensive and only used in some countries and sites (Whitley, 2005). Archaeological research and techniques can be very destructive during the excavating of sites, radiocarbon dating and burning of samples (Whitley, 2005). The destructive nature of archaeological research has been justified with worldwide consent but with adherence to strict guidelines – namely the permit system that has been in place in South Africa since

1969 (National Heritage Resources Act, No 25 of 1999 – section 35) (Solomon, 1998; SAHRA, 2000; Whitley, 2005). Photography is used as a means of recording rock paintings but is not always ideal when trying to document surface deposits such as dust, oil from livestock bodies and water-borne surface salts (Bassett, 2001). Rock art photography is essential as it allows for different shots and angles to be taken of the panels, the whole site, gives a general idea of the size of the site, and compliments the graphic documentations and narrative recordings. Photography of the site can be used as evidence to show vandalism, site degradation and the natural processes of weathering (Whitley, 2005). Photographs are useful when evaluating the site conditions and changes over time (Leuta, 2009).

Deacon (1993) explains that standard record forms are used for rock art site. From these forms, a general assessment is made about the condition of the painted surfaces as well as the degree of the weathering of the rock surface – based on the effects of natural impacts, graffiti and the relative clarity of the paintings (Deacon, 1993). The assessment includes an approximate number of paintings and the subject matter and briefly discusses the suitability of the site for visitors to visit (Deacon, 1993).

However, rock art conservation needs to be interrelated with nature conservation as the environment is an important part of site and the recording process thus a multi-disciplinary approach is best suited when recording a site (Loubser, 2001; Swadley, 2002). Site recording forms are used for different regions and for different specific projects. They can be added to the standard site recording form which is completed before the site specific forms (Whitley, 2005). Specific forms are used during documentation and mapping (Whitley, 2005). Conservation is part of the site management process but is not identical to it (Whitley, 2005). Whitely (2005) describes site management as something that commonly works with conservation, including the human access to the site, the use of the site and regulating visitation. According to Clottes (1997) conservation of rock art can be grouped into categories as measures for this heritage's preservation: inventory and documentation of rock art. In some cases, recordings and documentations are all we have left today of sites that have already disappeared due to rock and painting deterioration. These documentations are well kept on a national, regional and even on an individual level (Clottes, 1997). Priorities in rock art conservation are the recordings and documentations of the art. From this the relative importance of rock art exemplars can be judged (Mazel, 1983; Loubser, 1991; Deacon, 1997). Clegg (1991) discusses

the need for different recording methods which best suit different conditions at rock sites and paintings. In Clegg's work (1991) it was pointed out that new recording methods are needed because every individual painting presents different challenges such as different:

- people recording the site;
- recording situations;
- resources;
- skills;
- equipment;
- time limits, and;
- different projects have different aims.

Deciding which recording technique to use is determined on the site and which technique will be best suited with the most minimal destruction. A primary technique is photography as it is practical and the most cost effective (Whitley, 2001). The most important issue to address with photography is the lighting and that photographs should be taken at different times of the day with different lighting conditions (Whitley, 2001).

3.2. Methodology

The aim of this section was to utilise recording and documentation methods in such a way to present the selected study sites, to match appropriate research methods. Achieving this involved collecting primary field data and consulting literature. The literature review for this study was compiled and obtained from studies undertaken in similar fields and regions, and was used in the analysis in supporting the results obtained. The literature review is seen throughout the project but mainly in the next four Chapters. The undertaken methods mentioned below were completed by the same person (I) in order to obtain consistency throughout the study.

3.2.1. Fieldwork

My rock art data collection, all of which was non-destructive and carried out with permission from Ezemvelo - took place using the three main principles (Whitley, 2005):

1. site mapping;
2. narrative recording, and;
3. graphic documentation of the art.

Fieldwork was an essential part of this study, which began with visiting the uKhahlamba-Drakensberg Park (UDP). When visiting each region of the UDP, the above mentioned criteria and factors were reviewed, evaluated and analysed to come up with results. Before visiting the selected sites, evaluation tables were drawn up to ensure that the same thing was looked at each site that was visited (Table 3.1).

The factors that were included in these tables for investigation were compiled using the existing criteria found in a standard site record form (Mazel, 1982; Deacon, 1993). However, the three main criteria investigated in this project – natural and human deterioration, tourism and management were used as baseline topics to also be analysed at the study sites. Thus from these three main criteria topics, eight tables were formulated to evaluate each site with (see Table Appendix). These eight tables address the following issues at each study site (excluding rock art centres):

1. Camp (accommodation and office area in the reserve) and rock art awareness;
2. On route to rock art site;
3. Upon arrival at site;
4. The rock surface and the paintings;
5. Weathering and deterioration of the surface and paintings – naturally;
6. General and intentional human impacts at a rock art site;
7. Tourism factors at the camp and rock art site, and;
8. Management methods at the site.

Once this was done, analysis of each rock art site took place looking at a number of factors under each site table for each study site (see Table Appendix). Site recording is a vital part of rock art research and as a management method as discussed in Chapter 6. Each site was recorded as a whole firstly using the same style of site record forms, tables and evaluation methods (Table 3.1). These site record forms are very useful especially when previous ones are used to evaluate the changes at the site and the rate of the deterioration of the art (Hoerlé, 2005). A site record form is not a scientific measurement of the state of the paintings. It is an overall assessment of a site to use for management and conservation purposes (Deacon, 1993). A site record form is commonly used in Australia and Southern Africa as seen in Whitley's work (2001; 2005), Pearson & Swartz Jr's work (1991) and Deacon's work (1993), it was seen as the most appropriate method to use in this project. Deacon (1993) did extensive work in the Cederberg region of the Cape and used a standard site record form with the assistance of the Department of

Archaeology at the University of Cape Town and the Archaeological Data Recording Centre at the South African Museum and the Natal Museum. From this, an adapted version of this standard site record form was made to suit this project and was used at each study site (Table 3.1). Refer to Table 3.1 as an example of the adapted site record form and the Table Appendix for all the site record forms/tables used for obtaining results in this project.

Factors of the camp's rock art awareness	**Game Pass Shelter**			
	Yes	**No**	**Likert rating**	**Comment**
Office with rock art information and awareness				
Poster on rock art site in the reserve				
Entry fee to rock art site				
Entry free advertised for site with visitation times				
Description of the difficultly of the route to site				
Rendezvous point for visitors to meet guide				
Pamphlets on rock art site				
Map to rock art site				
Shop with rock art souvenirs				
Shop to buy refreshments and snacks				
Toilet facilities				
Car park area				
Visitor's register for rock art site				
Rock art centre in the reserve				
Display, with pamphlets on the camp, rock art site, and other camps & activities in the surrounding				

Table 3.1. An example of one of the site recording forms/table used to analyse each study site.

3.2.2. A rating scaling system

In the essence of this study, only a general idea of the condition of the site and paintings was needed – using the knowledge I have obtained through research, visiting rock art institutions, museums and different rock art sites, especially in the uKhahlamba-Drakensberg Park. No detailed study of the paintings themselves was necessary. The aim of the study was to look at the impacts of tourism and developments and to investigate the management and conservation at the selected rock art sites. Thus, once the suitable site record forms were formulated and used to

analyse the selected study sites, it was necessary to develop a rating system to describe the site without going into great detail. The method used to rate the selected study sites came from a method known as the 'Likert' or 'Summative' scale method. The Likert method was adopted from a list of social research methods and is known as a unidimensional scaling method (Trochim, 2006). First, it is important to define what is being measured and in this case, the concept being measured is one-dimensional thus the use of this type of scaling method is ideal.

In this study, the conditions of the rock art sites were measured according to tourism impacts at the study sites looking at management and conservation taking place at the study sites too. A set of potential scale items were selected and formulated into the mentioned tables (see Table Appendix) these items were rated according to the Likert scaling method of selecting a scale that is of an odd number, for example 1-to-5 or 1-to-7 (Trochim, 2006). Odd-numbered scales have a middle value which is labelled as 'neutral' or 'undecided', this does not force the respondent to decide whether a factor is leaning more towards agree or disagree giving the study a broader understanding of the measured factors (Trochim, 2006). In the case of this project, the scaling variables were adapted to suit the study, by changing the scaling rating to a 1-to-6 scale (Table 3.2). An extra variable was included, as a scaling variable representing a factor that was being investigated as being non-existent or unknown at a site (rating scale of 1). The remaining scaling variable 2-to-6 used the Likert scaling method to achieve results that would not lean towards a one sided answer. The scaling measurements in this project used the following scale measurements (Table 3.2) (Trochim, 2006);

Variable	Colour	What it stands for	What it stands for when measuring a rock art site
1	Blue	Non-existent	Factor does not exist at the site or unknown
2	Purple	Strongly unfavourable to the concept	Low scale measurement
3	Green	Somewhat unfavourable to the concept	Average scale measurement
4	Yellow	Undecided	Not totally considered as high or low
5	Orange	Somewhat favourable to the concept	an improved measurement from the last
6	Red	Strongly favourable to the concept	The highest obtained measurement at a site, describing that the factor exists and has a high rating.

Table 3.2. Likert scaling method adapted to suit the selected study sites.

I decided to use this scale, as rock art is a subjective matter with everyone having their own perceptions on the condition and the rate of deterioration of the sites and paintings. The Likert scaling method allows one to broaden the flexibility of the degree or the rate of factors being measured at a site. It also provides an easier method of presenting the results of this study statistically. The Likert scaling measurements were taken and added together to create percentage graphs for each table (see Table and Graph Appendix). Each colour in the graphs, represented a variable scale rate. The highest scale rate being the colour red, with orange and yellow succeeding (these three variables indicating positive ratings), to green, purple and blue - which is the lowest rating scale (these variables decreasing in scale ratings) (see Table 3.2). An average graph was then made for each site; these graphs are in Chapter 8. They were formulated by taking every factor measured in all eight tables for each site, added them together to create a graph representing the different scaling measurement variables as percentages. The average graphs were decided on so to create a means of representing the overall result for each site.

3.2.3. Analysis of photographs

Throughout this study, photography was used at study sites and camps as it is an easy and accessible method to record paintings and is a well-understood though not necessarily an objective technique of recording rock art and its condition. Also, photography helped meet the project's objectives, representing the objective illustratively. Graphic documentation is the main step in field research, and recording rock art data varies according to the location and condition of the site (Whitley, 2005). As this study was a qualitative study, it was necessary to take as many photographs of the study sites as possible to use in conjunction with the site recording analysis. Photography is used around the world as a common method of recording. Rock art should not be touched even for research purposes, thus this non-direct technique of recording is ideal as it has obvious conservation advantages over other methods of recording. The main disadvantage of photography is that it does not show the true colouring of the paintings and because of this, many photographers resort in wetting the paintings to bring out the colours (Whitley, 2001). Challenges for accurate photography include (Wilcox, 1956; Leuta, 2009):

- light conditions that vary daily and seasonally;
- varying humidity conditions;
- inaccessibility to the best conditioned paintings, and;
- awkward angles at which the paintings are found.

Rock art photography is however essential as it allows for different shots and angles to be taken of the image clusters and the whole site and gives a general idea of the size of the site and compliments the graphic documentations and narrative recordings. Site photography can also be used as evidence to show vandalism, site degradation and the natural processes of weathering (Whitley, 2005). Photographs also provide an essential baseline record when evaluating site conditions and changes over time. The photographs taken in this study were not all taken in the same conditions as the photographs were only needed to represent the condition of the site and what management methods exist there (Whitley, 2001). As the most practical and the most cost effective way to record findings, photographs have been used throughout this study to visually represent the condition and development of sites. It is also a perfect means to use when comparing sites and compliments the written work with images.

The same camera was used to take all the photographs used in this project following the same sequence and protocol at each site using the same camera settings. No specific photographic format was applied nor were any of the photographs enhanced in any way. A prime goal in the photographing of the sites was to take photographs for each factor included in the eight mentioned tables at each rock art site. The photographs were then examined to fill in any missing gaps for the completion of the site assessment tables, then the photographs were analysed, sorted and selected for inclusion in this project.

3.2.4. Geographical Information System (GIS)

With today's advanced technology, Geographical Information Systems (GIS) is put to good use to generate location maps displaying fairly accurate site positions. GIS is a system that handles and processes data especially geographical data which is then processed to produce maps, tables, graphs and statistical information (Mason, 2003). It is a system that does data analyses, modelling and forecasting of different areas and situations. Also, it provides opportunities to experiment with the scale of the maps along with different techniques to display the final maps used in this project. With the knowledge and use of GIS, the potential to use this method in archaeo-tourism is incredible and should be considered as a conservation method for rock art in the future. Information on natural and cultural resources and human settlement is used in GIS for tourism development purposes too, integrating data from local, regional and national levels. All the maps in this study were created with

the use of GIS because of the above mentioned advantages (see Map Appendix – Maps 1-4). GIS provided me the opportunity to create my own maps with the necessary information on the maps for this project, for example; the region and reserve boundaries, nearby main roads, reserve camps and selected study areas.

Creating maps, using GIS is a more flexible method than the other manual, traditional cartography approaches and is becoming a tool that will be used in future cartography. Traditional maps were used in this project and were digitised/traced in order to be interpreted into a GIS that can become a cartographic database used for creating future maps at anytime, using the databases created – i.e. a rock art site database. I used GIS as it is a method that can organise information, linking common interested data field into one resource – producing the project's location and study site maps. By putting the necessary data together on one database, it was used to create multiple maps for different purposes of investigation. GIS can be used as a tool to analyse and query maps which helps in making observations and future decisions for other projects with the use of these created maps and databases. For example, by seeing all the necessary data on a map, one can make a decision on where a rock art site for tourism is suitable regards to the location of the site and other amenities in the area. Overall, GIS was an efficient way to integrate the necessary information to create different maps providing the location of the study area and sites. It also enabled one to see patterns of rock art tourism in the UDP.

3.2.5. Case studies

To achieve the aim of this project investigative research was undertaken on tourism, conservation and management of rock art sites and paintings. Below is a brief introduction and examples of the case studies that were used as part of my methods to reach my objectives and my aim for the entire project. Rock art is found all around the world, but the most researched countries in the field of rock art site protection management is Australia, France, South Africa and the USA.

It must however be noted that every rock art site, painting and engraving is unique to its own different setting; this will therefore entail different management methods for each site. Successful management measures implemented at one site might not work at another and should therefore always be tested first to ensure that our remaining rock art is conserved optimally. The literature research included looking at case studies of rock art research around the world; these studies were

helpful in understanding the range of approaches that take place in rock art management and conservation. These approaches and methods helped to provide a basis to compare what was taking place at the selected study sites in this study. Management and conservation methods that exist and that are working at other sites also provided suggestions to be used at other sites. In Chapter 7, the select study sites are compared with different study sites.

Gale and Jacobs (1987) did extensive research in Australia dealing with the reactions of visitors at rock art sites linked to the size of the rock art site and the size and age of the visiting group. In the United States of America a management programme provided a prime example of the increase in visitors to a site as an increasing environmental issue, which in turn provided management ideas that are applicable to South Africa's rock art sites and in particular to the selected study sites (Pilles, n.d). Throughout this study the use of previous rock art research has been used to aid the analysis of the results.

3.3. Study sites

Visits were made to various rock art sites, museums and institutes to gain a general acquaintance of rock art sites and a general knowledge of rock paintings. Museums that were visited outside the UDP over the period of this study were the Origins Centre - Wits Rock Art Research Institute in Johannesburg and The National History and Cultural Museum in Tshwane/Pretoria.

Nine study sites were selected in different Ezemvelo camps that had nearby rock art sites that could be analysed for this project (Table 3.3). These sites were visited and analysed in order to reach the project's aim and objectives. The UDP is divided into the Northern, Central and Central/Southern Drakensberg (Map 1-4, see Map Appendix). Each region was visited to gain knowledge and a feel for the tourism development and the tourism effects that were taking place in each area.

Archaeo-tourism was primarily investigated looking at which region had the greatest tourism development linked to rock art tourism. In conjunction with visits to rock art sites, related institutes, tourism offices and a literature research was done to attain a satisfying perspective of the type of tourism that is advertised in the UDP.

Study sites	Northern UDP	Central UDP
• Rock art centre	1	1
• Sites developed for tourism	2	3
• Sites that are non-developed	0	2
Total:	3	6
	Study site total:	**9**

Table 3.3. Summary of selected study sites

From this initial investigation, the desired study sites were selected with the following factors being taken into consideration to form the site criteria:

- study regions where there is the most rock art tourism in the UDP;
- sites, advertised as open rock art sites roughly in each section of the UDP – north, central and towards the south;
- rock art sites that were not developed for tourism, and;
- all interpretive/rock art centres in the UDP.

After visiting and researching each area in the UDP, taking the above mentioned criteria into consideration, it was concluded that the northern and central parts of the UDP were the most developed for tourism, especially for archaeo-tourism. Thus, the northern and central UDP regions were selected as the two main regions for this study. This does not mean that rock art paintings are not found in the southern parts, they are, but are not largely developed for rock art tourism.

The nine chosen study sites were selected because of the extensive tourism and archaeo-tourism developments in the northern and central regions, including two rock art centres, which were also visited and evaluated in accordance with a checklist table to enable fair comparisons to be made of the centres, and to identify shortfalls where improvements can be made.

Selected study sites in the northern UDP;

- Royal Natal National Park:
    1. Sigubudu Shelter: an open tourist rock art site
- Cathedral Peak State Forest:
    2. Didima Rock Art Centre
    3. Mushroom Rock Shelter: an open tourist rock art site

Selected study sites in the central UDP;

- Giant's Castle Game Reserve:
    - Injisuthi Game Reserve/Camp
        4. Battle Cave: an open rock art site for visitors
        5. Fergy's Cave: a closed rock art site for visitors
    - Giant's Castle Camp
        6. Main Caves: an open, tourism developed rock art site
        7. Barnes' Shelter: a closed rock art shelter for visitors
- Kamberg Nature Reserve:
    8. Game Pass Shelter: an open rock art site for visitors
    9. Kamberg Rock Art Centre

3.3.1. Site assessment

A reminder on what each study site was assessed according to, are:

1. *Deterioration of the site and rock art:* caused by human visitation and natural impacts;
2. *Tourism and development:* of the selected regions and study sites and;
3. *Management and conservation methods:* of the rock art sites and paintings.

These three factors were selected as key elements to base this study on. Under each of these criteria, a number of other factors were considered:

1. Deterioration of rock art site and paintings

- Natural impacts cause deterioration of rock art from external elements such as exposure to sun, dust, wind, rain and water flow in shelters, roots, plants, lichen, animals rubbing against the art, animal urination/excrement, nests and internal processes within the rock its. This, for example can cause flaking, fading and structural instability. (Rock Art Research Institute, 2009).

- Human impacts, was sub-divided into two sections:
    - General and unintentional human impacts which included: increase in moisture, dust, litter, development of sites and erosion of archaeological deposits while undertaking rock art research (Deacon, 2006; Rock Art Research Institute, 2009).
    - Intentional human impacts, such as: vandalism, graffiti, scratching, touching and wetting the paintings and chipping out of the rock paintings (Deacon, 2006; Rock Art Research Institute, 2009).

2. Tourism and development

Archaeo-tourism and tourism was investigated at each study region and sites looking at how the tourism development of each region and site had an influence on the rock art sites physically and the paintings. Accessibility and accommodation developments in each study region and site was looked at in addition to the commodification of rock art at sites (Deacon, 2006).

3. Management and conservation

At each site, management and conservation methods (if present) were assessed, looking at how each site is different and how the existing management methods have been selected to suit each site with the aim of conserving the paintings and the environment that the paintings are in. The management methods used at each site were compared to gain an understanding of the management of rock art sites and to suggest future management options at the study sites which will hopefully be used at other sites too (Ouzman, 2001; Deacon, 2006). Conservation measures and general rock art awareness was also reviewed at each site and study region to gain an understanding of rock art awareness in the UDP.

3.4. Summary of methods and the display of results

Pamphlets were collected from the study areas, regions, camps, sites, rock art centres and institutions. Tourism in the area was looked at as a whole, the marketing of the study area, what additional facilities were offered and in what ways rock art is advertised to the public. This was done through collecting tourism pamphlets, reading tourism and environmental magazines, looking at how rock art is commodified and used in the public world. In addition museums and rock art centres were visited to see how rock art, its significance and how the conservation of these paintings is portrayed to the public (Rock Art Research Institute, 2009).The above mentioned methods were used in order to analyse the collected literature and

fieldwork assessments/data. From this, the results were displayed in different forms (Table 3.4). The observations of both regions and study sites (north and central UDP) are comparably different from each other; these results and their differences are shown in the Chapter 7 'Sites and results'.

Method	**Display**
Photography techniques	Visually with the use of photographs
Rock art site record forms	Tables, graphs and with the use of photographs
General comparison of sites	Written descriptions and photographs
GIS	Maps of study regions, sites and access to tourism/accommodation areas
Analysis of the site through observations	Tables and written description

Table 3.4. A summary of the methods and display approach of this study

The following three defining Chapters will explain tourism, conservation and management in detail – to enable the reader to understand the basics of each topic and to grasp the essence of this research project, when applied to uKhahlamba-Drakensberg rock art sites. Tourism is a main focus throughout this project. Chapter 4 – 'Rock art related to tourism' will look at the intricate impacts tourism has on rock art sites and paintings.

CHAPTER 4: ROCK ART RELATED TO TOURISM

In order to understand the impacts tourism has on rock art sites, it is important to understand what tourism is, the definition of a tourist when compared to a visitor, the types of tourism and how this is all linked to rock art tourism. Tourism is a subject and is discussed throughout this project and leads on to conservation and management of rock art sites as a result of tourism development.

4.1. Visitation of rock art sites

Much has been said about whether or not the public should be allowed to view San rock art outside the museum environment (Loubser, 1991; Deacon, 1993). The topic is debatable, as the natural landscape in which the art is found contributes greatly to the whole rock art viewing experience and is a vital part of the art's physical and conceptual context, thus rock art is best appreciated when seen in its original physical setting (Loubser, 1991). Human visitation to rock art sites creates both direct and indirect threats, and impacts. For example graffiti would be described as a direct impact, while unintentional impacts would include kicking up dust from the ground when visiting a site.

The way tourism is managed determines the extent of impacts on the physical and cultural environment (Buckley *et al.,* 2000). Tourism effects vary; some develop the site so to enhance the quality and the sustainability of the environment while other site developments create more damage than anything else (Buckley *et al.,* 2000). Studies by Bednarik (1993) discuss how some sites that are not open to the public are vandalised mainly because of negative reaction to site closure. Thus, that is why some sites that are not under great threat are 'sacrificed' for public viewing and are developed and managed effectively for visitors (Bednarik, 1993). Over the past decade, tourism has grown at a remarkable speed with an increasing global dispersal (George, 2007). Spronk & Fourie (2010:3) states that *"The growth of the tourism industry in South Africa over the last two decades signals the country's ability to sustainably export travel services, improving the balance of payments, creating jobs and boosting economic growth"*.

Tourism and recreational activities have significant consequences on fragile ecosystems, and have become a worldwide management concern (Monz, 2000). The increase in tourism has led to a number of policies being introduced mainly because

of an increasing consciousness of the impacts tourism has on the biosphere as well as on people and their cultures past and present (Godde *et al.,* 2000). Direct action towards sustainable maintenance is a main aim in tourism, to protect its country's resources.

Public visitation of archaeological sites causes positive and negative aspects on rock art sites and the environment. Whitley (2005:158) quotes that *"visitation does not necessarily equate with destruction"* while Gale & Jacobs (1991) question the issue of whether rock art and tourism are compatible. The most obvious negative impact of visitation is the potential for physically harming the site. Positive impacts filter from researchers and rock art enthusiasts drawing attention to the meaning of rock art and the importance of managing rock art. Also, tourism brings in money to the region and to the local community people living in the surrounding areas through job creation. Money from tourism also assists with the administration of the site and is used for site management improvements (Whitley, 2005).

4.2. The tourism industry

Tourism is a global phenomenon and is the world's largest and fastest-growing industry, being a major economic, environmental and socio-cultural dynamic force (George, 2007). Is an industry that supports millions of jobs directly and indirectly in this country and around the world (Spronk & Fourie, 2010). It is constantly evolving with new developments and changes, which in turn influences things such as the upgrading of or the establishment of new transport systems and the importation of new products to a country. The tourism industry includes economic, political, social, psychological, cultural and historical components (Godde *et al.,* 2000). As well as, containing a vast number of organisations and people directly and indirectly involved in the provision of the perceived needs and wants of tourists (George, 2007).

To manage rock art tourism, one firstly needs to understand what tourism in general terms is, its characteristics, importance and how it affects people (George, 2007). A general definition for tourism is problematic in the sense it can mean a number of things but all mainly deal with travelling to places for purposes not related to one's daily work or routine (Shaw & Williams, 1994). Below are various examples of definitions of the term tourism:

*"**Tourism** – noun: "the business activity connected with providing accommodation, services and entertainment for people who are visiting a place for pleasure"* (Hornby - Oxford, 2010:1637).

*"**Tourism** - the processes, activities and outcomes arising from the relationships and the interactions among tourists, tourism suppliers, host governments, host communities and surrounding environments that are involved in the attracting and hosting of visitors"* (Goeldner & Ritchie, 2009:7).

The term tourism is widely used but at the same time, very loosely defined with no universal approved definition. The United Nations World Tourism Organisation (WTO) defines tourism as: *"As the activities of persons travelling to, and staying in, places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited"* (WTO, 1991:5).

However, the WTO suggests that tourism includes all forms of travelling that involves staying in another place for at least one night, but less than a year away from home (Shaw & Williams, 1994). Clear definitions of tourism further complicated as there is no definition of how far or for how long the person needs to be away from home. Generally, tourists plan trips and travel to places to take part in leisure-related activities and then return home.

The hospitality industry provides services to consumers away from home from travelling to accommodation services. The tourism market involves location, demands, activities, interests and seasonality and occurs in an environment which is made up of both natural and human features (Shaw & Williams, 1994). For the purposes of my study, the term tourist or visitor is going to be seen as someone outside their usual environment, visiting a rock art area, site or a rock art centre.

The tourism industry is based on three main types of tourist attraction elements (Shaw & Williams, 1994):

1. Tourism resources: attractions built for tourism services and visitors;
2. Natural resource: natural physical settings used for tourism and;
3. Human resources: cultural heritage and history used for tourism.

Secondary elements that follow these three main elements are (Sessa, 1983):

- General and tourism infrastructure;
- means of communication and travel;
- social and basic installations;
- telecommunications;
- hotels, guest houses, towns, villages;
- residences for receptive personnel;
- food and beverage installations;
- entertainment and sport facilities;
- recreational and cultural facilities;
- tourism reception services, and;
- travel agencies.

Modern tourism developed out of the elitist 'Grand Tour', which preceded urbanisation in Western Europe (Mason, 2003). The industrial revolution increased the standard of living, with improvements in the fields of transport, technology and communication. Travel became more accessible, with better modes of transport, better value for money, a change in annual holidays, and an increase in disposable income after the Second World War led to an increased desire to travel (Mason, 2003).

The tourism industry is made up of small, medium and micro enterprises – with very few large multinational corporations (George, 2007). It is seasonally dependent and has a large geographical spread. Tourism is also seen and used as a development tool to help rejuvenate a region or as a means of income for an area (George, 2007). From this point we can discuss government involvement in tourism management. The government plays a large supporting role and has a great influence on the tourism industry. A number of public agencies make up governmental influence on the tourism industries and development (George, 2007). Essentially, tourism is a business and tourism is still driven and promoted by the government.

Tourism attractions are mainly public goods (George, 2007) i.e. beaches, natural features and World Heritage Sites and due to this it is the government's responsibility to protect the countries resources and heritage. Many policies and planning, regulations and similar activities are all carried out effectively by

government. Government provides funds to other indirect services and facilities that link to tourism i.e. marketing resources and transport methods and the quality of road access etc (George, 2007). The private sector needs to work with the public sector in order to make tourism in South Africa work. Partnerships should aim to be "*public sector-led and private sector-driven*" (George, 2007:148). Coordination between sectors is one of the most important factors in tourism strategies which ideally are the foundation of tourism development, marketing, policy making and planning (Hall & Page, 2006). Government policies play a role in the scope of tourism in an area and involvement with communities (George, 2007). Some policies determine the amount of money that should go towards the community, the developing of infrastructure and the number of visitors that can have access to an area at a certain time. Enterprises such as hotels and tour services exist in the private sector and are managed by entrepreneurs (George, 2007). Government's assistance in tourism planning involves the development of infrastructure, resources, land use, promotion and marketing with the help of a number of government agencies at national, regional, provincial and local scale (George, 2007). Government is in charge of a number of legislative and regulative powers which have major effects on tourism. For example in 1993, the Tourism Act was introduced with further legislation with the White Papers on the Development and Promotion of Tourism in South Africa (DEAT, 1996) and Guidelines for Responsible Tourism (DEAT, 2002).

4.3. Types of tourism

The tourism industry is vast, from the promotion of, to direct service to the consumer. Ecotourism is seen as 'new' tourism and can be defined as "*responsible travel to natural areas that conserve the environment and sustain the well being of the local people"* (Mitchell, 2002:23). New tourism is described as new demands and offers new market segments (George, 2004). Cultural tourism can be used to describe different segments of the tourism market and is associated with visiting historical, heritage and artistic attractions. It provides ways to experience new and different cultures and ways of life, the more authentic the better. Cultural heritage is a key component in South Africa's tourism product (Marschall, 2006).

The World Tourism Organisation has defined cultural tourism as *"movements of persons essentially cultural motivations such as study tours, performing arts and cultural tours, travel to festivals and other cultural events, visits to monuments, travel to study nature, folklore or art and pilgrimages"* (in Mitchell, 2002:23). 'Culture' is a subjective matter thus definitions will vary considerably. Heritage tourism focuses on

cultural and eco-tourism placing emphasis on conserving natural and cultural heritage. Sustainable tourism is also a new category of tourism, meeting the needs of the present while addressing conservation of resources for future generations (Pedersen, 2002). Tourism is then used to contribute to environmental protection, benefiting local people, economically and socially, whilst limiting negative socio-economic impacts (Pedersen, 2002). More quantitative data is needed to verify trends in cultural tourism, as at the moment tourism trends are noticed in increasing interest and concerns for the environment. The cultural market is already difficult to define and future research should be looked at by broadly grouping categories, e.g. arts and archaeology (Pedersen, 2002).

4.4. Tourism attractions/destinations

Tourism destinations rely on other industries that are indirectly and directly linked to tourism; these are mainly transport and accommodation (George, 2007). One needs to depend on transport methods and access to destinations to get visitors to visit the attraction. Once visitors are at a site, accommodation is needed to contribute to the whole visiting experience of a destination. Marketing of destinations is the first pull factor to attract visitors to a site to visit attractions and to use service amenities such as different transport methods and different accommodation facilities in the area (George, 2007). Swarbrooke (2002) divides attractions into four main groups, natural, built, cultural and social attractions. Here, focusing on the natural and cultural groups - Natural being physical features that make up the environment and cultural attractions that *"are places or things which are reflective of a particular community"* (George, 2007:61). Archaeological sites fall under cultural attractions. The types of tourism analysed in this project - mountain and rock art tourism will be discussed towards the end of this Chapter.

4.5. 'Tourist' in relation to a 'visitor'

Tourists are motivated to travel; these driving forces are called push and pull factors (Mason, 2003). These factors help classify tourists and their behaviour and help understand their impacts better. Tourism behaviour is influenced by cultural conditioning, perception, social influences and education (Mason, 2003).

"***Tourist*** *– noun: 1. A person who is travelling or visiting a place for pleasure"* (Hornby - Oxford, 2010: 1638).

"***Visitor*** *– noun: a person who visits a person or place"* (Hornby - Oxford, 2010:1721).

A tourist travels to see and experience new and different things; this includes travelling to remote areas to learn about different cultures and ways of life, while some may travel to discover their own culture and their cultural roots (Pfister, 2000). Culture includes non-material or 'intangible' aspects such as values and norms where the material culture includes arts, crafts, tools, food and clothing (Pfister, 2000).

Post-apartheid South Africa has attracted a number of tourists to the country who are interested to learn more about its history and the many changes that have been experienced. South Africa has taken this opportunity to use its cultural heritage as a means to encourage tourists to visit while commodifying its' unique world heritage sites (Marschall, 2006). The most widely accepted definition of a tourist is by (WTO, 2004:1) *"a visitor whose visit is for at least 24 hours, and whose purpose of visit may be classified under one of the following three groups: leisure and holidays, other tourism purposes (studying or health reasons) or business and professional reasons".*

Tourists visit rock art sites as the art is visually appealing. The greater the visual and aesthetic appeal of a site the more visitors are attracted (Loubser, 2001). Aesthetic and/or visual appeal is becoming a demanding aspect for tourists and is now considered in management plans (Loubser, 2001). Goeldner & Ritchie (2009:8) describes a traveller (different to a 'tourist') as "*any person on a trip between two or more countries or between two or more localities within his/her country of usual residence".* All types of travellers engaged in tourism are described as visitors/tourists (Goeldner & Ritchie, 2009). Visitors can be further divided into same-day visitors who do not spend the night and a tourist who stays at least one night in the country visited (Goeldner & Ritchie, 2009). In this project the terms visitor and tourist are used and have the same meaning – someone visiting a rock art area, site or rock art centre.

4.6. South Africa's tourism industry

Minister of (then) DEAT (Department of Environmental Affairs and Tourism) in 2007, Martinius van Schalkwyk, stated that an estimated eight and half million international tourists visited South Africa in 2006, which was a million more than in 2005 (George, 2007: i). South African tourism provides jobs and economic opportunities, for over the estimated 900000 people employed in the tourism industry (George, 2007: i). Another prime is example is that the FIFA World Cup has recently

taken place in South Africa contributing greatly to South Africa's international competitiveness in world tourism. Sport tourism is a subsection that falls under the South African travel and tourism sector. It is stated that sport tourism contributed 8.7% to Gross Domestic Product (GDP) in 2009 and it is sure to rise with the completion of the FIFA World Cup in June/July 2010 (Spronk & Fourie, 2010). The result of mega sporting events is an increase in tourists, primarily from countries participating in the event (Spronk & Fourie, 2010). Needless to say, it still contributes to the country's GDP (Spronk & Fourie, 2010).

In 2004, the World Tourism Organisation forecasted that South Africa would achieve a tourism growth on an annual basis of 5,1% in the travel and the tourism GDP (George, 2004). Estimating that by 2012 South Africa will have a GDP of R84, 8 billion for the industry directly and R288, 5 billion in total for the travel industry (George, 2004). Tourism in South Africa generates over R100-billion every year and in 2006 contributed 8,3% to South Africa's GDP (SA Tourism, 2007). Since 1994, there has been an incredible growth in the industry with the help of the partnership between the government and the private sector (George, 2004). The CEO of Tourism Business Council of South Africa, Tanya Abrahamse states that South Africa is now rated as *"one of the fastest growing tourism destination in the world"* (George, 2004: i). Caution however, needs to be taken when listening to these statements on tourism growth in this country as the individuals involved in the tourist industry always take a more optimistic rather pessimistic view.

South Africa's two main draw cards to the country are its cultural and natural attractions. These two assets are protected by the National Environmental Management Act 107 of 1998, the National Conservation Act 73 of 1989 and the National Heritage Resources Act (Act 25 of 1999). There is also additional legislation and regulations under the specific departments and municipalities. The South African Heritage Resources Agency (SAHRA) manages cultural heritage sites of national importance. Resources of provincial significance are run by appropriate provincial heritage resources authorities (George, 2007), for example Amafa in KwaZulu-Natal. Regulations are implemented to protect the country's heritage. In accordance with the National Heritage Act, it forbids the alteration or demolition of a structure older than 60 years can be altered or demolished as long as application is made for a permit to do so (George, 2007). After the birth of a democratic South Africa in 1994, a major drive to sell South Africa as an important tourist destination was launched (Hattingh, 1994). However, this concerted effort to attract tourists from abroad, has

not only put pressure on our natural and cultural resources it has also led to the domestic tourism market being neglected (Hattingh, 1994). Visitors are attracted to area's that have resources of interest, be they natural or cultural these form a tourism resource package. The package also includes infrastructure, elements of service, safety and security (Hattingh, 1994). The tourism industry in South Africa is administrated by a number of laws and regulations to protect the environment, the coastal areas, trade, health, transport, agriculture, education, development, building and much more. In South Africa, Department of Tourism is mainly responsible for tourism policies, regulations and development, with the help of SA Tourism supporting the country's tourism and is involved in marketing and creating the brand image of the country (George, 2007). The Department of Arts and Culture is responsible for the regulations concerning heritage issues (George, 2007).

There are four main government tourism agency sectors (George, 2007):

1. Department of Tourism: in charge of national tourism responsibilities, provides information to the government and works towards increasing the number of international tourists.
2. Provincial tourism authorities: promotes tourism for domestic and international tourists in each province.
3. Regional tourism organisations: promote tourism in different regions within each province.
4. Local tourism organisations: manage services and facilities for tourists.

A matter for concern is that the Department of Arts and Culture, runs separately from Department of Tourism, where ideally there should be an enhanced link between the two to ensure that arts and cultural viewpoints are always taken into consideration when addressing tourism affairs.

Tourism can be divided into different types; this project focuses on Archaeo-tourism/ rock art tourism and mountain tourism. The next three sections explain what these are, as well as tourism behaviour linked to rock art sites.

4.7. Archaeo-tourism / rock art tourism

Archaeo-tourism deals with visiting archaeological sites, places of historical importance or interest, places of cultural interest, museums and art galleries (Holt-Biddle, 1999). It is a component of cultural and heritage tourism, and is concerned with management and communities. It also involves the tourism process of travelling

to a new destination and engaging in activities with the purpose of recreation (Holt-Biddle, 1999). Southern Africa's archaeological and palaeo-anthropological heritage is becoming of increasing interest to tourists (Holt-Biddle, 1999). Archaeology is playing a more and more important role in the definition of a nation's identity for example, appearing in the South African Coat of Arms and State Orders (Barnard, 2004; Renfrew & Bahn, 2004). Archaeo-tourism is a form of tangible and intangible heritage, which are assets that have some physical embodiment of cultural values (McKercher & du Cros, 2002). Tangible heritage is unique as it is a visual stimulus, with an intangible element, of storytelling. According to McKercher & du Cros (2002), tourism is a stressor agent that encourages development and modifications at a site, and impacts the authenticity of asset.

At the end of the 20th century, rock art became part of a growing tourist industry for South Africa (Meiklejohn & Hattingh, 1995). Unfortunately, it has been noticed that rock art is being lost with early deterioration of Western Cape paintings being recorded in the late 18th century (Deacon, 1993). Rock decay in KwaZulu-Natal Drakensberg was first noticed in the late 19th century (Rudner, 1989).

Tourism is a service industry serving the needs of a demanding public that needs to be met. Meiklejohn & Hattingh (1995) suggest components that need to be addressed at a rock art tourism area:

- on-site staff;
- professional training;
- uniform, symbol and badge of authority;
- general management plan;
- protected area policy, laws and regulation;
- education;
- organisational development;
- research facilities;
- concessions management, and;
- fee collection.

The site needs to be presented in a way to enable visitors to appreciate the art. Rock art tourism is necessary in South Africa as the country is privileged to still be in possession of these San paintings, but this form of tourism needs funding and infrastructure to accommodate tourists. Other facilities are also needed once a site

has been opened to the public; visitors need access to the site, a car park area, toilets and an information area. Staff, surveillance and maintenance are also vital for the site once it has been opened to the public (Sullivan, 1991). Sustainable tourism which includes 'ecotourism' can be applied to rock art tourism as it can benefit the conservation of rock art (Wall, 1997). Contributions include; increased revenue, creation of employment opportunities for the local people and providing visitors with information and education (Meiklejohn & Hattingh, 1995; Bertilsson, 2002).

4.8. Tourism behaviour linking to rock art sites

The behaviour of tourists at rock art sites needs to be constantly monitored. Children and tour groups are seen as especially high risk visitors (Bednarik, 1993). In Loubser's work (2001) descriptions of systematic surveys of visitor's attitudes and behaviour were conducted - results displaying tourists visiting a site with prime interests in the surrounding landscape first. The natural settings of rock art sites are thus emphasised to attract visitors. Lewis-Williams & Blundell (1998) sees this as an affect of enhancing the Eurocentric views of the indigenous people as being part of the environment. A first impression at a site determines the behaviour that can be expected at a site (Loubser, 2001). An unmanaged site appears neglected and dirty and is more likely to be intentionally and unintentionally damaged by humans (Loubser, 2001). While managed sites that are clean and consist of conservation interventions that display the importance of the site, gain more respect and are less likely to suffer human damage (Loubser, 2001). Gale and Jacobs (1987) have done extensive studies on the behaviour of tourists visiting rock art sites in Australia. A predictable result was that tourists tend to touch rock paintings more in smaller confined shelters compared to larger open rock art sites and that children did more damage than adults. Loubser (1991) made a comprehensive study of Australian rock art conservation methods and states that damage is not done by the sheer number of visitors alone, but by the ignorant behaviour of people visiting the sites.

4.9. Mountain Tourism

Mountain tourism has been included in this Chapter, as the uKhahlamba-Drakensberg Park forms part of a mountainous area. Mountains give an image of an untamed natural landscape that is becoming rare in this urbanised world (Monz, 2000). Mountainous regions make up roughly one fifth of the earth's surface and are a direct source of fresh water (Monz, 2000). Tourists are attracted mountainous regions to gain a sense of renewal and to get away from over-crowding, pollution, noise and the stresses of urban areas (Godde *et al.,* 2000). Mountainous regions

also provide people with recreational opportunities and adventure sports. The regulation of mountain tourism is done through polices and institutional arrangements regarding the rules of the protected area, the national and regional tourism policies (Monz, 2000; George, 2007).

4.10. The link between geography, tourism, people and the environment

Geography looks at where and why things are located on the earth's surface, how places differ from each other and how people interact with both humanised environments and with the natural environment (George, 2007). Geographers are interested in different processes that shape and create the various places where people choose to live (George, 2007).

The environment is an integrated and dynamic system that comprises of three main factors; natural elements, cultural elements and people (Meiklejohn & Hattingh, 1995). Natural elements include the climate, topography, coasts, oceans, rivers, flora, fauna, minerals and soils, in other words anything not created by humans (Meiklejohn & Hattingh, 1995). Cultural elements are human creations, which consist of physical artefacts such as cities, craft work and non-physical elements such as traditions, behaviour, attitudes religion and languages (Meiklejohn & Hattingh, 1995). People being the third component, impact the other elements through their numbers, characteristics and distribution (Meiklejohn & Hattingh, 1995). Today, tourism and geography are termed as 'geo-tourism'. This term relates to preserving the geographic characteristics of destinations (George, 2007).

Geo-tourism includes human and natural features which make an area unique from others. It also involves impacts on the environment and the community's lifestyles and economic situations that come into play. In context, tourism can also be seen as a geographical activity (Lew, 2002). People travel to get away and have a break from their daily routines, experience geographical difference with different cultures and lifestyles. Geo-tourism has been investigated over the last three decades as there has been an increase in mass tourism and reaching the carrying capacity of destinations and having social and environmental impacts (George, 2007).

As much as physical features are the core tourism attraction, there are also socio-cultural factors that attract visitors. Socio-cultural attractions are perceived as man-made attractions. Visitors also visit a region for its culture and its social

characteristics which makes this type of tourism diverse. Cultural chrematistics and culture range from different languages, handcrafts, traditions, foods, architecture, arts and music, history of the area, religion and so much more (George, 2007). Socio-cultural attractions may have been or are a product of a region where alterations have been implemented to alter the attractiveness of the region to attract tourists. The uKhahlamba-Drakensberg Park is famous for its combination of archaeo-tourism and geo-tourism. It is this combination that gives the UDP World Heritage status.

4.11. World Heritage Site status

The United Nations Economic, Scientific and Cultural Organisation (UNESCO) are an international body that promotes the intellectual and moral solidarity of humankind (UNESCO, 2000). In 1972 a mandate was created for UNESCO to include a list of World Heritage Sites, which concerned the protection and preservation of world's cultural and natural sites (UNESCO, 1972; Pedersen, 2002; UN-WTO, 2004). UNESCO broadly defines *"embracing our legacy from the past, what we live with today and what we pass on to future generations"* (Briggs, 2006:8). UNESCO continues to state that our cultural and natural heritage is both irreplaceable and that these World Heritage Sites belong to the world no matter where they are situated.

The World Heritage Committee is responsible for implementing the convention for determining which sites are to be included on the World Heritage Site (WHS) List based on certain recommendations. These recommendations are initiated by the International Council on Monuments and Sites (ICOMOS). Natural sites are allocated by the World Conservation Union (IUCN) (UNESCO, 2000; Pedersen, 2002). UNESCO further states that our cultural and natural heritage is both irreplaceable and that these World Heritage Sites belong to the world no matter where they are situated. UNESCO regards heritage as natural and cultural because of the dynamic interaction humans have had with the environment and because of this, it is important to preserve the balance between the two (Pedersen, 2002).

A WHS is a site of outstanding interest and universal value to the world and needs to be conserved as a world heritage (UNESCO, 1972; Pedersen, 2002). The UDP was South Africa's first WHS, to have universal significance both for its exceptional natural beauty and for its cultural heritage of San rock art (Amafa, 1999; Ezemvelo, 2005; Hall *et al.,* 2007).

The criteria the UDP inscribed from the UNESCO list of conditions are (Porter, 1999; UNESCO, 2000; Pedersen, 2002; Ezemvelo, 2005; Briggs, 2006):

- **Cultural criterion i):** '*To present a masterpiece of human creative genius through rock art'.*
    - The UDP is one of the largest and one of the most concentrated groups of rock paintings in Africa, south of the SAHRA and is outstanding in both quality and diversity of subject.
- **Cultural criterion ii):** '*To bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation, which is living or which has disappeared.'*
    - The San people lived in the mountains for more than four millennia, leaving copious amounts of outstanding rock art, display their way of life and their beliefs.
- **Natural criterion iii):** '*To contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.'*
    - UDP – exceptional natural beauty with soaring basalt buttress incisive, dramatic out backs and golden sandstone ramparts. Rolling high altitude grasslands, river valleys and rocky gorges.
- **Natural Criterion iv):** '*To contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of science and conservation.'*
    - The UDP has a diverse range of habitats and protects a high level of endemic and globally threatened species of birds and plants.

These applicable factors made the UDP the ideal candidate as my study area to investigate tourism complexities of rock art linking to the management and conservation of rock sites and paintings. Next, tourism impacts will be discussed.

4.12. Tourism impacts

The impacts of tourism are important for the planning and management of tourism (Mason, 2003). Even if there is not an agreement on the definition of tourism, the key aspects of the tourism industry and being a tourist should be noted. Tourism

impacts are multifaceted, economic socio-economic, socio-cultural, impacts are aggravated by other factors too (George, 2007). Tourism has positive and negative impacts on the environment; these impacts vary depending on how 'fragile' or unstable an environment is (George, 2007). All recreation activities including tourism lead to social and environmental change (Mason, 2003). If the causes of change are acknowledged then management actions are more effective. Knowledge on the causes of the impact also aids decision making, planning and monitoring of tourism development, assisting in determining if management objectives are being met (Pedersen, 2002).

Tourism impacts are created by development and tourists themselves. Development impacts relate to infrastructure developments, influences on property prices, traffic, quality of life, access to places, salaries and general price increases in the area (Pedersen, 2002). Pedersen (2002) has compiled comprehensive work on tourism impacts and interestingly explains that the initial use of a site causes more damage at first while subsequent use has gradually less impact. Soil trampling for example is compacted the most when first done, thereafter minor changes occur over time. Mason (2003) further states that impacts can be positive and beneficial, others negative and detrimental. Whether impacts are perceived as positive or negative depends on the observer's judgment and value of the impact. For example, a footpath to a destination is a way to route people in a direction limiting damage to other sites and the general area where there is no footpaths. To someone else a footpath is seen as a negative impact as encourages more tourists to visit and increases soil erosion (Mason, 2003). Major influences of tourism impacts include (Manson, 2003):

- Where tourism is taking place, in a rural or urban location;
- the degree of tourism and people involved;
- the origins of the tourists visiting;
- tourists involved in passive or active activities;
- the extent of available infrastructure for tourists;
- how long the tourism industry has been established in the area, and;
- the tourism season.

4.13. Negative tourism impacts

Fennell & Dowling (2003) discuss environmental degradation and cultural commodification as the two main negative impacts of tourism. Visible signs of tourism

impacts are construction as a sign of land use, litter that is non-biodegradable along routes to sites and at tourist attractions, the pollution of nearby streams or other water sources, deforestation for space and firewood demands, all impact on the vegetation and wildlife (MacLellan *et al.,* 2000). The environment is a key factor in tourism; tourists are attracted to the environment which can be divided into natural resources, wildlife, farmed environment and the built environment (MacLellan *et al.,* 2000). Tourism is often seasonal and impacts are thus often seasonal too (Swarbrooke, 1999). Tourism development causes common environmental impacts (Buckley *et al.,* 2000; Mason, 2003):

- Vegetation impacts: vary according to the types of vegetation and the botanical differences in structure and decrease in tree cover;
- Soil impacts: involve compaction, topsoil disturbance and erosion – which are unavoidable in recreation activities;
- Water impacts: are linked to pathogens, organic waste and turbidity;
- Tourist disturbance: while viewing game life, affects species differently;
- Development and infrastructure: that doesn't fit into the environment;
- Vegetation clearance: increase of open areas, sediment runoff, change of drainage and;
- Disturbance of animals: animal movement and reduced animal habitats.

Impacts related to visitor's use (Mason, 2003);

- At tourist destinations: impacts are confined at tourist sites;
- Group size of tourist groups: large groups expanding in a short period of time and crowding at a site creates negative impacts, decreasing the aesthetic experience of the site and;
- Other activities: related to the tourism destination create further impacts.

There are socio-cultural impacts of tourism, which are seen as hidden effects of tourism. Socio-cultural impacts include aspects such as knowledge values, behavioural patterns, customs, belief, art though generations; all of these alter along with tourism over time i.e. with Eurocentric views and countries becoming westernised - discussed further below (Wells, 2002).

Factors that influence these hidden effects are determined by which type of tourist is visiting the destination, local or international, the scale of tourism, the development of the tourist industry including infrastructure, roads and electricity

(Mason, 2003). Negative impacts vary from economic effects such as an increase in the cost of food and accommodation and house prices in the tourism destination especially in the tourist season.

Tourism impacts on communities and culture (Mason, 2003):

- Locals lose out on benefits of tourism;
- tourism creates burdens on local people without mitigating benefits;
- communication is not effective, economic distribution not fair;
- people dictating tourism opportunities;
- start up credit for development or improvements being difficult to obtain;
- not all tourism activities, have equal potential for community involvement;
- don't always use the local guides;
- seasonality of tourism, not creating permanent employment and;
- change in the production of handcrafts, language, traditions, food, dress code, art, music, the type of work done by residents, history, architecture, education systems and leisure activities.

Ethnocentric characteristics

Tourism is part of the process of globalisation. Europe's idea of Africa has always been dominated by imagery of landscapes and physical aestheticism that derived from Romanticism (Wells, 2002). These images have strong ethnocentric characteristics. Another example of Africa(ns) on stage in Europe is the western perception of so-called primitive art (Wells, 2002). Primitive art, the artist's name is hardly ever known and the precise date of the art is not seen as important as it is referred to as the old traditional art where the collective trait is celebrated and not individuals as artists (Wells, 2002). Wells (2002:62) continues to explain how the San of southern Africa are probably the *"most exploited example of the ambivalent European image of Africa(ns)"*

'Authenticity'

The term 'authenticity' is debatable term that has risen in the area of cultural heritage management and conservation planning (McKercher & du Cros, 2002). The meaning of the term has changed over the years with original descriptions still used today indicating a *"sense of a true, sincere, or original element in a historical context"* (McKercher & du Cros, 2002:73). The term 'authenticity' in tourism raises a number of interesting issues as on one hand, it promotes an authentic experience while on

the other hand commodifies assets into consumable products. Tourism and leisure are subject to commodification. Commodification is when the destination's culture is converted into a commodity in response to the perceived or actual demands of the tourist market (Greenwood, 1989). Thus, crafts and cultural activities are modified according to the demand of the tourists. The side effect of this is that the reproduction and sale of cultural goods and activities becomes more important than the reality of the meaning of the products and services (Greenwood, 1989). Authenticity and commodification are explorations of the socio-cultural impacts of tourism and have been prevalent in literature as far as 1976 (MacLeod, 2006).

Tourism today offers the younger generation new job opportunities and traditional skills and cultures are being lost because of this. If tourists are interested in this market of 'intangible' culture such as storytelling and music, the result is commodification. Culture that is treated as a commodity that can be bought or sold is commodified (Pedersen, 2002). When commodification begins, people perform a 'version' exclusively for tourists so to benefit from it. Through this, the culture and the even the event loses its value. In some cases, this tourism version or 'staged authenticity' is marketed for tourism at some destinations. These destinations do this so to attract visitors to one area instead of other genuine sites or events, preventing the spread of commodification of the theme, site and/or event (Pedersen, 2002). An example here would be a rock art centre - attracting visitors to see the centre which will satisfy most people's need to not desire to see an actual rock art site. Yet again, a perfect example of the complexities of tourism. The commodification of rock art and the inappropriate use of commercialising and exploiting South Africa's heritage must be addressed. Such practises may cause more harm than good especially for the local communities and South Africa as a nation (Marschall, 2006). But on the other hand contributes to positive aspects as discussed below.

4.14. Positive impacts

Positive impacts of tourism may lead to the conservation of a culture and its heritage. Renewal of cultural pride is also a major positive impact of tourism along with improved infrastructure and public services for the local communities (Shaw & Williams, 1994). Positive factors of tourism according to (Shaw & Williams, 1994; Fennell & Dowling, 2003; Mason, 2003) are:

- Development within each locality;
- protection and enhancement of the resource's quality which is the basis of tourism;

- development in the area with visitor's services;
- developments for the local community;
- helps with social reconstruction of places;
- stimulate measures to protect the cultural resource;
- promote the conservation of monuments (WHS);
- promote the establishment of national parks and wildlife and;
- provides money through entrance charges, maintains monuments, WHS and the environment.

Rock art conservation and sustainable tourism can benefit from each other. Views identified by Kusler (1991) can be adapted, these are, that:

- Long-term protection of natural and cultural resources;
- tourism used as a tool for resource conservation, if carried out properly;
- tourism has negative impacts on natural and cultural resources if not carried out correctly;
- alternative land uses may have greater impact;
- tourism can be a role player in resource conservation but can't do it all;
- tourist has infrastructure needs;
- need landowner and local support for conservation;
- tourism needs to have a strong cultural/people element;
- need co-operation between groups and;
- policies formulated on a regional and national scale.

Ending off on a positive note, positive impacts are beneficial to the local communities, local economy and job creation. The revival or the boasting of traditional art and activity creates a tourist demand. Benefits collected from a tourist destination are used to restore and maintain the attraction, enhance further interest of the site, the environment and to support and protect the environment (Mason, 2003). Mason (2003) sums up that negative impacts outweigh positive ones. However, if the locals – or at least influential segments of the local people - benefit from tourism, they will often support it, outweighing the negative impacts. Tourism has been discussed in great detail is it is a centre part of this project, being the connection of management and conservation of rock art sites and paintings. Hypothetically speaking for this project tourism is seen as the predicament, conservation the context of the matter with management being the solution. Chapter 5 – Conservation, thus follows next.

CHAPTER 5: ROCK ART CONSERVATION

The ongoing paradox of the negative consequences of opening a rock art site to the general public will continue in this Chapter, which will discuss conservation in greater detail, followed by management aspects in the Chapters to follow. By defining the terms used in this Chapter, a better understanding will be gained of the overall aim of this project.

Rock art is a significant part of South Africa's history and culture. It was the realisation that the culture and traditions of South Africa's indigenous people - the San was being lost and were no longer being practised by today's San people that sparked the need to conserve the existing paintings that had already begun to deteriorate (Lewis-Williams & Dowson, 1990). The future of San art is through research and by trying to understand these indigenous communities. In order for research to continue for as long as the art survives, management strategies and conservation methods must be practised and maintained. It can be argued that humankind should enjoy the art while we still have it, which is a valid point, but with the implementation of the correct management and conservation methods we will also be able to increase the chances of future generations being afforded the opportunity to enjoy the art as well. Deterioration in rock art occurs naturally and through human-induced impacts as explained in the previous Chapters. The natural weathering of the art and its site can seldom be halted, but the human induced impacts can often be mitigated. Mitigation of human impacts is possible through well thought-out site management and conservation methods. The need to conserve rock art from physically disappearing from the county's history means that conservation methods must be implemented and maintained with the help of management plans, strategies and methods. Examples of successful site management methods include; developments to help strengthen and support the site for tourism, thereby ensuring that minimal damage is done to the physical site, as well as increased rock art awareness through education (Bertilsson, 2002).

The purpose of conservation is to conserve rock art so it can be enjoyed by many, even if such visitation results in harming the site in some way (Levin, 1991). However, the need to conserve rock art thus comes from the paradox of tourism, which is the aim of this project. The complexity of tourism involves management to conserve rock art. Conservation aspects include: education and interpretation,

management and conservation, physical and chemical preservation (Deacon, 1993). Vandalism of rock art is an international problem (Loubser, 2001). Conservation methods have been tested all over the world and include controlling visitor numbers at a site, compulsory guides on site and so forth (Mason, 2003) - the most successful of these types of methods are now being used in South Africa (Mazel, 1982; Loubser, 2001). It is vital that communication between experts in archaeology, anthropology and government organisations take place and that their advice is taken in order to save time and money in management and conservation practices.

5.1. 'Conservation' in relation to 'Preservation'

'Conservation' and 'preservation' are two often confused and misused terms. It is vital that the right terminology is used in order to more precisely analyse what to do, if anything – about the on-going physical deterioration of southern Africa's rock art. Thus:

*"**Conservation** - noun: 1. the protection of the natural environment 2. The act of prevention something from being lost, wasted, damaged or destroyed"* (Hornby - Oxford, 2010: 326).

*"**Conserve** – verb: maintain, keep up, keep in safety and protect from harm, decay, loss, or destruction"* (Word Reference, 2008). *2. To use as little of as possible so that it lasts a long time."* (Hornby - Oxford, 2010: 326).

*"**Preservation** - noun: 1. the act of keeping something in its original state or in good condition 2. To make sure it is kept 3. The degree to which something has not been changed or damaged by age or weather"* (Hornby - Oxford, 2010: 1197).

***"Preserve** – verb: 1. to keep a particular quality feature 2. To keep something in its original state in good condition"* (Hornby - Oxford, 2010: 1197).

Throughout my research for this study it has been noticed that these terms are being used too loosely. That is why, it was bought to attention and the terms 'conserve/conservation' have been selected instead of 'preserve/preservation'. The reasoning for this is simple. Rock art cannot be 'preserved' by being kept 'unchanged' or in an original form because the surfaces that the paintings are painted on are continually weathering naturally, as is the pigment, binders, extenders and so forth (Solomon, 1998; Bassett, 2001).

5.2. Rock art conservation

The importance of rock art and its need to be conserved has already been explained in detail in Chapter 1. Rock art is of national importance and as time passes, it is becoming more fragile, diminishing from its original settings. Studies have been completed that have evaluated rock art deterioration through photographical recording, and show that paintings are disappearing with time (Pager, 1989; Leuta, 2009).

The aims of conservators are to reduce the rate of the paintings deterioration - understand the natural weathering processes of the painted rock surface and to manage the area where the paintings exist and to educate people about rock art (Loubser, 2001). To conserve something, especially of importance, begins by creating awareness of the value it holds and then the education of the how one can care for it and manage it responsibly (Bassett, 2001; Deacon, 2006). Conservation is an intervention that avoids any physical changes to the painted rock surfaces (Whitley, 2005). Rock art conservation looks at managing natural impacts such as plant growth, the rubbing of branches on the motifs, diverting water flow from damaging the art and so on. Conservation also seeks to manage human impacts through education and awareness of conserving rock art (Whitley, 2005). In many ways, 'management' is a synonym for 'conservation'. The National Heritage Resources Act - NHRA (No. 25 of 1999) defines 'conservation', in relation to heritage resources, *"protection, maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance"* (NHRA 25, 1999:8).

Conservation usually avoids reconstruction of a site as this may involve massive intervention such as the controversial repainting of motifs (Morwood, 1994; Whitley, 2005). Literature also uses the term 'restoration' too loosely, but this term should not usually be used in the rock art context as rock art cannot be restored to its original state, as we seldom know what the original state was. For example, Loubser (2001:85) states that *"Conservation is not restoration"*. Management strategies and conservation methods can, however, be done in such a way as to enhance the site – sometimes by making it look as authentic as possible - enriching the visitor's experience. Some conservators aim to reduce the rate of decay of rock surfaces and the rock support of the painted or engraved sites. Other conservators focus on education and public awareness of rock art significance (Bertilsson, 2002). Conservation involves interventions including tourism, which also contributes to the

awareness of rock art weathering (Shaw & Williams, 1994; Fennell & Dowling, 2003; Mason, 2003). Actions of conservation and management include recording, analysis and interpretation. The first step in any conservation intervention is to do a baseline recording of the paintings and their condition (Loubser, 2001). A detailed observation and recording of signs of deterioration should follow – which is called a condition assessment (Loubser, 2001). Once the apparent natural and cultural processes of deterioration are noted, reviews of interventions are then made (Loubser, 2001). Long term implementation of appropriate intervention will then continue with sites being monitored and evaluated continually and even modified if necessary. All steps involved in conserving a site and recordings are to be documented, filed and stored (Loubser, 2001). However, this is very much an ideal process that is seldom properly implemented.

According to Loubser (2001: 94) current conservation methods and management approaches are *"not surprisingly tailored to prevailing archaeological paradigms and needs".* Loubser (2001) discusses that archaeological research at sites with images, is at times responsible for the condition of sites. Conservation methods handle rock art carefully and take into account the reactivity of materials and the fragility of the site. Rock art found in museums exist in a more controlled environment and don't face the weather conditions they would in their original physical settings. Museum rock art is also kept in closed displays, illuminated by florescent lights and are subjected to different micro-climates, but are luckily protected from anyone touching them (Van Grieken *et al.,* 1998). Site conservation is more complex, taking into account the humidity, temperature, light levels, vandalism and natural forces and effects (Whitley, 2001).

Conservation of rock art requires all parties to be involved especially when designing a management policy and strategies (Pedersen, 2002; Deacon, 2006). The expertise of archaeologists, conservators, site managers, scientists, tourism planners, geologists and engineers are all necessary to develop a master plan for a management policy (Whitley, 2001; Deacon, 2006). It is also vital to include the views, considerations and the cultural and economic needs of the local population. The most important goal of a management plan is to approach the conservation of a site as holistically as possible, to point out threats and to create countermeasures as well as a plan of methods to ensure implementation (Deacon, 1993; Agnew, 2006; Ouzman, 2006). Meiklejohn (1994) further explains that there are two possible methods of conservation; altering the environment where rock art is found and/or

applying interventions to the rock surface. Conservation archaeology has grown over the years as a result of the propagation of literature on the subject in the United States of America and Australia (Mazel, 1982; Loubser, 1991). Rock art conservation in southern Africa dates back to at least the 1911 Bushman Relics Protection Act (Deacon, 1993). Indeed, southern and especially South Africa has often led the way both in rock art research and rock art conservation.

Recording and documentation as a means of conserving rock art

The recording and documentation of rock art is a means of conserving the art, as explained in Chapter 3 – Methodology. The recording of rock art ensures the survival of the images and serves as a means to present these images to the world (Johnson & Maggs, 1979; Loubser & den Hoed 1991; Lewis-Williams & Dowson, 1992; Whitley, 2005). Another means of conserving a site is through the monitoring and maintenance of a site. This can be done more effectively with the use of a site record form that includes a classification of the site, be it a special, regular or a visitors site (Deacon, 1993). A visitation site should be inspected more regularly than a closed site for tourism (Deacon, 1993). The recording of rock art can be seen as a 'sub-paradox', because such recording constitutes as human impacts, affecting the art negatively, albeit in a professional and well-intentioned manner for the purpose of learning and understanding the San paintings.

5.3. The history of rock art conservation in South Africa

The non-renew ability of archaeological resources was recognised as far back as the 19th century when people like George Stow, Dorothea Bleek and Wilhelm Bleek made public, the parlous state of San rock art (Mazel, 1982). In the late 1970s attention was drawn to understanding San paintings in more detail by researchers such as John Wright, Patricia Vinnicombe and David Lewis-Williams (Deacon, 1993). The Bushman Relics Protection Act of 1911 was the first legislation for the conservation of any cultural resource in the then Union of South Africa (Deacon, 1993, Mazel & Wright, 2007). Legislation was initiated after the removal and export of rock art began to take place and it was realised that the San were no longer painting or engraving and that existing rock art was vulnerable to deterioration (Deacon, 1993). The downside of this protection act was that it did not effectively protect the art from vandalism and that only a permit was required to export rock paintings or engravings (Bassett, 2001). Also, while enacting far-reaching legislation to protect the art, hardly anything was done to alleviate the plight of the many San communities left devastated by imperial and colonial incursions.

Protection acts have, however, improved over the years. In 1923 the Natural, Historical and Monuments Act (Act No. 6 of 1923) was responsible for a wide range of rock sites, not only those attributed to the San people (Deacon, 1993). In proclaiming sites national monuments, Clarens van Riet Lowe gave prominence to 12 rock art sites - a high percentage among the woefully under-represented 'pre-colonial' history of South Africa (Deacon, 1993). The positive side of this legislation was that it allowed rock art sites to be declared as national monuments (Deacon, 1993). A few rock art sites were declared as national monuments in the 1930s but from the 1950s a policy was initiated that no archaeological and/or paleontological sites were to be declared unless the sites were in danger of being destroyed (Deacon, 1993).

A continued effort for conserving cultural resources was made by the Department of Environmental Affairs and Tourism by including human-made features in their definition of the environment in the Environment Conservation Act (Act 73 of 1989) (Deacon, 1993). South Africa's transition to a democracy in 1994 had profound implications for South Africa's heritage. The National Heritage Resources Act (25 of 1999) is responsible for the protection of all rock art paintings in South Africa and defines 'national heritage' as:

- places of cultural significance;
- archaeological and paleontological sites;
- historical settlements and;
- landscapes and biophysical features of cultural significance.

Transformation was needed to meet the principles and basic tenets of the new Constitution and to assess the needs of arts, culture and heritage of the country (Deacon, 2007). SAHRA uses a bottom-up approach that includes an integrated system allowing decision-making on the lowest level of governance (Deacon, 2007). The National Heritage Resources Agency (NHRA) requires that each province establish a provincial heritage resources authority. The responsibilities of this authority are to identify, conserve and manage all provincial heritage sites (Deacon, 2007). The most effective provincial authority in KwaZulu-Natal which is known as Amafa aKwaZulu-Natali, which was established before NHRA came into force. Amafa took over from the former KwaZulu Monuments Council (Deacon, 2007). The NHRA uses a well structured process for the conservation and management of heritage resources, which is widely used and accepted. The process involves three

stages, identification of resources, assessments of the level of significance and the assignment of an appropriate management strategy (Deacon, 2007). The National Monuments Act (28 of 1969) includes that it is an offence to destroy, damage, alter or remove any form of rock art from its original site and prohibits any form of export of the art that was produced by the ancestors of South Africa before 1652 (Deacon, 1993). The downfall of this protection act was that any rock art produced after 1652 was not protected, unless it was believed to have been done by the San (Deacon, 1993). The difficulties involved in dating rock paintings and engravings also created a legal loophole in this legislation.

The National Heritage Resources Act of 1999 is an integrated and interactive system for the management of national heritage resources that lays down general principles for governing heritage resources management throughout the Republic (National Heritage Resources Act, 1999). The act is there to introduce an integrated system for the identification, assessment and management of South African heritage resources, promote the management of heritage resources at national level and to provide protection and management of conservation-worthy places and areas by local authorities (National Heritage Resources Act, 1999). Rock art legislation aims to promote good management of the national estate, to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed to future generations. Legislation states that rock art may not be modified, excavated, removed from its original site, or exported without a South African Heritage Resources permit or a relevant permit from provincial authority (National Heritage Resources Act, 1999; KwaZulu-Natal Heritage Act, 2008). Anyone that is found writing on a rock face and/or boulders, removing rock art or damaging the site either by the removal of trees or plants or committing any offence is liable for prosecution, which should they be found guilty will result in a heavy fine or possible jail sentence (Page, 1999; National Heritage Resources Act, 1999; KwaZulu-Natal Heritage Act, 2008).

Despite the fact that the National Heritage Resources Act 25 of 1999, drew heavily from the Australian, Canadian and US contexts, it is very good and well suited to South Africa. The general ignorance of people as to the importance of rock art renders implementation and policing of such legislation very difficult. Rock art sites continue to be damaged by witting and unwitting offenders who are difficult to identify and apprehend. Some of the biggest threats to rock art and archaeology are caused by development and developers. A continued effort to conserve cultural

resources was made by the Department of Environmental Affairs and Tourism by including man-made features in their definition of the environment in the Environment Conservation Act (Act 73 of 1989) (Deacon, 1993). Today South Africa's government is supporting conservation and the management of rock art to a degree like never before. Partnerships have come together between landowners, farmers, indigenous people, museums and universities to ensure that sites are managed correctly and that sites are open for public viewing (Bassett, 2001). But it is still not enough to simply just have legislation and technical interventions in place; public support is needed at all levels – and the best way to achieve this, is through rock art education.

5.4. Rock art education

In order to understand and appreciate what rock art is about, the public need to be educated, as an educated population will thus, understand the importance of conserving this part of South Africa's heritage (Mazel, 1982). The role heritage plays is important in people's lives and in a country's history, especially when it can be used to unite a country – as seen in South Africa's coat of arms (Mazel, 1989; Smith & Lewis-Williams, 1998; Smith, 2006).

Rock art sustainability is achievable through education, guidance and a range of research, training and management programmes, which should be integrated into extensive heritage and landscape promotion themes (Clottes, 2006). General public awareness of the value of rock art and the need for its protection will only become a necessity if the public are made aware of and recognise its value and realise that this national asset is disappearing before our eyes. Through education awareness can be created and must take place at all levels; at universities, schools and to the general public by means of advertising. Public interest and concern for rock art does not have a profile, in order to change this, education must be a fundamental part of every site management plan (Deacon, 1993). The general public needs to realise that rock art is a common humankind phenomenon that occurs around the world and that has a direct link to our ancestors that in turn can be seen as a general link to human unity (Clottes, 1997). For example, public education has been recognised in Australia and the USA as a major factor in conserving archaeological resources (Mazel, 1982). A breakthrough in conservation is selling the idea of the importance of cultural resources to a broader public, because once the importance of a heritage resource is recognised and acknowledged, the management requirements in the field are reduced (Mazel, 1982). The support of as many publics, as possible is crucial for the implementation of educational programmes and the concomitant management of

rock art and archaeological sites. Public education can be attained on national and local levels. National level education starts with the value of the archaeological resources and the results of such research should be shared with the public and not kept among archaeologists and researchers (Mazel, 1982). These resources, results and information should be included in the school syllabus educating pupils about the country's heritage of the San people and their paintings. One must however remember that there are no effective conservation methods to ensure the ever-lasting survival of rock art in its natural setting.

The Witwatersrand University (WITS) has an Archaeological Resource Development Project (ARDP) which has designed and produced educational posters for rock art preservation (Jolly, 2006). These posters are mainly aimed at children to provide them with a story line for rock art and how to protect it. Interaction and communication with the local populations also provide the locals with knowledge of the paintings and how to manage them; this increases rock art conservation (Jolly, 2006).

The future of rock art lies in the concentrated efforts of government, scientific institutions, researchers, non-governmental organisations, landowners and individuals. Landowners that have the rock art on their land need to know the value of rock art if they are going to allow visitors to view it (Eastwood *et al.,* 1994). Landowners must undertake to accompany all visitors to the site thereby protecting the paintings from vandalism otherwise they should discourage visitors from visiting the site (Eastwood *et al.,* 1994). The KwaZulu-Natal Heritage Act of 2008 and its statutory body Amafa also protect San rock art. TARA is a trust for African rock art and aims at creating global awareness of rock art and promoting conservation measures (Coulson & Campbell, 2001). Rock art that is found in parks and reserves are managed by access control and in some cases an entrance fee to view the art is required. Assistance from museums, educational institutions and other researched, recorded, published work done on rock art contributes to the awareness and conservation of rock art and its future. The protection of rock art in Southern Africa has a chain of organisations assisting with the protection, research and preservation of rock art. One of the main worldwide organisations involved in rock art conservation is UNESCO which is involved in World Heritage Sites and has interrelations with the International Council on Monuments and Sites (ICOMOS). All of which, helps to promote a better understanding of rock art globally (Coulson & Campbell, 2001).

South Africa has a number of specialised rock art recording centres as well as a rock art research institute both of which are based at the Witwatersrand University in Johannesburg where rock art education is promoted. After the elections in 1994, important shifts in the official policies of labour, land rights, welfare and conservation developments led in 1997 to a merger between the Natal Parks Board and the Nature Conservation Department of the former Bantustan to form Ezemvelo, (Wright & Mazel, 2007). Ezemvelo contributes to conservation, with their help – all the rock art found in UDP's reserves are protected. The recruitment of more specialists such as archaeologists, historians and conservators in the future will strengthen Ezemvelo as the main conserver of UDP's art.

After the tenth International Symposium on Rock Art in 1992, an appeal was made to all international organisations and governments to promote the understanding of rock art (Anati, 1993). It was suggested that educational programmes on the cultural value and the preservation of this heritage be initiated and that the location of sites be conveyed on all levels especially to the people living near where the rock art is found (Pager, 1989; Anati, 1993).

Today, economic development is a necessity for the growth of the country. Unfortunately, this means the conservation of rock art paintings becomes a low priority. Even though this is a reality, the tourism industry is one the fastest growing industries in the world with archaeo-tourism and rock art tourism increasing in popularity (Deacon, 2006; Marschall, 2006). Essentially we are unprepared for it, as it was assumed that the best way to manage rock art sites was to prevent tourism (Whitley, 2001). Levin (1991) further explains that a historical site is a heritage that should be conserved rather than a commodity to be exploited.

Thus the protection of rock art must take place in three ways; legislation, education of the masses and through effective management (Deacon, 2007). Rising tourist numbers to rock art sites means the threat to the rock art sites has increased. To prevent these threats, suitable management methods as discussed in the next Chapter, must be developed in order for tourism to continue at rock art sites (Coulson & Campbell, 2001; Leakey, 2001).

CHAPTER 6: MANAGING ROCK ART RESOURCES

In this project, management is seen as a resolution, even a need in order to manage rock art resources when tourism takes place at sites. The Chapter defines management; highlights the management process and management practices at rock art sites are discussed. Management is an important issue to be discussed as it is a means to protect the site as much as we can while the art exists from human impacts and by taking in account the natural impacts and process which that cannot be all be halted.

6.1. The term 'management'

Rock art has a high heritage value to South Africa, and the history of the progression of art done by humans in the world, thus the San painting being included on the UNESCO list of World Heritage Sites. Because of this, the management and conservation of rock art sites are a key issue, to conserve these painting as long as we can. Site management is vital but at the same time is difficult to carry out without the correct specialists and funding (Loubser, 2001). 'Management' is a term that is used repeatedly in this project as the conservation of rock art is dependent on the management strategies and plans of a rock art site. The management of sites is a primary focus of this project and is one of the three main objective criteria that this project investigated (the other two looking at the deterioration of rock art and sites and looked at tourism and development in the area and site). In order to have the sites open to the public to view the art, sites need to be managed effectively for the sake of the art, the art's surrounding environment and for the sake of enjoying the San culture, South Africa's descendants while the art exists. It is thus important, to start with defining the term 'management' to fully understand terms linked to it. To contextualise rock art with the management term, below is a general definition of management.

*"**Management** – noun: the act of running and controlling a business or a similar organisation 2. The act or skill of dealing with people or situations in a successful way"* (Hornby – Oxford, 2010:935).

In this case, the above definition, works as rock art is a resource that needs to be handled in a skilful, successful and most appropriate way in order to conserve the art. In order for management methods to take place, a management sector needs to

take control in formulating management strategies and to manage the site as a whole efficiently. The National Heritage Resources Act 25 of 1999 describes the term in relation to heritage with conservation, presentation and improvement of a place, protected in terms of this act (National Heritage Resources Act, 1999). Thus, the conservation of rock art heritage determines precautions to prevent further deterioration of the paintings (Page, 1999). In the past, a traditional management approach was to keep rock art sites unknown and not to publish them; this kept the general public away and incurred minimal costs (Whitley, 2001). Even though this is still a method used for rock art management, a few 'sacrifice' or set aside sites are developed to satisfy people's needs of seeing rock art by still keeping them away from unmanaged sites. The major concern about this approach is how to conserve the rock art even if it is not open to the public or whether to leave the site to decay naturally? (Whitley, 2001) discusses how site secrecy causes problems, as once a site is found; people have a tendency to jump over fences and to break the rules of rock art sites.

The goal of site management is for the public to be able to view the rock art but not to let the number of tourists and tourism development get out of control. In this case, management includes taking the interest of the different role players and tourism organisations (George, 2007). In the UDP, Ezemvelo KZN Wildlife, Natal Museum and Amafa aKwaZulu-Natali and KwaZulu-Natal Nature Conservation Services manage cultural heritage sites in terms of the KwaZulu-Natal Heritage Act No. 4 of 2008 Management has a number of functions, including marketing, finances and human resources .

George (2007: 173) defines management as *"the process of coordinating an organisation's human and physical resources so as to achieve its goals"*. George (2007) further discusses how management tasks include four main elements which are planning, organising, leading and control. Management actions must start with identifying a cause of change in order for subsequent corrective actions to take place, if identified early, this will save time and money at a later stage (Pedersen, 2002). Once management actions take place, maintenance is necessary and with the help of an education campaign this can be effective (Pedersen, 2002). Direct management methods confront the problems first hand with regulations, enforcement, restricting and rationalising actions and use. Indirect methods include affecting people's behaviour through education, persuasion and information, which will provide visitors with appropriate behaviour methods at sites and why they should

behave differently (Pedersen, 2002). For example, physical alterations at a site are also indirect management methods, redirecting the flow of tourists at a site (Pedersen, 2002). A combination of methods is the way forward especially when trying to control vandalism, protecting an area and resources physically, making a site inaccessible to vehicles, increasing admission fee and sometimes protecting a site by not promoting it (Pedersen, 2002). In the long run, indirect methods are the cheaper option as direct methods are time consuming and costly. The most effective least restrictive management method should be implemented first and monitored then if necessary, other more restrictive methods could be put into practice (Pedersen, 2002).

6.2. Management plans

A management plan is constructed in order to coordinate planning and interventions to conserve rock art. Management plans are regarded as assessments of the environment, history, natural condition, interested parties, negotiation and administration with management strategies and interpretations; this is all according to Loubser (2001). Management plans are also used to investigate the appropriate needs for different types of visitation at sites. A management plan is updated every two years, which helps to review the success of conservation interventions applied at sites and to update any changes in the conservation priorities, requirements and any new interested parties (Loubser, 2001). An outline of a typical management plan falls under environmental and historical contexts including aspects dealing with the (Whitley 2001);

- Significance of the art: spiritual, historical, for tourism or for research;
- Condition: of the rock surface, rock support and the paintings and,
- Management: the context of ownership, constraints and the tourism opportunities

From the management plan, management strategies are put into practice to minimise or reduce the impacts on the socio-economic and physical environments (Pedersen, 2002). A management strategy is a repeatable method that can be applied at different rock art sites and is divided into four main concepts (Loubser, 2001);

1. *Rock art conservation:* at a site includes the maintenance of the site and the trying new interventions;

2. *Visitors at a site:* need to be controlled but at the same time free to explore the site to experience and to interpret the art;
3. *Marketing of the site:* can be an active or a passive method even a decoy and lastly;
4. *Periodic re-assessment*: needs to look at recommendations at a site after monitoring reassessments and modifying the strategy for new management methods.

"What is deemed as appropriate management practice is largely determined by social context during particular historical periods" (Whitley, 2001: 82). There is no single right way to manage a rock art site as each site is different and needs specific conservation methods to suit its needs. Conservation is a relative term that changes over time (Loubser, 2001). Management is also subjective as indigenous custodian's interests and agendas differ to westerners (Loubser, 2001).

Conservators, managers, visitors, researchers and the local community all have different backgrounds, attitudes and notions of the age, context, meaning, conservation, aesthetic appeal, spiritual ways and meaning of rock art. A general concern is to conserve the rock art from natural and human agents and to further conserve the wider region of the site. Integrated natural and cultural conservation can only benefit each other.

6.3. The management process

Rock art is found all around the world, but it is sites in Australia, France and the United States of America, that have had some of the most research completed on rock art site protection management (Deacon, 1993). In order to study the deterioration and management of rock art, the site needs to be evaluated and factors that have been identified that lead the paintings to deteriorate at a faster rate need to be dealt with first. The relationship the rock art has with its environment is a vital step to understanding the impacts on the paintings and their conservation. All processes found at a site need to be included in a holistic approach. Each site needs to be assessed individually to devise the correct protective measures that will suit the site, the artistic medium used, the rock surface, the climate and biological environment (Batchelor, 1988). Every site needs an initial assessment and management plan that lays out the details of what needs to be done for the long term survival of a site (Clouse, 2000).

After the initial assessment, identified procedures are then identified and undertaken for different activities. In order to come up with a management plan, data needs to be collected from the site and the art as well as the condition of the site at present before moving on to management methods (Clouse, 2000). The first step to implementing management strategies at a site is to identify and collect data relating to the site and visitation. For instance, monitoring the seasonality of visitors to a site and the size of the groups visiting (Franklin, 2000). One needs to look at what infrastructure already exists at the site before erecting more and whether it can be altered in any way to suit new management strategies. Examining what available interpretive information there is and to see whether the local population are involved in any existing management plans is also vital (Franklin, 2000). Secondly, a condition assessment takes place. An assessment that is a technical study is conducted by a trained conservator which assesses the site for current and potential hazards and provides possible solutions (Whitley, 2005). At a rock art site, a conservator will look at the status and condition of the rock support, paintings and archaeological deposits (Whitley, 2005). Lichen and biotic growth, animal activities, weathering processes, erosion and human actions at the site are noted as they all have impacts on the site and motifs (Adamo & Violante, 2000). When evaluating the changes at a site, a condition assessment comes in useful (Whitley, 2005).

Thirdly, the management assessment is the final process in writing up a management strategy. The management assessment deals with the ownership of the site, existing laws, regulations and the use of the site (Whitley, 2005). These issues need to be dealt with to ensure the future of the site. The different assessments are compiled together to form a management plan for a site that accommodates all involved parties. The aim of the management plan is to point out what needs to be done to protect, manage and to conserve the site (Whitley, 2005). All management plans include flexible recommendations for a site for different circumstances and conditions. The effectiveness of a management strategy should be measured by regular monitoring of the site's conditions and modifying the management strategies where necessary (Whitley, 2005). It is important to take into consideration the principles of rock art site protection and management that has been already developed and applied around the world as these could in some cases be applied at South African rock art sites and would encourage worldwide continuity in managing rock art sites for the future. Case studies are obviously useful and provide insight into this – and it is this empirical data, framed conceptually, that this project hopes to add to this larger venture of rock art management.

6.4. World rock art management

Both the USA and Australia believe in patrolling sites found in reserves as a mechanism to protect rock art sites but little has be reported on this in literature (Mazel, 1982). The climatic, morphological and geological conditions, favouring factors which help conserve rock art in Australia are similar to South Africa. Thus these ideas and methods are adapted and used in South Africa. Gale and Jacobs (1987) did extensive work on the reactions of visitors at rock art sites. The study was conducted and amongst other findings it was shown that the visitors that were more likely to damage rock art were children, especially in large groups with little adult supervision as stated in the previous Chapter. Local residents, who lived close by to the site, were also guilty of damaging rock art sites. The site's size also influenced the behaviour of visitors. Sites that are small are more prone to overcrowding and accidental damage and touching of the art, whereas at larger sites, touching of the art is done deliberately (Gale & Jacobs, 1987). More attractive, fresher looking and unusual images were also noted to be touched more (Gale & Jacobs, 1987). Tour guides to the rock art sites play a major factor in the behaviour and appreciation of the art. If the quality of the information given to the tourists is not relevant or accurate, the experience of visiting a rock art site will not be as effective and some tourists may leave more disappointed and confused than before they arrived (Gale & Jacobs, 1987). The distance to the rock art site, has significant influence on the behaviour of visitors and the condition of the site in general. If the site is a fair walking distance from the car park or camp, this will result in fewer visitors at the site. Another issue that plays a role in management measures for a rock art site is providing well marked out paths that will encourage visitors to keep on route to the rock art site. The use of barriers and signposting on route and on site works psychologically on visitor's behaviour (Gale & Jacobs, 1987).

On site, interpretative signs are regarded as useful, informative and desirable by visitors. To obtain full effect the placement of the signposts was one of the most important issues at sites (Gale & Jacobs, 1987). Information provided at interpretive centres at a distance from the rock art site i.e. at the camps provides conflicting debate. As it was found by providing information at the centre at a close distance from where they are staying, the visitors preferred visiting the centre (Gale & Jacobs, 1987). At these centres, it was noted that only a few visitors read the provided information and some visitors preferred to rather see the real site. However, it was observed that the visitors preferred reading informative pamphlets that were short and provided clear maps and images (Gale & Jacobs, 1987). People that had read

the pamphlets behaved with more respect at rock art sites. Another situation in Australia is that their rock art is seen as a pattern of habitation and being features of the landscape (Tacon & Faulstich, 1993). Rock art sites are invariably associated with common geographical features such as permanent water, food resources, and a resting place where the rock paintings are normally found as this was their place to the spiritual world (Tacon & Faulstich, 1993).

A management programme example, from the USA includes a site that was a victim of vandalism, an increased in the local population in the area which created an increase in environmental issues such as slope stability, trampling of the vegetation, erosion and the development of towns in the area (Pilles, n.d). The management plan for this site in Northern Arizona included, public involvement and responsibility, interpretation, law enforcement, graffiti removal and visitor control (Pilles, n.d). Pearson and Sullivan (1995) advocated management processes involving the preparation of the management plan to be drawn up by the facilitator but is driven by the key stakeholders. In Australia, this mentioned model of site development has been remarkably successful and is now known as the Cook University Management Process (Smith, 2006). Rock art protection methods and management have been greatly influenced by these developments in Australia (Deacon, 1993).

6.5. South African rock art management

The Bushman Relics Protection Act of 1911 was the first legislation for the conservation of any cultural resource in the Union of South Africa (Deacon, 1993). The downside of this protection act was that it did not protect the art from vandalism and it only required to obtain a permit to export rock painting or engravings. From this point onwards, rock art site management increased, protecting the art from people vandalising sites to managing sites for them to be open to the public. New approaches of research began, including removing graffiti, touching up paintings, surface management methods as well as site management methods (Mazel, 1982).

6.6. uKhahlamba-Drakensberg Park rock art management

Over the period 1978-1981, a project was conducted by Aron Mazel, which was funded by then the Department of Water Affairs, Forestry and Environmental Conservation. It surveyed a number of archaeological resources under the management of then the Natal Parks Board (now Ezemvelo) in the Natal Drakensberg (Mazel, 1982; Deacon, 1993). Mazel considered and made use of management methods already used in Australia and came up with management

methods that suited the Drakensberg rock art sites. Particular emphasis was placed on management and education and how rock art information needs to spread locally and nationally (Deacon, 1993). Mazel's (1982) general management recommendations in 1982 were:

- No camping be allowed in painted shelters;
- instructions be given to management officials, regarding such issues as veld burning in the vicinity of archaeological sites;
- the selection of a few rock shelters as interpretive sites with adequate management methods, but no information on the location of the other sites be given and;
- regular patrolling of sites by forestry officials, ranging from three times a week to once a month paintings.

During Mazel's project, a photographic assessment of the deterioration of rock paintings was done by an archaeologist at the Natal Museum who reported back to the site managers (Mazel, 1982). The frequency of patrol visits was determined by a rating based on relative accessibility, situation of the site in relation to paths, the visibility of site, the location of the site relative to high or low use areas and evidence of modern human occupation, knowledge of the site judged and amongst other factors, by the occurrence of vandalism (Mazel, 1982).

Mazel's recommendations for public education were (Mazel, 1982):

- The construction of an interpretive centre with a small lecture theatre and souvenir shop that could be used to give visitors a general introduction to the reserve, that would include information on the geology, geomorphology, fauna, flora and archaeology;
- that a survey be conducted to find out what visitors want to know from a site;
- that interpretive sites be identified, but that public visits be on a strictly controlled basis under supervision of an official so that anyone caught at a site without an official could be prosecuted and;
- that a range of informative publications be made available.

America is famous for its love of thematic approaches of historical and archaeological sites which are run by the National Park Service (Mazel, 1982). The UDP does not have sufficient variations for this approach as archaeological

resources in the park are *"homogenous and are either rock art or non rock art shelter sites"* (Mazel, 1982:8). A notable difference between northern and southern Drakensberg rock art has been made but not to the extent that it can be categorised for public consumption (Mazel, 1982). However these sites have been noted and highlighted when sites are chosen for interpretation (Mazel, 1982). From previous studies made in New South Wales, Australia, the question of 'what tourists want to from a site?' was investigated (Mazel, 1982). Results indicated that visitors are in search of entertainment and to understand the significance of a site (Mazel, 1982). General questions asked at a site for example, 'how old is it?', 'What does it mean and who did it?' all reflect an interest in the art (Mazel, 1982). The interpretative information provided at a site needs to answer these types of questions to satisfy the visitors curiosity. Interpretation displays at a site need to focus on the importance of the specific site and not the broader contexts of rock art as this can be done at interpretive centres. Impressive rock painting shelters are normally chosen for interpretation so to suit the need of impressing visitors but this faces threats of its own that need to be faced as a consequence (Mazel, 1982). General management recommendations have been carried through such as, no camping to be allowed in shelters containing rock art or archaeological artefacts (Mazel, 1982). The whereabouts of sites that are not interpretative sites should not be published on maps, in brochures or by any other means. That the burning of surrounding grassy areas to not be done too close to archaeological sites and that agreed maximum safety distances be adhered to (Mazel, 1982).

6.7. Tourism Management

Page (2007) suggests that tourism management occurs at three levels. First there is the individual business level dealing with the company, then the destination level of destination management and lastly at the country level with the Ministry of Tourism. It is important to remember that site managers of an attraction need to meet the fundamental demands of preserving and managing the site while at the same time encourage a continuous flow of visitors to the site (Shackley, 2006; George, 2007). A number of methods can be applied to a site to help manage visitors (George, 2007):

- Opening hours: to the site
- Pricing: different prices for different seasons and times of the day
- Pathways: the direction of flow at a site along a path or to the site
- Signage: to direct visitors to the site, at the site and away from the site

- Brochures: provide a sense of direction to the site, educate visitors about the site, art and the way visitors should behave
- Number of visitors: only allowing certain number of visitors at a site per day and/or certain numbers for pre-booked tours.

The management of the site and staff needs to run smoothly for visitors to experience a memorable, authentic visit of good quality (George, 2007). The carrying capacity of a site deals with how many people a site can handle without physical alterations of the site and the quality of the experience a visitors encounter when a visitor visits (George, 2007). Visitor and traffic management at sites are methods used to avoid increasing negative environmental impacts at a site.

6.8. Management methods for uKhahlamba-Drakensberg rock art

Deterioration of rock art sites and paintings are influenced by a number of natural and human impacts. Natural impacts include natural elements of rock weathering and alterations in the environment; these are harder to manage than those caused by human impacts. Human impacts especially from tourism pressures were focused on in this project. A recap of examples of how humans impact rock art sites and paintings are (Ollier, 1984; Gale & Jacobs, 1991; Jolly, 2006):

- Wetting of the paintings
- Smoke made by herdsman/hikers in the shelters
- Scratching on the rock surfaces and on the paintings
- Outlining the paintings with charcoal, pencil or crayon
- Letting the livestock into the shelter and rub against the art
- Brushing up against the art, from visitors and researchers
- Inappropriate behaviour at a site including above actions
- Using a stick to touch the motifs, to point out or to describe them
- Deliberate chipping of the paintings and vandalism
- Development of the site and general visitation of the site

After taking these human and the natural impacts into consideration, management strategies are decided upon and methods are carried out directly and indirectly in order to conserve the rock art sites and to manage the people visiting the sites

6.9. Direct management methods

Besides first-hand management of regulations, enforcement and restricting measures at sites, direct management includes physical alterations, adjustments and use of sites (Pedersen, 2002). Human impacts are easier to mitigate than natural environmental impacts. For example, the following measures may be implemented for decreasing human impacts: site being closed, numbers controlled, and barriers setup at sites to create a walkway and to protect the art from any physical contact.

Site Management:

Each site is unique with its own geological, environmental and human impact challenges that change over time. Management activities are thus dependent on the site properties, how popular the site is and how accessible it is (Swadley, 2002). The most drastic but successful management measure is the closing of a site to public visitation to draw attention away from site's location, this is one of the best management and conservation methods for fragile sites, though it defeats the aim of making sites accessible to various publics (Deacon, 1992a; Loubser, 2001).

Open and closed sites:

Deacon (1993) advises that only a few sites should be selected to be 'sacrificed sites'/open sites to the public to satisfy visitor's interests rather than making all sites available for visitation. The selection of a small number of sacrificed sites that can be visited by the public under controlled conditions is preferable both to closing all sites. A positive move towards conserving rock arts is by selecting some sites to be sacrificed for visitation with management measures in place, to keep other sites as unknown to visitors or classified and to remove sites that are not open for visitation from maps (Walsh, 1884; Deacon, 1992b; Deacon, 1993). If sites are damaged and are very fragile it is then best to close the site off to any unauthorised visitation (Loubser, 2001). The determination of which sites should be open to public visitation should be based on a regional perspective including infrastructure developed in the area for tourist demands (Loubser, 2001). According to Loubser (2001) management methods on a site are determined with these factors in mind:

- The history of the visitation at a site;
- the accessibility to the site;
- the condition of the rock surface and paintings and;
- the significance, value and uniqueness of the images.

Once the decision has been made on which sites should be open to the public and which not, the sites that are to be opened for tourism need to be located, described, recorded, access made to the site and managed effectively (Mazel, 1982). Without these management methods, the open site is exposed to vandalism and destruction (Mazel, 1982). Deacon (2006) discusses how it is impossible to keep the public away from sites even if they are kept secret. If some sites are to be kept anonymous, their identification and location should not be published in literature and maps (Bednarik, 1993). All signage regarding the site should be removed and the trails leading to the site should be covered up or diverted to new locations (Swadley, 2002). Things that need to be addressed at open sites include; facilities for visitors, accommodation, activities, admission fees, condition of access roads, general access to the site and contact details, while trying to keep the area well maintained and as natural as possible (Deacon, 1992b; Lewis-Williams & Blundell, 1998). The advice of experts on rock art is essential for long term planning. It should be budgeted for and sought on a regular basis by the managers of areas where the public is allowed access to rock art (Deacon, 1993). A top to bottom government approach is needed for necessary funding and legislation, in order for provincial and local parties to produce proactive management methods at sites – not forgetting indigenous consultation too.

Access and signage:

Controlling access to a site is a key means of conserving a site. Fixed routes to the site with an authorised guide ensure that the correct behaviour at sites is adhered to. Rock art trails which have been advertised and laid out by land owners are usually self-guided and don't have visitor protection and controls (Smith, 2006). To ensure protection and control at public sites, the South African Heritage Resources Agency have set out required minimum standards that need to be adhered to before a site can be opened to the public (Smith, 2006). Steps that can be taken to control access are varied. For example, sites located on existing maps do not have the distances to scale, but are there to provide a general distance and time limit. Well marked and maintained trails in the rock art region are vital as these are methods of conserving the natural environment too (Swadley, 2002). It is important to make the path to the site distinct and paths should follow the contours to avoid unnecessary erosion. The path should not enter the site at a position where the archaeological deposits or the rock art can be damaged (Deacon, 1992a). As part of site access, signage at sites is an effective management tool as it points out the behaviour expected at sites (Bednarik, 1993). The introductory notice board should

be displayed at the end of the path and at the beginning of the site (Deacon, 1992a). Signs direct visitors at a site and create a positive impression when visiting. If a site is open, adequate signposting is needed and if the site is kept locked, clear arrangements must be visible for viewing times and/or the key collection and return (Deacon, 1992a).

Guides:

Visitors should only be allowed to visit rock art sites in the presence of a guide or guard (Mazel, 1982). Damage is minimised through guides preventing disorderly behaviour and encouraging proper site etiquette (Mason, 2003). Guides promote conservation ethic, are leaders of a tour group, are an educator and are a vital part of the public relations of a rock art site (Mason, 2003). Continuous training is necessary for these guides in order to enhance the tourist experience at a site. If the site is only open by appointment, a guide should be available to open and provide information about the site. Site interpreters can modify the way visitors think and behave at a site. More harm is done by untrained people, thus it is advisable to pay for expert advice and on the long term planning for rock art protection (Deacon, 1993).

Physical protection of rock art:

Another drastic management method is the caging of the site to stop people touching the paintings. Caging is not a preferred management method as installation damages the site and deposits of rust and cement are incompatible materials to be used at a site (Loubser, 2001). Steel cages are obtrusive but are still a method of keeping visitors away from the art. Sites that are protected with fences and cages create a poor visitation experience (Smith, 2006). Fences don't provide visitors a enjoyable opportunity to take photographs. Thus this is the start of vandalism at sites when fences are tampered with, damaged fencing suggests that such sites are not well presented to the public and create a serious adverse impact on the site conservation (Smith, 2006).

Combination of physical and psychological barriers

Physical and psychological barriers such as low fences, ledges, are strategically placed to stop visitors getting too close to the art. The vulnerability of the site, determines the precautions undertaken at sites (Deacon, 1992a). These barriers are also used to sub-consciously guide tourists through the site along the laid out pathways, railings are a good example here (Deacon, 1992a). Railings and

barriers are also used at sites for the safety of the visitors. Other natural barriers can be used, such as the boulders and rocks on site (Deacon, 1992a). These can be placed around so to prevent easy access to the rock paintings, at the same time keep the site going natural without development of boardwalks.

Protection of the surface and deposits:

An effective cover should be put on the floor of the site to prevent the raising of dust being kicked up and damaging the rock art and to stop picking up the material on the floor (Swadley, 2002). The construction of boardwalks and platforms at sites is recommended for (Walsh, 1984; Deacon, 1993; Swadley, 2002):

- Visitors to walk along them;
- provide a perfect viewing point of the art and to take photos;
- creates an access route through the site;
- keeps visitors at a distant, out of hands reach of the art, and;
- provide an excellent area for information, interpretive panels and a spot for guides to provide and educate visitors with information about the rock paintings.

Boardwalks are made of steel or fire-treated timber away from the art with an elevated view, which provides adequate access and views for visitors, while it doesn't disturb the deposits below (Swadley, 2002). Covers vary from boardwalks, geo-textile, mats, gravel, crushed stones or large slabs of natural rock from the surrounding areas of the site (Swadley, 2002). If a site is being excavated, these areas need to be covered up and stabilised preventing these sections from collapsing and to prevent people entering the excavated areas (Swadley, 2002). Any developments, excavations and covering up of surfaces need to be done carefully so not to damage the site and rock art.

Visitor's register:

Visitor books at a site are an effective management and conservation method, giving visitors the opportunity to write their names and comments in (instead of vandalising the site) (Swadley, 2002). Visitor's registers also provide visitors space to leave their comments pertaining to the rock art site and their experience (Steel, 1991). These comments can then be used to improve the site's experience for tourists and in the long run prevent future unnecessary human impacts at the site (Mazel, 1982). A visitor's book should be kept in a container to protect it from the

weather and situated in a convenient place (Deacon, 1992a). If a visitor's book is not present at the site, the entrance office should at least have a register of people entering the site (Walsh, 1984; Deacon, 1993).

Parking and surrounding area:

Parking areas create tourist's first impression of a rock art location as this is what tourist sees before entering the site itself. However these areas need to be a distance from the site. If these areas are well maintained, this presents the impression that the site is not neglected and that it is maintained regularly by staff demonstrating authorities are in the vicinity thus lessening chances of vandalism (Swadley, 2002). Parking areas should have sufficient space away from the art viewing area that allow for visitors to rest or have a picnic (Mazel, 1982). The parking area should be marked by a barrier between it and the start of the path. All sites should have provision made for vehicles; there should be adequate parking spaces and well maintained access roads (Deacon, 1992a). Most sites in the uKhahlamba-Drakensberg Park are far from parking areas, which are mainly situated at the camp offices. One needs to hike from the camp, normally uphill to reach rock art sites.

Information before and at the site:

Before visitors visit a site, they already have a preconceived idea and expectations which are not always met with, this can result in the visit to a rock art site being an anti-climax and can even lead to vandalism and negative advertising (Deacon, 1993). The reason for these actions could be caused by a lack of understanding of the significance and purposes of the rock art to the community and even to the cultural heritage of the country. Ways to overcome this, would be to provide the public with information regarding rock art and visitors with educational material such as pamphlets, displays and images of high quality that will attract the public's interest in the topic, and that is of a standard what the public will be willing to pay for (Deacon, 1993). A pamphlet should be descriptive with information on the age, the meaning of the paintings, how they were made, how to conserve them and information about the authority that protects the sites (Deacon, 1993). Guide books provide information about rock art sites and the value and the importance of the paintings. An explanatory leaflet or pamphlet that is specific to the site is necessary for tourists to enjoy the full experience of the specific site (Deacon, 1992a). Interpretative panels with more detailed information should be at sites, to enhance the tourist experience which in turn will project an impression portraying the art is of significant value (Swadley, 2002). These panels also provide an opportunity to

explain visitor etiquette at sites with extra information on the surrounding area, for example the flora, fauna and geology (Swadley, 2002). A display concerning the rock art found in the reserve should also be at the interpretation centre or reception of the camp for one to have an idea of what to expect.

Removal of graffiti and expert's advice:

It is vital to employ professional archaeologists and expertise to visit and update management plans and guidelines (Deacon, 1993). If graffiti is present and the decision has been made to remove it on the premise that graffiti attracts more graffiti, professionals should be entrusted to remove it and the required permits obtained (Deacon, 1992a). Expert advice on rock art is essential for long term planning. It should be budgeted for and sought on a regular basis by managers of areas where the public is allowed access to rock art (Deacon, 1993). Another fact is that as much as tourists have positive and negative impacts on rock art, researchers themselves are to blame too, because of their excavations on site, creating dust and the tracing of the art (Bednarik, 1993).

Regular maintenance:

Provision should be made for regular visits to the site by the manager or property owners to check for litter, damage and graffiti (Deacon, 1992a). Regular monitoring of vegetation should also be done so that, if necessary measures can be taken to protect it against trampling, the control of potentially dangerous plants with thorns, remove any that is touching the art and the removal of dead wood to minimise the risk of damage by veldt fires (Deacon, 1992a). The monitoring of a site is done more effectively with the use of a site record that includes a classification of the site, be it an open, regular site for visitors or a closed site (Deacon, 1993). An open site should be inspected more regularly than the other types of sites. Regular maintenance should follow management guidelines proposed for each site and should contact the correct agency if vandalism has taken place. Other regular activities should include, maintaining the information panels, the site generally, inspecting the visitor's book and for any signs of vandalism (Deacon, 1993).

Regulations

Fines given out for vandalism at a site represent the importance of the art and how it should not be tampered with (Bednarik, 1993). These types of measures do help to a point, but legislative protection and public education are a better means of minimising vandalism at sites. Sites should have an introductory notice board

explaining that the site is protected by law and not to touch or vandalise the site and art (Deacon, 1992a).

Controlling moisture at sites

Direct protection of the rock or altering the natural setting of the site; so that the temperature and moisture conditions are kept at a minimum are ways of conservation (Meiklejohn, 1994). Temperature and moisture go hand in hand in contributing to the examination of weathering processes (Hall, 1997). Water runoff found in the vicinity of the rock paintings should be diverted away by installing a short term drip-lines, ridges or gutters redirecting the water path (Meiklejohn 1994, Lewis-Williams, 2003).

Other management methods

There should be a litter bin at the parking area which is emptied regularly. The need for facilities such as toilets, a phone, shop, rest areas, depending on the expected visitor numbers should be considered. The establishment of an interpretive centre, separate from the site could also be considered (Deacon, 1992a). A curio shop present in the vicinity of the rock art site/camp to purchase souvenirs is recommended as it decreases the chances of visitors taking souvenirs from the site itself (Mazel, 1982; Steel, 1991). The provision of facilities for tourists is vital to the tourism industry as these contribute to the pull factors when attracting visitors. Tourists look for accommodation, other available activities, easy access to a site, the area's climate and the costs involved (Lewis-Williams & Blundell, 1998) when considering a place to visit/stay. Ways of reducing the number of visitors at a site and the use of the site (Deacon, 1993):

- Restricting entry or closing a certain area off;
- limiting the size of groups;
- having a quota or permit system at sites;
- increasing the fees to enter the site;
- by not providing visitor's facilities;
- doing advanced bookings to visit the site;
- limiting the length of time at a site;
- zoning an area, with different activities happening in the threaten area;
- different entrance fees on different days of the week;
- using a promotion and interpretation campaign over the use of one site over another site;

- restricting opening hours and;
- limiting their length of stay in the area (chalets)

To conclude direct management methods and certain conditions should be considered at a site open to the general public (Sullivan, 1984; Mason, 2003; Whitley, 2005; Deacon, 2006):

- That the site has been documented before opening and is regularly maintained;
- keep the site clean and train volunteers;
- have periodic visits to the site;
- control visitation, according to the sensitivity of sites and tourist pressures;
- have guided tours;
- construction of infrastructure for tourism: walkways, barriers etc;
- have a visitor's register at the sites;
- make an effort to minimise the effects of visitation, and;
- have a visitor's program, educational and interpretive programme.

An aspect which would help with the management of sites, would be to prioritise site management programmes, with information regarding the interpretation of the rock art and the educational material to the visitors and the general public (Deacon, 2006). From here, indirect management methods are discussed, these being done through creating rock art awareness through tangible and intangible methods at a rock art site.

6.10. Indirect management methods

Management strategies should be focused on visitor's behaviour and needs (Bednarik, 1990). Influencing people's behaviour at sites with the help of physical alterations are examples of indirect management plans as well as direct methods as mentioned already (Pedersen, 2002). Other changes of behaviour are done through indirect means, i.e. via education and persuasion. There is a strong link between direct and indirect management methods, thus the importance of using both together is a promising and effective conservation method for rock art (Pedersen, 2002). The most important indirect management method is to create awareness of rock art, why it is significant and why we should conserve it; this can be done in a number of ways. Education of rock art is vital, as mentioned in Chapter 5 – Conservation. Other methods include the marketing of rock art, through pamphlets and posters. Attention

to rock art needs to be drawn, to catch people's interest and then emphasis on its importance to the country and why to conserve it. Displaying site etiquette signs and pamphlets is an indirect management method as it is creating awareness before one sees an original rock art site; this is something that happens with the help of rock art/interpretation centres too. Education is a prime source of drawing people's attention to 'what not to do and what do at sites' describing appropriate on site behaviour, i.e. site etiquette. The following list of site etiquette was compiled from work done by Deacon (1993), Lewis-Williams & Blundell (1998), (Solomon, 1998), (Page, 1999) and (Inglis, 2007):

- Do not touch the paintings by hand or with an object
- Do not move around at the site in a way that stirs up dust
- Do not spray or throw water onto the paintings
- Do not light a fire anywhere in a rock art shelter
- If you come across a rock art site that is not already a public site, keep the location, reporting it only to the right people.
- Never remove any archaeological artefacts from a site
- Always get the correct or relevant permission to entry a rock art site
- Leave nothing behind at the site especially graffiti
- Take only photos at a site
- Report anyone damaging the paintings to the relevant authorities
- Don't camp in shelters with rock art shelters
- Do not try and remove graffiti, there are professionals that can do this
- Be careful you don't brush again the paintings when visiting a site
- Visit a site with a guide or permission

Changes in attitudes and habits will need to be monitored on all levels of education over a long period of time, to make an effective impact (Deacon, 1993). It is possible to control the behaviour of people on-site using simple cost effective and reversible methods (Deacon, 1993; Eastwood *et al.,* 1994). Deacon (1993) discusses that public interest and concern for rock art does not have a profile. The two most important ways of changing a visitor's behaviour is through (Deacon, 1993):

- Education programmes: The importance of a site, conservation awareness
- Interpretation programmes: teaching respect for the site's resources and site etiquette

The appreciation of the art is greatly dependent on the interpretation and understanding of the art (Sullivan, 1991). Interests in rock art vary between owners, researchers, tourists and managers as all have their own view of significance and expectations. Visitors, value rock art for pleasure, entertainment and for the insight into the culture. Sullivan (1991:4) states that *"occasionally, researchers sacrifice conservation for knowledge"* such as when they excavate a site.

It has been noticed that paintings are predominantly damaged by adolescents and herders at rural rock art sites (Jolly, 2006). As of this, an educational program was introduced in Lesotho with the help of the Archaeological Resource Development Project at Wits and members of the Lesotho Ministry of Tourism, Sports and Culture to educate children in the need to preserve rock art (Jolly, 2006). A poster was designed with a story line depicting the value of rock art and the need to preserve it, which was then distributed to schools and at rock art sites. In order to do this, direct contact with the communities and leaders was made to make this educational and conservational initiative effective (Jolly, 2006). Here is a prime example of direct and indirect management methods working together to conserve rock art for future generations.

6.11. South Africa today

The most valuable and fragile sites found in South Africa have been closed to the general public for conservation purposes, for example Eland Cave in the Northern region of the UDP. Leaving, some open, tourism developed sites, being set aside and as more visitor-friendly with developments of boardwalks and viewing platforms at sites (Deacon, 2006).

Rock art sustainability is achievable through education, guidance and a range of research, training and management programmes that should be integrated into extensive heritage and landscape promotion themes (Clottes, 2006). There will always be room for improvement at public sites, with management, presentation strategies and methods progressing in the future (Smith, 2006). Rock art management in wilderness areas is a step forward integrating the management of natural and cultural resources (Deacon, 1993). Management faces a number of challenges, mainly the training of the guides, staff and community involvement. General management planning and the enforcement of protection policies and regulations are also challenges that need to be dealt with everyday (Deacon, 1993).

In order to benefit the survival of San paintings, rock art resources and the public need to be managed, hence the title of the chapter “Managing rock art resources”. In this case, the term ‘public’ refers to the landowners, the local community, scientists, amateur interest groups and tourists (Meiklejohn & Hattingh, 1995). At the end of the day, management must happen to benefit the rock art at tourism developed sites, through the management of the site and the public. By managing a resource correctly, the public is also managed correctly.

Now, that the uKhahlamba-Drakensberg Park, San rock art and the concepts of tourism, conservation and management have been addressed, we can move on to the results of this project. A reminder of the aim of this project; is to assess the complexities of tourism and its impacts at different rock art sites in the uKhahlamba-Drakensberg Park through an analysis of management and conservation methods. The objective of the study was to analyse the current conditions at all nine sites investigating the deterioration of the site and paintings through natural and human impacts, while analysing the tourism, developments, conservation and management taking place in the study regions and sites.

CHAPTER 7: SITES AND RESULTS

The uKhahlamba Drakensberg-Park (UDP) has been introduced from a series of different aspects, this Chapter focuses on the sites themselves and the results that were achieved from the study. The northern Drakensberg offers the closest access to the mountainous areas with numerous high-quality lodges, hotels and KwaZulu-Natal (KZN) Wildlife camps such as Thendele and Didima camps. The central Drakensberg offers more upmarket accommodation and facilities, while both areas are perfect for hiking and outdoor activities. The southern Drakensberg is however popular for its fly-fishing but has limited accommodation (MacLeod, 2009). The selected study sites are presented in order from the northern to the southern Drakensberg regions (see Map 1, 3 & 4 in the Map Appendix).

The Northern Drakensberg Region

The largest part of the Drakensberg mountain range falls in the KwaZulu-Natal Province (KZN) with the UDP comprising of a combination of eleven nature and game reserves as mentioned in Chapter 2 (see Map 2 in the Map Appendix). The Drakensberg escarpment runs for an estimated 100km from the northern to the central Drakensberg, along the Lesotho border from Mont-aux-Source to just before the Injisuthi Dome in the central Drakensberg region (Biggs, 2006). The northern and central Drakensberg regions are seen as the most developed parts of the UDP in respect of tourism with areas such as the Royal Natal National Park (RNNP), Cathedral Peak and the start of the Champagne Castle region (see Map 1 & 3 in the Map Appendix).

All of these areas have a wide range of accommodation and activities for visitors to enjoy (Derwent, 2000). One of the most densely painted sites in KwaZulu-Natal is Eland Cave containing over 1600 paintings; this protected site is found in the Cathedral Peak area (Solomon, 1998). Some consider the northern Drakensberg area to be the most scenic, with striking views of the Amphitheatre. The northern UDP region provides the easiest access with tarred roads to all sites and is ideal for city dwellers to escape to the countryside for a weekend away (see map 3 in the Map Appendix). The selected study sites in the northern UDP were (see Map 1 & 3 in the Map Appendix):

1. Royal Natal National Park - Sigubudu Shelter
2. Cathedral Peak - Mushroom Rock Shelter
3. Cathedral Peak - Didima Rock Art Centre

7.1. Royal Natal National Park (RNNP)

Royal Natal National Park is the most northerly component of the UDP situated 72kms from Harrismith (see Map 3 in the Map Appendix). In 1947, when the royal family were touring South Africa, the family visited the Natal National Park, after which the park gained the right to use the title Royal Natal National Park (Ezemvelo, 2004; Pearse, 2006). The RNNP is famous world-wide for the Amphitheatre with its spectacular views of a huge mountain wall running four to five kilometres in length, 1500m in height and is the source of the Thukela River (Pearse, 2006). The main vegetation in the area consists of yellow woods, black ironwood and chestnut trees, with countless streams and waterfalls (Wadley, 1997).

Ezemvelo manage the KZN Wildlife accommodation camps in the UPD (Ezemvelo, 1999). The RNNP consists of self-catering units at Thendele Camp and camping at the Mahai camping ground. Both are popular with visitors because of the range of hiking trails offered in the park and the scenic views of the Amphitheatre (Fig 7.1). The RNNP main visitors centre is approximately two kilometres from the main entrance to the park, and comprises of a curio shop and the Mahai camp site booking office. Various interpretive displays of the area can also be seen at the visitors centre.

Thendele Camp has its own camp booking office and a small curio shop. RNNP offers both day and overnight visitors lots of opportunities to hike, swim and picnic, in areas where sightings of small mammals are common. There are many rock art painting sites in RNNP but because of vandalism only the Sigubudu Shelter is advertised to the public for visitation.

Figure 7.1: A view of the Amphitheatre from Thendele Camp in the Royal Natal National Park (Photograph: C.L. Fordred).

7.1.1 Sigubudu Ridge Walk

The Sigubudu Ridge walk is one of the shortest and most popular advertised walks in the RNNP and is ideal for visitors interested in viewing rock art in its natural settings. The walk to the rock shelter follows the contours of the Sigubudu River and is an easy round trip hike of approximately three kilometres. Sigubudu is the only site in the park, which is open to the public, the paintings found at this site are modest when compared to other rock art shelters in the UDP, but still provide examples of original San art for interested visitors to view. Because of the high tourist numbers the shelter was selected as a study site to be included in this project. Chapter 7 summarises the positive and ills of rock art deterioration, conservation and management linking to tourism at the selected study sites under the following sub headings:

1. Camp and rock art awareness
2. On route to rock art site
3. Upon arrival at site
4. The rock surface and the paintings
5. Weathering and deterioration of the surface and paintings – Naturally
6. General and intentional human impacts human impacts at a rock art site
7. Tourism factors at the camp and rock art site
8. Management methods at the site

These eight sub-headings were analysed at each study site - the detailed results of which, can be found in table and graph forms, are in the appendix (see Table and Graph Appendix). It must be noted that after visiting and observing different rock art sites in the UDP many of my opinions, results and conclusions were drawn using my knowledge and the Likert rating system (see Chapter 3 – Theoretical Matrix and Methodology). Brief descriptions now follow under each sub-headings for each study sites.

Camp and rock art awareness / visitors centre

At the RNNP visitors centre and shop, rock art conservation awareness is well promoted by means of informative posters and is prominently featured in the local camp brochures. Rock art awareness is also promoted in the shop displays and is used to encourage the sale of commodified rock art souvenirs (Fig.7.2). The visitors centre shop also has a good supply of refreshments, snacks and has all the

basic facilities such as a parking area and toilets for visitors. One of the major disadvantages at both, the visitors centre and the small shop at Thendele Camp is that insufficient effort is made to advertise the Sigubudu Shelter. Only general information on rock art in the UDP is available and there is no specific pamphlet on Sigubudu Shelter, which is the only site open to the general public in the RNNP as an attraction. Table 7.1 and Graph 7.1 (see Table and Graph Appendix) confirms that rock art awareness is present in the RNNP but that there are gaps that need to be addressed such as, a visitor's book, a specific pamphlet on the rock art shelter and a clear map to the shelter.

Figure 7.2: *Left:* Example of rock art awareness at the Royal Natal National Park visitors centre. *Right:* commodified rock art souvenirs (Photographs: C.L. Fordred).

On route to rock art site

Visitors can only access Sigubudu Shelter under the supervision of an Ezemvelo rock art guide. Guided tours take place every hour between 9am and 4pm. An entrance fee to visit the site is payable either at the visitors centre or directly to the guide, no booking is required unless it is for large groups. The meeting point for the walk is found next to the road close to the visitors centre and is clearly indicated - there is also a sign that informs visitors of the tour times and cost. (Fig.7.3). Parking is available near this point and a rubbish bin for litter is also provided at the gate (Fig 7.3). All guides are trained and can provide additional information on the fauna and flora on route as well as on rock art in general. The walk to the shelter is on a medium to steep gradient and takes on average forty minutes not including viewing time at the site (Fig.7.3). The route is on a well defined cleared path all the way to the shelter. The same path is followed back to the entrance gate. Table 7.2 and Graph 7.2 (see Table and Graph Appendix) indicates the positive factors found when

walking to the rock art shelter and shows that no negative factors were encountered on route to the study site.

Figure 7.3: *Left & middle:* Entrance gate for Sigubudu Shelter. Right: The terrain and path to the site (Photographs: C.L. Fordred).

Upon arrival at site

Sigubudu Shelter is a sandstone overhang that has not been eroded very deeply into the cliff face (Fig 7.4). The overhang is found on a medium to steep gradient and provides an extensive view of the region from the shelter. The shelter itself is not cordoned off, as is the case at some of the other sites in the UDP. The whole area however, is protected by fencing controlled access can only be gained through the gate at the meeting point. Sigubudu Shelter can therefore be seen as partially protected in the sense that it is found inside a protected nature reserve.

Sigubudu is a small shelter around three metres in length (where there are paintings) with a small number of paintings and limited viewing areas. The natural ground cover on site is sandy with sparse vegetation, although a particularly large tree is found in the middle of the site near the rock art surface and there are a number of large rocks which also hinders viewing and directional flow (Fig 7.4). There is no defined path on site and the same point is used for both entrance and exit. The primary environmental factor that causes damage to the site is sunlight with a personal estimated 80% being caused by natural elements while 20% rating is caused by human impacts, when compared to previous observed study sites.

Surprisingly this popular site has hardly been vandalised. As can be seen in Graph 7.3 (see Graph Appendix) the site is not very approachable and is not suited for large tourist groups. Therefore the site is not big enough for latent future tourism developments and creates a low first impression upon arrival at the site. The site is

clean and well maintained, but because of the lack of infrastructure and information boards an impression is created that the art at this site is not of great significance. Table 7.3 and Graph 7.3 (see Table and Graph Appendix) indicates that although there is a positive feel upon arrival at the site there is plenty of room for improvement.

Figure 7.4: Different views of what to expect upon arrival at Sigubudu Rock Art Shelter (Photographs: C.L. Fordred).

The rock surface and the paintings

The surface of the rock where the paintings are found is in a moderate condition with a reasonably good condition of rock stability. Generally picture clarity, is poor due to natural weathering and fading but some of the paintings are still of highly detailed quality (Fig 7.5).

The most faded paintings are found at a lower level, the sharper more detailed paintings can be found at a higher level where protection from the overhang is greater (Fig 7.5). There are no obvious human impacts on the rock surface, but a cement block and metal loops are still visible from a previous fence and gate that was at the site and are the remains of an abandoned management method (Fig 7.8). The visible large incisions found on the rock surface occurred naturally (Fig 7.5).

No other forms of surface management methods exist on the rock surface. Possible artefacts may have been found at the site, but no palpable evidence is available of previous findings at the site. However, noticeable fossils are seen on the rock surface close to the art. Table 7.4 and Graph 7.4 (see Table and Graph Appendix) indicates that although the site is stable, the condition of the rock surface is moderate to low, with a pessimistic forecast for the future clarity and condition of the paintings.

Figure 7.5: Examples of the rock surface with natural eroded incisions (*top right*) and of the poor clarity of the paintings - Sigubudu Shelter (Photographs: C.L. Fordred).

Three main criteria: 1. Deterioration

Weathering and deterioration of the surface and paintings – Naturally

Natural deterioration of the paintings is obvious at this site due to fading. The evidence of faeces found at the site proves that animals visit the shelter. Sigubudu Shelter has a large swallow's nest next to some paintings, as well as a number of insects making nests on the rock surface (Fig 7.5 and 7.6). There was evidence of bush fires in the vicinity of the site, but no evidence of bush fires damaging the site itself. The large tree found at the site has the advantage of giving shade to the site and blocking direct sunlight but does create extra moisture at the site as the tree touches the rock surface but luckily not the art (Fig 7.6). The ground surface is of a natural dusty sandy material, which is easily kicked up in the shelter (Fig 7.6). There is no visible dust crust layer found on the rock art surface but this is still an issue to be dealt with as the ground is easily disturbed when visiting the site. There is no visible water seepage or dripping at the site but there is past evidence of it on the rock surface. Table 7.5 and Graph 7.5 (see Table and Graph Appendix) represents a variation of mixed ratings on the condition of the surface and paintings from natural deterioration.

Figure 7.6: Examples - of the natural weathering elements – insects (*left),* shade (*middle*) and dust that contribute to the deterioration of the rock surfaces at Sigubudu Shelter (r*ight*) (Photographs: C.L. Fordred).

General human impacts at a rock art site

All visitation to a site alters the site's conditions, some of these conditions are not always evident but do exist. Increased visitation to a site brings increased moisture to a site from visitor's breathing. The natural sandy surface at the Sigubudu Shelter is disturbed when visitors walk around the site (Fig 7.6). On both occasions that the site was visited no litter was found, which indicates that the rubbish bin at the gate is a positive management principle (Fig 7.3). General alterations have been made at the site as it is obvious that all the rocks are not lying in their natural positions and have been moved to provide more space for visitors to view the art. No other visible development has taken place at the site. Camping is strictly prohibited at the Sigubudu Shelter, to prevent further damage especially from camp fires. Sigubudu Shelter has no current evident archaeological deposits and rock art research taking place. Looking at Table 7.6 and Graph 7.6a, 7.6c (see Table and Graph Appendix) shows a very definite result namely that there is a very low indication of general human impacts at the site. Especially when looking at factors such as; litter, development, erosion of archaeological deposits, impacts of rock art research, camp fires and the general deterioration at the site.

Intentional human impacts

Intentional human impacts at the site were minimal; the main forms of intentional factors that were looked for were;

- Graffiti on the rock surface near and/or on the paintings
- General vandalism at the site
- Chipping out of art

- Scratching on the surface
- Outlining paintings

No graffiti was found on the or near the paintings only a few graffiti scratches were found some distance away from the painted rock art surface (Fig 7.7). There was no distinct evidence of chipping out of the art, outlining of the paintings or any other form of vandalism at the Sigubudu Shelter. Other intentional human activities that sometimes take place at rock art sites include; the wetting and touching of the paintings, brushing up against the art and collecting souvenirs from the site; none of these activities were evident at any of the studied sites but are therefore not measurable in this project. Commodification of rock art has taken place at the RNNP and Thendele Camp, in the form of souvenirs sold to the public and the decoration of the camp (Fig 7.2). No commodification has taken place at the site itself. Table 7.6 and Graph 7.6b (see Table and Graph Appendix) indicates that the site has not been altered to any extent by human impacts.

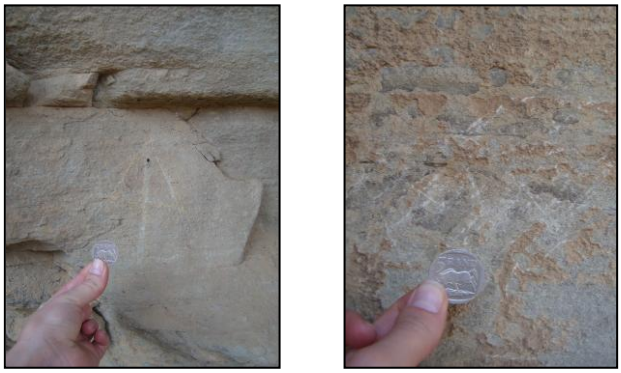


Figure 7.7: Examples of intentional human impacts (scratching) on the rock surfaces at Sigubudu Shelter (Photographs: C.L. Fordred).

2. Tourism

Tourism factors at the camp and rock art site

Archaeo-tourism is present at Thendele camp and at the RNNP visitors centre. Sigubudu Shelter has been identified and advertised as a prime San rock art example for tourists to visit as it is fairly easy to reach in a short period of time. A variety of accommodation is available for visitors to use when visiting the area plus this site is so easily accessed that day visitors to RNNP can also view the rock art at the Sigubudu Shelter. Various examples of commodification for tourism can be seen at both the camp and visitors centre for example; images of San people are used to decorate the chalets, camp offices and visitors centre and various souvenirs can be purchased at both shops that have San rock art connotations (Fig 7.2).

There is no rock art centre present at the RNNP or Thendele Camp but Sigubudu Shelter is seen as a 'sacrificed' site which enables tourists to visit, enjoy and experience genuine San rock art in its natural setting. RNNP is well developed and equipped for the tourism and provides visitors with additional information and brochures on other camps in the region (Fig 7.2). The northern Drakensberg area is the most developed for tourism with accommodation and activities all accessible by means of tarred roads. Table 7.7 and Graph 7.7 (see Table and Graph Appendix) shows a clear positive indication of the promotion of tourism in the RNNP and the surrounding areas. The two main negative factors being, that the camp does not have a rock art centre or an information pamphlet on the Sigubudu Shelter.

3. Management

Management methods at the site

Management methods can take many forms, for instance Sigubudu Shelter has been 'sacrificed' for tourists to visit. On the positive side, Sigubudu Shelter is protected by fencing and admission fee is charged to enter the site, which can only be viewed when accompanied by a guide and thereby controls access to the site. While the path is well maintained and clean. These are major management methods which help prevent casual people visiting and/or vandalising the site.

Table 7.8 and Graph 7.8 (see Table and Graph Appendix) reveals that on the negative side, other than a rubbish bin at the entrance gate to prevent attracting animals to the site. Sigubudu Shelter shows very little sign of development (Fig 7.3). There are no boardwalks in place to prevent dust disturbance or to create a psychological barrier to keep visitors away from the paintings or to direct the direction flow at the site and prevent bottlenecks (Fig 7.4). On site there is a one-way directional flow, limited viewing points and no established resting points (Fig 7.4). No conservation methods are in place to provide visitors with information on the art or site etiquette. There is no information available which informs visitors that the art is conserved and protected by legislation. There is no visitor's book at this rock site so there is no clear record of the number of visitors viewing the shelter and there is no provision made for visitors to be able to leave what could be constructive comments about the route, site or guides. The fact that there is no pamphlet available describing the site and providing information is a management method that needs to be addressed as I can lead to false expectations. A previous management method is still evident but there are no other signs of surface rock management having taken place at the site (Fig 7.8).

Figure 7.8: Examples of previous management methods of fencing off Sigubudu Shelter (Photographs: C.L. Fordred).

7.2. Cathedral Peak Region

The Cathedral Peak region comprises of two mountain ranges, the main Drakensberg escarpment, running north to south towards the Didima Dome and a three kilometre spur that juts out at a right angle to the Drakensberg escarpment culminating in the mountain peak known as Cathedral Peak (Fig 7.9) (Map 1 & 3 in the Map Appendix). Both peaks are free standing and therefore differ from the rest of the Drakensberg escarpment (Pearse, 2006). Cathedral Peak is the most dominant mountain peak in the region and resembles a cathedral, hence its name (Pearse, 2006). The uMlambonje River - 'hungry dog' is the main river in the region, 32km to the south is the Injisuthi River - 'well fed dog' found in the Giant's Castle Game Reserve. The river got its name from the ancient Zulu belief that the game was more plentiful in this area (Pearse, 2006). The Cathedral Peak region has one of the finest valleys in the Drakensberg, known as the Didima Gorge where the Didima River flows. The gorge is one of the most remote valleys in the area and provided the San of Drakensberg with an ideal place to take refuge. Large numbers of shelters have been recorded here that are filled with spectacular rock art paintings, many of which were discovered and documented by Harold Pager (Pearse, 2006).

The key attraction for rock art enthusiasts is the Didima Valley, commonly referred to, incorrectly as the Ndedema Valley, which boasts a number of rock art shelters to visit. Around 17 sites have been recorded so far with an estimated 4000 individual paintings (Briggs, 2006). Only some of these sites are open to the public, while access to others is prohibited (Pager, 1989; Briggs, 2006). The sites in this area are difficult to access, 4x4 vehicles and walking are necessary to reach both Botha and Eland caves and only with special permission. The Didima Rock Art

Centre was opened in 2003 at the Didima Camp, and provides visitors with an innovative combination of displays, multi-media presentations and a reconstructed static display (Fig 7.17). It was in this region, in 1926 that a Mr Lombard discovered a rare San hunting kit in Elands Cave, which is now displayed at the Natal Museum but the Didima Rock Art Centre has a replica (Pearse, 2006). The Cathedral Peak region is reasonably accessible and both the Cathedral Peak Hotel and Didima camp can be reached in most vehicles. As it is a firm favourite with hikers, walkers, birdwatchers and rock art enthusiasts alike.

7.2.1. Didima Camp

Didima Camp is situated in the Cathedral Peak region and has used the San culture as its theme for the camp (Fig 7.10). Didima is a large camp with 62 two-bed luxury chalets and two four-bed chalets (Ezemvelo, 2007a). The central reception lodge has a 140 seat restaurant, bar facilities and a shop in which necessary supplies and curios can be bought. Cathedral Peak Hotel is situated near Didima Camp and offers a different quality of accommodation and activities that are open to Didima Camp residents too.

Figure 7.9: Scenic views of Cathedral Peak from Didima Camp (Photographs: C.L. Fordred).

7.2.2. Mushroom Rock Walk

The Cathedral Peak region has numerous rock art shelters, the majority of which are located far from the existing accommodation camps. The most accessible shelter to the Didima Camp and Cathedral Peak Hotel is the Mushroom Rock Shelter (Fig 7.12). Mushroom Rock Shelter is situated approximately two and half kilometres behind the Cathedral Peak Hotel. The walk is a fairly moderate climb rising steeply in the last few metres before reaching the shelter. There were only a small number of rock art paintings in the shelter when compared to other sites in the Cathedral Peak region but are comparatively good examples of San rock art.

Camp and rock art awareness

The office at Didima Camp had a low level of rock art awareness with only a small amount of information on rock art in general available and limited information on which rock shelters could be visited (Fig 7.10). There were no advertisements for Mushroom Rock Shelter, only a general list of what sites were open to the public was included in the Didima Camp and Cathedral Peak region list of activities. Should a visitor firstly find out that the Mushroom Rock Shelter exists and want to visit the site, an entrance fee must be paid and a booking made at the office counter to arrange for a guide to accompany you to the site. There were no set visiting times, walks are only undertaken on demand. There was no map, posters or pamphlets, on the site or any reference on the difficulty of the hike to the site. The meeting point is in front of the Didima Camp's office, from where you are driven with the guide to the Cathedral Peak Hotel where the hike to the shelter starts. Other meeting point arrangements can be organised when the booking is made. There is curio shop in the foyer of the Didima Camp, where souvenirs, refreshments and snacks can be purchased (Fig 7.15). The camp's office has toilets facilities, a display unit with free pamphlets on the camp and surrounding areas, rock art posters and a large parking area for visitors. Didima Camp has a rock art centre on its premises which creates a high level of rock art awareness in the camp but this awareness is only concentrated at the centre itself. At the centre there is a variety of rock art history and conservation themes presented through different mediums and there is a visitor's book which enables visitors to leave their comments. Table 7.1 and Graph 7.1 (see Table and Graph Appendix) indicates that a reasonably high state of awareness exists at the camp, primarily because of the rock art centre and the availability of general rock art posters and pamphlets available from the Didima Camp office. The low percentage indicated on the graph represents the complete lack of information on the closest rock art site namely Mushroom Rock Shelter.

Figure 7.10: View of Didima Camp and the main office entrance (Photographs: C.L. Fordred).

On route to rock art site

After your walk has been booked and paid for, a rock art guide will meet you at a pre-arranged time at the Didima Camp office entrance and will drive you to Cathedral Peak Hotel. The hike begins behind the hotel and is a five kilometre round trip taking on average one hour and twenty minutes (Fig 7.11). A rubbish bin is available in the car park area at the beginning of the hike. The path to the shelter was well defined but it was easy to wander off the track at certain points depending on the vegetation growth near the path, thus what time of the year you are visiting. A number of hiking trails joint up to the rock art trail, which was a bit confusing. The route was a gradual climb with a steep incline in the last few metres before reaching the site (Fig 7.11). Due to its elevation, the site offers an extensive view of the area. Table 7.2 and Graph 7.2 (see Table and Graph Appendix) reveals that there is a high percentage of uncertainty pertaining to various factors on route to the site. In turn this represents an opportunity to improve the route to the rock art shelter with better signage and more information on the trail and the site itself.

Figure 7.11: *Left*: Path, behind Cathedral Peak Hotel. *Middle & Right*: The terrain and path to Mushroom Rock Shelter (Photographs: C.L. Fordred).

Upon arrival at site

On arrival at Mushroom Rock Shelter, a shallow to medium overhang with a small number of rock art paintings is evident (Fig. 7.12). The shelter is not fenced and this is a concern as there is no access control and the site is easily accessible to unaccompanied visitors. To reach the site, a steep gradient must be traversed. The size of the site is relatively small when compared to other sites and is only five metres long. The site's terrain is loose soil and debris with large boulders scattered around which further reduce the viewing area for visitors. The site was clean but has no clear path or traffic flow with only one entrance - exit to the site (Fig. 7.12). Mushroom Rock Shelter is naturally shady and only receives a small amount of sunlight during the day. Most of the estimated damage caused by natural elements is

caused by water and lichen growth. While very little human impact damage was evident. Mushroom Rock Shelter is not in a place ideal for development and tourism but is the closest rock art shelter to Didima camp. The site has not been developed in anyway and has no amenities, additional information or a visitor's book. The site does not give a negative first impression but it is clear that the site has not been developed and has been left in a natural state, which to some could be interpreted as neglected. The lack of development and boulders creates a feeling of inaccessibility. In comparison with the tourist developments in the surrounding area it is difficult to link the importance of this site to the displays in the rock art centre. The fact that the site is not protected by fencing could also lead people to mistakenly think that the site is of little importance. In Table 7.3 and Graph 7.3 (see Table and Graph Appendix) one can see that the site is well spread out on the Likert Scale with the biggest room for improvements being in the protection of the site, the flow of direction and the enlargement of the viewing area, should a decision be taken to advertise the site more as a tourist destination. Apart from these minor factors the site had positive elements and created the impression that the area is little changed from the time of the site's discovery.

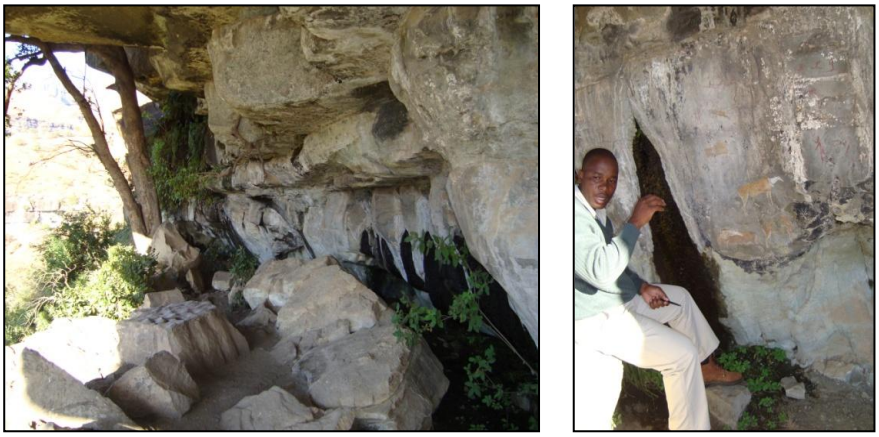


Figure 7.12: Views of Mushroom Rock Shelter (Photographs: C.L. Fordred).

The rock surface and the paintings

Even though this is a small site with a small number of rock paintings, the clarity of some paintings are good, but the majority have been affected by natural impacts to a lesser or greater degree (Fig 7.12). The detail of the paintings was average when compared to other sites (Fig 7.13). To date it is still unclear if there are any artefacts still to be discovered at the site. Lichen growth at this site was clearly evident and could be found near and in some cases on the paintings (Fig 7.14). Even though the site is not well protected there was little evidence of human impacts and there was no sign of vandalism at the site. To give a rough estimate of how many

paintings are still visible at the site, there are not more than one hundred paintings. Thus is characterised as a small site when compared to the other study sites in this project. The surface of the paintings is uneven with a large seepage line on the rock face (Fig 7.13). Sadly there are no management methods in place for the rock surface, especially for the water runoff. Vegetation is growing from cracks in the surface and in some areas of water seepage. One can clearly see in Table 7.4 and Graph 7.4 (see Table and Graph Appendix) that there are more negative aspects than positive ones at this site: the poor general condition of the rock surface and the paintings indicates that this is only an average rock art site when compared to others in the area.

Figure 7.13: Examples displaying the uneven rock surface and lichen growth on the paintings at Mushroom Rock Shelter (Photographs: C.L. Fordred).

Three main criteria: 1. Deterioration

Weathering and deterioration of the surface and paintings - Naturally

The structural stability was low to medium with the site having large visible cracks. Little sunlight penetrates the site as the overhang is deeper than on average, this links to the visible signs of water seepage at the site indicating that the site is very moist (Fig 7.14). Due to the moisture in the overhang, the ground was not dusty and the natural soil was not disturbed. Vegetation growth however was high in the overhang due to the moisture. Bushes were growing all along the rock face but were not touching any of the art just the rock surface. Water seepage and runoff was evident on the rock surface and in cracks where vegetation was growing adding to the moisture content at the site (Fig 7.14). At the time of my visit, the seepage line did not cover any art but was close to it. The surrounding area has evidence of veld fires but none close to the rock art site itself. Evidence of animals at the site was minimal; there were no bird or insect nests and very little evidence of animal faeces in the overhang. Lichen and moss are the most serious natural impacts at this site as

the lichen was on the paintings and moss was forming from all the moisture in the overhang and in some places was close to the paintings (Fig 7.14). Table 7.5 and Graph 7.5 (see Table and Graph Appendix) show mixed results, some variables are high because of the high moisture content in the overhang while the low percentages represent the low amounts of sunlight and other natural impacts at the site.

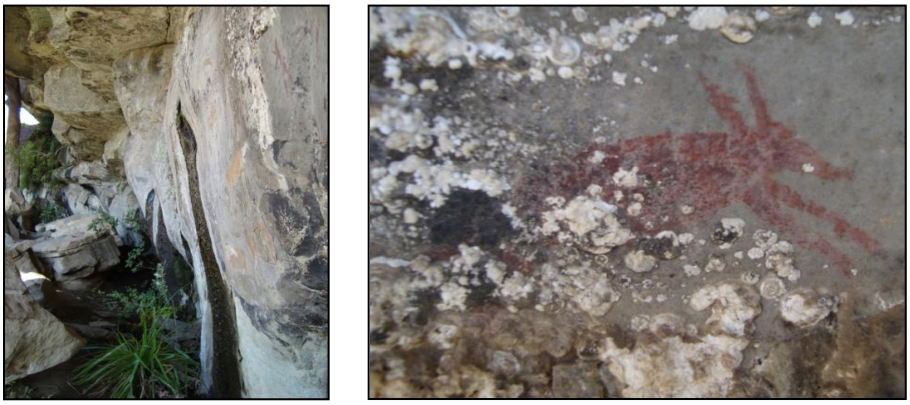


Figure 7.14: Examples of lichen and vegetation as natural elements affecting the rock surface and art at Mushroom Rock Shelter (Photographs: C.L. Fordred).

General human impacts at a rock art site

All human visitations to rock art sites result in general impacts. The more people that visit a site the more moisture is created. From the condition of the Mushroom Rock Shelter, it was deduced that the site is not popular and there was no evidence of litter at the site. Mushroom Rock Shelter is a damp shelter and therefore minimal dust is kicked up by visitors even though there is some sandy ground found in the shelter (Fig 7.12 and Fig 7.14). There was little human impact at this site linking to development factors as seen in Graph 7.6a (see Graph Appendix). There was little or no erosion of archaeological deposits and impacts from rock art researchers.

The site is a slightly deeper overhang and has enough space available for campers to use for shelter. The fact that the site is not fenced and that the route to the shelter is shared by other hiking trails in the area, leaves this site vulnerable to use by campers (Fig 7.12). In my opinion, this site has experiences average wear and tear caused by human impacts. Table 7.6, Graph 7.6a and Graph 7.6c (see Table and Graph Appendix) clearly shows that the site has low variables with respect to human impacts, from which we can conclude that the site is in a better natural state when compared to other sites in the UDP.

Intentional human impacts

No evidence of intentional human impacts was seen at the Mushroom Rock Shelter as seen in Table 7.6 and Graph 7.6b (see Table and Graph Appendix). There was no graffiti or scratches found on the rock art or rock surface and no evidence of trying to remove the rock art or outlining the rock paintings was visible (Fig 7.12). Uncertainty remains with respect to touching and/or wetting of paintings and collecting souvenirs from the site, and could therefore not be measured. Rock art has been commodified at the Didima Camp with a rock art centre in the vicinity, but no commodification has taken place at Mushroom Rock Shelter.

2. Tourism

Tourism factors at the camp and rock art site

Didima Camp can be classified as an archaeo-tourism site on the grounds that a rock art centre has been established within the camp and that rock art sites are found in the surrounding areas. Elements found in rock art have been used throughout the camp to decorate and beautify the area. The camp's units have been designed to resemble the shape of an eland's back – a significant animal to the San (Fig 7.10). Commodification is significant at this camp, in the design and decoration of the buildings, the wide range of themed rock art items available for sale in the curio shop and the rock art centre found at the camp. (Fig.7.15). Didima Camp is easily accessed with tarred road all the way to the camp and a paved road inside the camp.

Didima Camp is well developed to meet the needs of tourists it can provide accommodation ranging from camping to self-catering units and also has conference facilities and a wedding chapel. The main camp also offers a restaurant, bar and shop to buy souvenirs and essential goods. Mention of rock art is made at the entrance to Didima Camp where there is a display showing activities available at the camp and in the surrounding area (Fig 7.15). In general, however rock art is not well advertised other than at the camps office and the rock art centre and has been used largely as a form of decoration, not information. Didima Camp, Cathedral Peak Hotel and the surrounding area are well developed for tourism providing many varied activities for tourists to enjoy. Table 7.7 and Graph 7.7 (see Table and Graph Appendix) confirms this by indicating high positive values, showing without doubt that Didima Camp is tourist friendly and received positive indications for archaeo-tourism largely because of the rock art centre on site.

Figure 7.15: Examples of tourism developments at Didima Camp (Photographs: C.L. Fordred).

3. Management

Management methods at the site

Mushroom Rock Shelter is situated in a well developed tourist area, but is not as well advertised as other sites in other camps. The primary cause for concern at this site is the fact that the site is in very close proximity to the camp and hotel but remains unfenced. Although it is stated that the public may not visit the site without a guide, the fact that there is no access control makes the site easily accessible to anyone at anytime. Management methods at the site are unstructured, there is little information on the site to encourage visitors to visit it. There are no set times for guided tours which are only undertaken on demand. The entrance fee is not set and is determined by the number of visitors on the hike to the site, on average the fee is around R200 for three people, with a minimum price. The meeting place to meet the guide is situated at the main entrance of the Didima Camp office but the hike commences at the back of the Cathedral Peak Hotel, a short car journey away. As there is no specific pamphlet or map pertaining to this site and that the route to the site is not clear and crosses other hiking routes along the way it is highly recommended that all visitors make use of a guide. The site is undeveloped with no means of keeping visitors away from the rock art by means of constructed barriers or other psychological barriers. The only psychological barrier being various large boulders found in the overhang. These boulders to some extent are also used to

direct traffic flow and are used by visitors to rest on (Fig 7.12). It is obvious that some boulders have been cleared from the site to create a larger area for visitors. There is no flow of direction visitors to the site enter and walk directly into the shelter, until they reach a natural barrier of trees after which visitors must turn and retrace their steps.

There is no visitor's register at the site, although there is one at the Didima Camp office. No effort has been made to provide information on the art found in the shelter i.e. by means of information boards or the fact that the site is protected by legislation or the etiquette of viewing rock art (Fig 7.12). There is also no evidence of surface management methods ever having been implemented or evidence of previous management methods. There is a dustbin at the Didima entrance and at the Cathedral Peak Hotel parking area where one starts the hike up to the shelter and the shelter is clean. Table 7.8 and Graph 7.8 (see Table and Graph Appendix) represent a vast range of aspects dealing with management at this site, lower scaling factors all indicate that little or no management is taking place at this site.

7.2.3. Didima Rock Art Centre

Didima Rock Art Centre was opened in October 2003, and is situated in the grounds of the Didima Camp. It is open from 08:00-16:00 and is closed for lunch between 13:00-14:00. The centre provides visitors with an opportunity to explore and learn about the San people and the significance of the eland in their culture. The theme of the eland is carried through the whole centre and the camp as a whole, while the auditorium can seat almost a hundred visitors in its cave shaped overhang (Fig 7.16 and Fig 7.17). Plus there is a life size replica of Botha's rock art shelter from Didima Gorge (Fig 7.17).

The Ndumeni Craft Centre and coffee shop is also available for visitors to enjoy (Hone *et al.,* 1998) (Fig 7.17). Didima Rock Art Centre was visited on two occasions and evaluations were undertaken, aspects that were addressed can be seen in table form - Table 7.9 (see Table Appendix). Aspects such as what the rock art centre has to offer visitors were addressed and compared to the Kamberg Rock Art Centre in the central Drakensberg. Didima Rock Art Centre is situated a few hundred metres from Didima Camp's main office and has a large parking area that can accommodate cars and buses. The centre's entrance gives a positive first impression, there is a large eland positioned at the doors, a table with a visitor's book and the ticket booth (Fig 7.16). The entrance fee to the centre varies from between

R20 to R40 depending on the size of the visiting group. The centre is wheelchair friendly - there are a few stairs at the entrance, but there is an alternate entrance. Guided tours are available and take place at 09:00, 11:00 and 14:00.

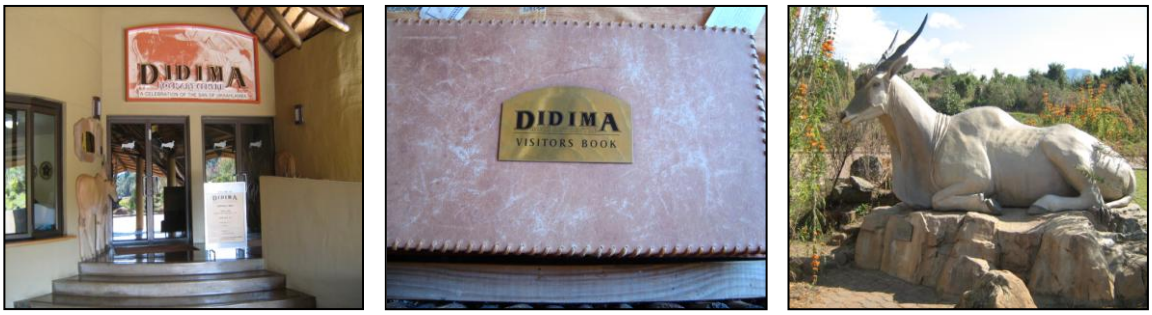


Figure 7.16: The entrance of Didima Rock Art Centre with a large eland statue and a visitor's book (Photographs: C.L. Fordred).

The centre is well signed and is filled with displays, information boards, other types of media including audio and visual storytelling, a movie, multimedia presentations and a static display of a replica of a famous rock art site in the area – Botha's Shelter (Fig 7.17). There is a high level of commodification in the centre and the camp in general, with the theme of the San culture and how they revered the eland being represented everywhere. There is a good sense of flow in the centre, with only one unsigned fork that could lead to confusion, but the layout is such that whatever direction you take you will still see all the displays in the centre. The centre has a large conference/auditorium area where the replica of Botha's Shelter's rock art can be seen and where a cinematic presentation is screened on an hourly basis (Fig 7.17). Resting areas for visitors are scattered throughout the entire centre, which are ideal for larger tour groups, particularly school groups.

The storytelling room is a perfect place to rest while listening to an audio recording about the San culture (Fig 7.17). Didima Rock Art Centre is run separately from Didima camp, but they complement each other in many ways. Visitors to the centre can use the camps facilities such as the shop and restaurant should they not wish to make use of the rock art centre's restaurant, coffee shop or the local craft centre (Fig 7.17). Guided tours to an open rock art shelter is available, but need to be booked with management as only a few rock art sites are nearby and open to the public. Botha's Shelter is not open to the public, to conserve the paintings found there as much as possible from visitation impacts. Mushroom Rock Shelter is the nearest open rock art site for visitors to visit. General facilities such as toilets and

extra information on rock art and the surrounding areas are found near the entrance to the rock art centre and at Didima Camp. Didima Rock Art centre is suitable for day visitors. Graph 7.9 (see Chapter 8) displays a positive overall indication that Didima Rock Art Centre meets the basic standards required at a rock art centre.

Figure 7.17: Examples of the displays, conference venue, the replica of Botha Shelter and the facilities outside Didima Rock Art Centre (Photographs: C.L. Fordred).

Central Drakensberg region

The central Drakensberg region is the most developed tourism area in the UDP and consists of popular areas such as Champagne Castle region, Cathkin, Monk's Cowl, Injisuthi Camp and Giant's Castle Game Reserve (Map 1 & 4, see in the Map Appendix). All of these areas are easily accessed with tarred roads and there is a selection of different types of accommodation, facilities and activities to suit everyone's needs and budgets. Thokozisa, the main central Drakensberg information centre is situated between the Champagne Castle area and Injisuthi Camp (Fig 7.18).

The centre has a number of stores and a restaurant, as well as a well equipped information centre filled with books and free pamphlets on the different destinations to visit in the UDP and information on the UDP World Heritage Site status. Pamphlets on other important issues such as the conservation of the nature reserves, rock art and the code of conduct at rock art sites are also available (Amafa, 2008). At Thokozisa, there is a specialist shop called 'San Rock Ridge' which only sells products that relate to the San culture and is the best example of San rock art commodification in the UDP.

Figure 7.18: Examples of the commodification at Thokozisa in the central uKhahlamba-Drakensberg Park (Photographs: C.L. Fordred).

The following sites were analysed in the central Drakensberg region in this project (see Map 2 & 4 in the Map Appendix);

- Injisuthi Camp:
    - Battle Cave - open for tourism
    - Fergy's Cave - closed to tourism
- Giant's Castle Game Reserve Camp:
    - Main Caves - open to tourism
    - Barnes Shelter – closed to tourism

7.3. Giant's Castle Game Reserve region

Injisuthi is situated in the Giant's Castle Game Reserve close to the border with the Monk's Cowl Reserve (Map 2 – see Map Appendix). From the Injisuthi Camp, one can see picturesque views of Monk's Cowl. Giant's Castle Game Reserve was proclaimed in 1903 and is the oldest proclaimed reserve in the UDP (Pearse, 2006).

7.3.1. Injisuthi and the Battle Cave hike

The Injisuthi River also known as the Little uThukela lies below the Great Injisuthi Buttress and has created a maze of valleys (Ezemvelo, 2003). One deep-cut valley of sandstone cliffs lies close to Battle Cave, famous for its ancient painted battle scene (Pearse, 2006) (Fig 7.21). Battle Cave has a series of rock art friezes with approximately 750 individual paintings (Briggs, 2006). The largest and most interesting frieze on site is the battle scene, after which the cave is named. The term 'Injisuthi' means well 'fed dog' in Zulu, and is also a tributary of the Little uThukela River – the Injisuthi River (Briggs, 2006). The Injisuthi area has a beautifully situated camp but only moderate access due to the 30km of dirt road that has to be travelled to reach the camp (Lewis Williams & Blundell, 1998) (Fig 7.19).

Figure 7.19: *Left*: A view of Injisuthi Camp. *Middle*: A rock art poster. *Right*: View of Monk's Cowl from the Injisuthi Camp (Photographs: C.L. Fordred).

Camp and rock art awareness

Injisuthi Camp has a reception camp office, which also serves as a curio shop and sells basic essential provisions. Outside this office is a poster on rock art etiquette focusing on rock art conservation (Fig 7.19). The main advertised rock art site at this camp is Battle Cave, which can only be visited with a guide who controls the gate access to the site. There is a poster in the camp office depicting Battle Cave's main rock art clusters. An entrance fee is required to visit the site. There is however no advertised timetable or price list for the guided tours, all enquiries must be addressed to the staff at the desk. On completion of the booking and payment, the rendezvous point to meet the guide is outside the camp office. There is no specific pamphlet for Battle Cave, however the camp office has hiking maps for sale, with the rock art site marked on it. The shop is stocked up with refreshments, snacks and has a variety of mementos for sale, including rock art souvenirs. The shop also has a display of free pamphlets on other destinations which fall under the jurisdiction of the KwaZulu-Natal Wildlife organisation. Giant's Castle Reserve does not possess a rock art centre and there is no visitor's book for Battle Cave. Outside the office there is a medium sized parking area but no specified public toilets. Table 7.11 and Graph 7.10 (see Table and Graph Appendix) indicate a mixed ratio of results for the awareness of rock art. The rock art etiquette poster and guided tours to the site are major factors contributing to the rock art awareness. Overall the rock art awareness and camp ratings at the camp are moderate to high. A specific pamphlet and map to the site would increase awareness of the open rock art site in the reserve.

On route to rock art site

Your designated guide will remain with you for the whole duration of your tour. The length of time the tour takes varies from person to person but takes on average four hours which includes viewing and resting time at the site. Information on the terrain and distance of the hike can be obtained on request at the office. The terrain

is moderate to difficult according to one's fitness level; it is a gradual uphill hike. The route follows the tarred road then veers off onto a dirt path where the gradual incline accent to the site (Fig 7.19). There is a sign next to the road indicating which dirt path to take but no other signage was visible on route to the site. Injisuthi Camp has a number of advertised hiking trails, with more than one converging onto the path leading to Battle Cave, it can therefore be surmised that there is more than one route to the site but there is only one access gate. Rubbish bins were only found in the Injisuthi Camp premises none were available on route to the site or at the site. Table 7.12 and Graph 7.11 (see Table and Graph Appendix) indicates a more positive inclination towards the factors relating to the route to the site, mainly because there is a guide that hikes with you.

Upon arrival at site

Even though the site is called Battle Cave, the site is not really a cave but more a large shallow overhang found along a cliff face on a medium gradient, with an extensive view of the area (Fig 7.20). Signs of natural deterioration are visible, caused mainly by direct sunlight which has caused the surface to become flaky (Fig 7.20). An estimated 80% of the site has been naturally weathered by environmental factors. The remaining 20% was caused by human impacts that have taken place at the site. Site terrain consists of a sandy ground surface with a number of large boulders and rocks also found at the site (Fig 7.20). Battle Cave is large and therefore suited to tourism, but the fact that the camp doesn't have easy access from the main road is a disadvantage (Fig 7.20). The flow of direction is one way, visitors must walk along the cliff to view the art then turn and return to the entrance of site near the gate. Fortunately the size of the site helps to prevent congestion. In some cases however, it is necessary to climb over rocks to view paintings from different angles (Fig 7.20). The guide must therefore ensure that visitors do not accidentally touch or brush up against the art.

No signs of development were visible at this site; there were no board walks, information boards or a visitor's book, giving the impression that this is not regarded as a significant site. Battle Cave feels approachable and my first impression on visiting the site for the first time was that it was a clean site with an impressive number and variety of paintings. Table 7.13 and Graph 7.12 (see Table and Graph Appendix) indicates a more positive percentage than negative in regard to the management, size and impression of the site. Improvements can be made by the introduction of a visitor's book and a better flow of direction.

Figure 7.20: Views of Battle Cave accesses from Injisuthi Camp (Photographs: C.L. Fordred).

The rock surface and the paintings

The clarity of the paintings varies from poor to good as they have been affected by sunlight which has caused the natural surface to flake (Fig 7.21). The clarity of the art is not sharp but the detail and intricacy of the paintings remain visible. Battle Cave is filled with hundreds of paintings on the rock surfaces at different angles and on large boulders found at the site. The condition of the rock surface varies, but would be considered as poor in comparison with other UDP sites, when looking at natural impacts of the surface (Fig 7.21). Rock surfaces are varied here, some are uneven, while others are smoother, and in some areas the flaking of the rock has lead to many damaged paintings (Fig 7.21). No management methods were found at this site to contribute to the conservation of the rock surface and paintings. Table 7.14 and Graph 7.13 (see Table and Graph Appendix) indicates mixed observation results, that the paintings are of high quality but the quality of the rock surface was of poor quality. Direct sunlight is the main problem at this site and the rock surface is beginning to show the effects of this.

Figure 7.21: The clarity of the paintings and the quality of the rock surfaces at Battle Cave (Photographs: C.L. Fordred).

Three main criteria: 1. Deterioration

Weathering and deterioration of the surface and paintings - Naturally

Compared to other sites observed in this project, this site is seen as unstable with many evident cracks and rock fragments lying on the ground (Fig 7.22). As

mentioned, the site is deteriorating due to natural elements especially intense sunlight. It was noted that veld fires have occurred in the area, but not close to the rock art site. The site feels arid and dry due to the affects of sunlight and heat at the shelter, the ground surface is dusty and sandy and easily disturbed by visitors at the site (Fig 7.22). Animal faeces were found on a number of rocks at the site but none was found directly on the art - the impacts made by animals were not measured in this project i.e. brushing up against the art, just animal activity at the sites (Fig 7.22). Vegetation is present at the site but is not touching the art and no insect nests were visible on the rock surfaces. As the site is dry there was no obvious water damage to the surface and paintings and there was no lichen or moss on the surfaces. Table 7.15 and Graph 7.14 (see Table and Graph Appendix) show that the site measured average to above average, when looking at damage caused by natural elements such as the intense sunlight, dry sandy ground surface and animal faeces.

Figure 7.22: Natural impacts – *Left*: flaking, *middle & right*: animal faeces at Battle Cave (Photographs: C.L. Fordred).

General human impacts at a rock art site

General human impacts noted at the site were in the disturbance of the sandy ground cover, litter, effects of camp fires and the development and erosion from archaeological deposits. All of these occurrences have had an effect on this site at some stage.

At the time of my visit the site was found to be clean with no obvious archaeological deposits lying around and no evidence of recent camp fires. The site is undeveloped, the only alterations being, that it has been fenced and has been opened for people to see as a tourist attraction. Table 7.16 and Graph 7.15a, 7.15c (see Table and Graph Appendix) clearly indicate minimal human impacts at the site with the general wear and tear at the site being measured as average.

Intentional human impacts

After analysing the site, it was easy to conclude that the level of intentional human impacts is low. Only a few visible graffiti scratches exist at the site while no attempts have been made to remove any of the art (Fig 7.23). Other factors such as touching, wetting and collecting souvenirs at the site cannot be measured but are mentioned in this project as possibilities. The commodification of rock art does not exist at the site and is very low at the camp. Table 7.16 and Graph 7.51b, 7.15c (see Table and Graph Appendix) show no high variables only low ones indicating intentional impacts are minimal at Battle Cave.

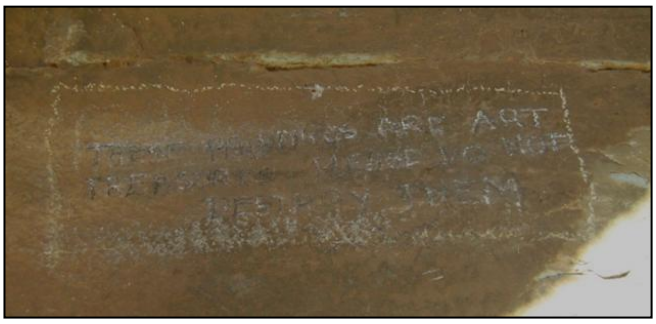


Figure 7.23: Graffiti - scratches on the rock surfaces at Battle Cave (Photograph: C.L. Fordred).

2. Tourism

Tourism factors at the camp and rock art site

Archaeo-tourism is present at the camp because the reserve is advertised for its many rock art sites. Injisuthi Camp is not easy to access as the 30kms road to the camp is not tarred and is in a bad condition. The camp itself offers a peaceful and tranquil experience in the wilderness and attracts campers, hikers, rock art enthusiasts and researchers. Battle Cave has been 'sacrificed' or set aside as an open site and visitation is encouraged, even though the site has not been developed with tourist amenities for a site, although no tourist development has taken place e.g. no boardwalks, visitors book, information boards at the site, or pamphlet on the rock art site exists and no rock art centre or rock art commodified souvenirs at the camp. Injisuthi Camp is however, well equipped with a variety of accommodation, from self-catering units, luxury tents and a camping ground. The camp office can supply basic provisions and a display, advertising other tourism attractions and destinations is present at the camp office. The central Drakensberg is well developed area for tourism and Injisuthi Camp is less than an hour's drive from the Cathkin area so a day visit is possible.

Table 7.17 and Graph 7.16 (see Table and Graph Appendix) shows that tourism facilities at Injisuthi Camp are average and that the camp itself is quite remote, which makes it ideal for those who enjoy the wilderness.

3. Management

Management methods at the site

Battle Cave is advertised as a tourism attraction for Injisuthi camp, because of this, more management methods have been implemented for its protection. The site is fenced off to stop the general public from entering the site unaccompanied (Fig 7.24). No other common management methods and developments such as boardwalks and information boards were present at this site. The site has no psychological barriers to keep visitors away from the art – although the paintings are found to be high up on the rock face, which does offer some form of protection from direct contact. Some of the rocks have been cleared from the area, to enlarge the viewing areas for visitors (Fig 7.20).

The flow of traffic is obvious at the site; flowing one way along the rock face of the site and standing in a cleared area to view the art. There is no specific rock art pamphlet for the site, an entrance fee is charged, no provision has been made for litter and there is no visitor's book at the site or camp. The only available resting spot for visitors is on the surrounding rocks near the bottom of the site. No site and surface management methods have been used at Battle Cave, other than that the site is fenced and there is a sign stating that it is a protected rock art area that can only be entered with a guide (Fig 7.24). At the camp, there is a sign describing rock art site etiquette and the only available rubbish bin is situated there. Table 7.18 and Graph 7.17 (see Table and Graph Appendix) shows that while the basic management methods for a rock art site are in place more effort could be made to conserve the art.

Figure 7.24: Management methods – Battle Cave is fenced and is only accessible with a rock art guide (Photographs: C.L. Fordred).

7.3.2 Fergy's Cave

Fergy's Cave is found between Battle Cave and Injisuthi Camp; this cave is not advertised for visitation and has been included in this project to enable analysis to be done on a site that has no management methods in place i.e. entrance is free, no guide is necessary and the site is not fenced. Many of the results are obvious because the site has not been developed in any way. The following summary of the site evaluation as seen in Tables 7.11 - 7.18 and Graphs 7.10 - 7.17 (see Table and Graph Appendix). This site followed the same criteria as at the other sites but has been summarised below as the results were more basic and to the point.

Rock art awareness and route to rock art site

The results for rock art conservation awareness at Fergy's Cave does not differ from those for Battle Cave as the same camp facilities are present (Table 7.11 in the Table Appendix). There is however, no entrance fee required visiting the cave, which is open for anyone to discover. The location of the site is not freely available and is only mentioned in certain books (Pearse, 2006). Graph 7.10 (see Graph Appendix) shows the same results as those for Battle Cave as all the same camp facilities are used. Fergy's Cave is situated higher up the mountain from Battle Cave. The terrain is the same, but the path leading to the cave is not well defined and in some cases, over-vegetated depending on the season (Table 7.12 in the Table Appendix). No signage is present on any of the paths which are mostly used by visitors on other hikes, the round trip from Injisuthi Camp is around 12km. Graph 7.11 (see Graph Appendix) clearly indicates there are more negative aspects for anyone visiting the site.

Upon arrival at site and the rock surface and paintings

Table 7.13 and 7.14 (see Table Appendix) shows that Fergy's cave is a large deep overhang found along an undefined path. The overhang is not on a cliff face or a steep gradient and does not provide an extensive view of area; it is in fact almost hidden amongst the vegetation (Fig 7.25). The rock art is found on what seems to be a large slab of rock that has fallen and is lying at an angle next to the wall of the overhang.

Direct sunlight is minimal at the site, seeing as it is a deep overhang facing the opposite direction of Battle Cave. The terrain is sandy but vegetated with a cool atmosphere in the overhang. There is a small amount of rock art at this site, with fewer than a hundred paintings that are of detailed quality, but the clarity of the

paintings is poor (Fig 7.25). The site has proof of recent visitation with evidence of the remains of camp fires at the site as well as a ring of rocks placed around the main viewing area of the rock art (Fig 7.25). The site itself has natural impacts such as seepage in the rock surface but this does not occur near the art which is free standing away from the direct overhang wall. Other than natural deterioration, no natural impacts were observed. There were however, clear signs of human factors influencing the site made largely by hikers who discover the site and have used the overhang for shelter and camping.

No other forms of intentional human impacts such as graffiti and vandalism have occurred here. This site is not ideal for tourism, because of its distance away from the camp and the paintings are not of the same standard as those found at Battle Cave. The site itself however would be large enough to accommodate visitors (Fig 7.25).

It is clear that Fergy's Cave has been used by hikers as there is barren soil along the rock face of the overhang and in close proximity to the paintings where people have walked (Fig 7.25). The rock surface is rough and uneven with no real smooth sections and in some places tafoni (a natural weathering process that leaves little dents/holes in the rock surface) was seen and damage from seepage (Fig 7.25). Graph 7.12 and 7.13 (see Graph Appendix) show low results for first impressions of the site, the rock art surface and the quality of the paintings.

Three main criteria

The three main criteria that were investigated throughout this project were; deterioration, tourism and management.

1. Deterioration: *Natural Weathering, deterioration of the surface and paintings*

Fergy's Cave can be considered as stable but in the past this site might have had a large slab that collapsed, although there is no evidence to confirm this theory (Fig 7.25). Natural deterioration has not been increased by any major direct factors such as intense sunlight at this site as shown in Table 7.15 (see Table Appendix).

The ground in front of the art is sandy and when visitors do come across the site, dust is kicked up near the paintings as the paintings are found near ground level (Fig 7.15). Animal faeces were very obvious at the site with a lot found in front of the rock art, mainly left by birds (Fig 7.25). As the site is not fenced, animals visiting but

their impacts on the art were not measurable. There was a lot of vegetation in the shelter, with trees, bushes and grass all touching the rock surfaces but luckily not the art (Fig 7.25). Fergy's Cave is a deep overhang with visible vegetation growth occurring on top of the overhang. Depending on the season, water drips over this edge. Lichen was visible on the rock art surface and in some cases on the paintings. No bird or insect nests were seen and moss on the rock surface was not visible (Fig 7.25). Graph 7.14 (see Graph Appendix) clearly indicates the majority of the results fall in the below average category.

General and intentional human impacts at a rock art site

The main causes of general human impact that were the disturbance of the sandy ground. Camp fire damage was evident on the roof of the overhang and the remains of camp fires were seen in the shelter. No development has occurred at this site, or erosion of archaeological deposits and rock art researches.

No visible intentional impacts such as graffiti on the rock surface, scratches, vandalism, attempts to remove the paintings or the outlining of the paintings were observed (Table 7.16 in the Table Appendix). The touching and wetting of the paintings cannot be evaluated as the site is unfenced and open for unsupervised visits. Graph 7.15a, b, 7.15c (see Graph Appendix) clearly represents a positive indication of low intentional impacts have taken place at this site.

Tourism and management

Fergy's Cave shares similar tourism factors as discussed in Table 7.17 (see Table Appendix) as this site is supported by the same camp office and camp facilities.

The major difference is that Fergy's Cave is not advertised for tourists to visit and it is this that is indicated by the low to average results represented in Graph 7.16 (see Graph Appendix). Management methods that have been implemented at Battle Cave i.e. entrance fee, fencing and guided tours are not implemented at Fergy's Cave, because it is not an advertised site and tourism is not encouraged (Table 7.18 and Graph 7.17 - see Table and Graph Appendix).

Site protection is minimal, a main site management method is used and that is a sign near the site stating 'no camping is allowed (Fig 7.25).

Figure 7.25: Examples of the different factors discussed above about Fergy's Cave (Photographs: C.L. Fordred).

7.4. Giant's Castle Game Reserve Camp

The Giant's Castle reserve (hereafter 'Giant's') is rich in floral diversity and grasslands and has been dubbed the 'flower' of the Drakensberg (Ezemvelo, 2007b). In accordance with this, the camp has incorporated the wild flowers of the mountain into the camp's decorations and design (Ezemvelo, 2007b). Giant's Castle Game Reserve, has a long history as stated in Chapter 2 and dates back to 1903, when it was the first reserve to be proclaimed in the UDP. The game reserve and camp offers visitors a peaceful break from the urban life, it is easy to access and has well equipped accommodation units. Giant's is situated at the most easterly border point of the UDP and forms a natural cornerstone (David Lewis Williams & Blundell, 1998) (Map 1 & 4, see in the Map Appendix).

Figure 7.26: Views in Giant's Castle Game Reserve (Photographs: C.L. Fordred).

7.4.1. Main Caves hike

The Main Caves are ideal for a one day visit. Access to the caves is an easy short walk along a path, half of which is paved, thereby making it one of the most accessible sites in the UDP (Inglis, 2007). Main Caves, recorded history dates back to when troops patrolled the area trying to prevent San raiders from entering the lowlands and used these caves for shelter. Today, the site is one of the three main sites protected by Ezemvelo and is open to the public for tourism (other two sites being Battle Cave and Game Pass Shelter). Briggs (2006:124) describes the site as the *"most thematically varied and finely executed sequences in the uKhahlamba Drakensberg Park"*.

Camp and rock art awareness

Giant's Castle Camp is a well developed camp that attracts high tourist numbers and has one of the most accessible rock art sites in the UDP. Rock art awareness levels are high in this camp, in the large reception area there are posters on rock art, a map to Main Caves and other shelters, but no pamphlets are available for these sites. There is an entrance fee to visit Main Caves which is payable at the camp office; as only guided tours can access the site. The cost of the required entry fee and any additional information, visitors may require in respect of the hike to Main Caves was not well advertised. Tours run from 9am to 3pm daily, every hour on the hour and the rendezvous point for the guide is at the entrance gate to the site. Giant's Castle camp has a shop, which sells refreshments, basic provisions and souvenirs including rock art souvenirs. The camp office has a large parking area, toilets and a display of free pamphlets advertising other UDP destinations. There is no rock art centre in the reserve but there is an informative display at Main Caves and a visitor's book is present at the site. Table 7.19 and Graph 7.18 (see Table and Graph Appendix) indicates high levels of rock art awareness and good facilities at the camp.

On route to rock art site

The hike to the guide rendezvous point begins below the camp accommodation, initially the path is paved until the gradient begins to increase when it reverts to a dirt path. The two kilometre hike to the rendezvous site for the guide at the site's gate takes on average 25 minutes (Fig 7.26). At the end of the path a clearing has been made next to the sites control gate; from this point forward access is only allowed in the company of a guide (Fig 7.27). The path is well marked and there are other hiking paths that join with the path to Main Caves. The only rubbish

bin, was at the camp - there were no bins provided at the rendezvous point. Table 7.20 and Graph 7.19 (see Table and Graph Appendix) indicates the mixed results that were obtained when measuring the factors related to the route to the site the majority of which were positive.

Figure 7.27: *Left:* the rendezvous point outside the fenced off Main Caves' gate *(Right)* (Photographs: C.L. Fordred).

Upon arrival at site

The site is protected by a large razor wire fence; access is gained by means of a locked gate, which is controlled by the guide (Fig 7.27). The path from the gate is uphill and includes a flight of wooden stairs, which take you to the main site area (Fig 7.28). Main Caves comprise of two very large, deep sandstone overhangs. The site is on a cliff face which provides an extensive view of the river and camp below. The first cave/overhang has boardwalks and a life size San display depicting an everyday scene with some rock paintings included in it (Fig 7.28). To see the second cave/overhang, a path must be followed around a corner to an even larger and deeper overhang that has been developed with elevated boardwalks (Fig 7.28). Terrain and conditions at the first overhang are dry, sandy and sunny at the second, conditions were mostly cool, sandy and damp. As both overhangs are deeply eroded into the rock face little direct sunlight enters either shelter. This was especially true of the second overhang, where more botanical factors and dampness were observed. An estimated 25% of the site has been affected by natural factors such as botanical and natural weathering the remaining 75% has been caused by human impacts such as the development of the site and the life size San display. Main Caves is ideally suited for tourism and has been developed to accommodate visitors while trying to protect the art and environment.

The site has a separate entrance and exit, boardwalks are in place, which create a sense of direction and act as a guide to steer visitors along the length of the site to the exit. Information boards explaining the art were also present next to the life

size San display. A visitor's book is available on site to enable visitors to leave comments. The book is protected by a customised box. Main Caves gives a favourable first impression; it has an approachable feel, is well maintained and because of the development creates the feeling that the art is significant. Table 7.21 and Graph 7.20 (see Table and Graph Appendix) both represent high positive ratings the graph clearly indicating the positive rating achieved at Main Caves for factors like; arriving at the site, first impression and what is provided at the site.

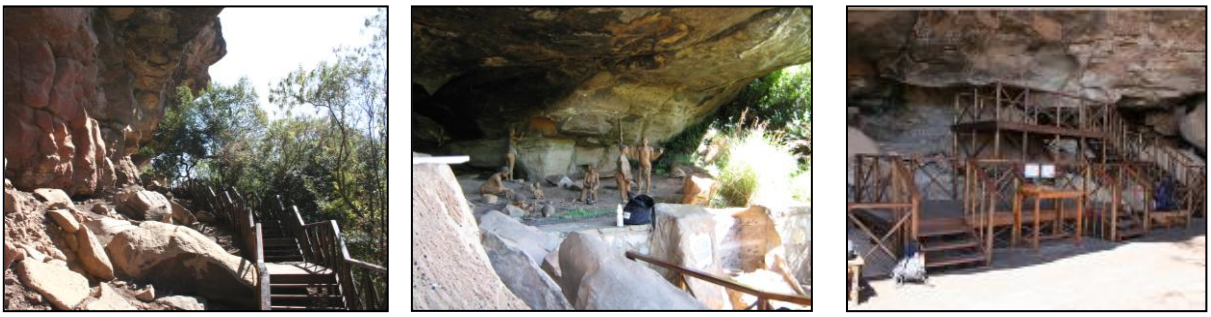


Figure 7.28: *Left*: The stairway to the first overhang. *Middle*: A life size San display. *Right*: A view of the second overhang (Photographs: C.L. Fordred).

The rock surface and the paintings

There are hundreds of paintings found at this site that are scattered on various rock surfaces from the walls of the overhangs to boulders (Fig 7.29). The majority of the paintings are found in the shade, especially in the second overhang, which helps to exemplify and conserve their clarity and detail. The rock surfaces was also found to vary from uneven, smooth to flaked surfaces with some areas containing tafoni (Fig 7.29). The artefacts present at the site are from previous excavations. Natural impacts were obvious in terms of the natural weathering processes of the rock i.e. flaking, cracking and sections of rock fracturing off.

Little evidence of vandalism having taken place at this site was evident at the time of the visits to the caves, only a few scratches on the rock surface were observed though (Fig 7.31). The major human impacts at the site are development and tourism. No surface management methods exist at the site, directly on the surfaces. One of the guide's main functions is to prevent visitors touching the painted rock surfaces. Table 7.22 and Graph 7.21 (see Table and Graph Appendix) reveal the diverse results measured on the condition of the site, with the paintings both obtaining high rating results.

Figure 7.29: Examples of the rock surface and paintings at Main Caves (Photographs: C.L. Fordred).

Three main criteria: 1. Deterioration

Weathering and deterioration of the surface and paintings – Naturally

The site can be described as unstable, this is especially so in the first overhang where there were obvious large cracks on the rock surface, which will in time fracture and cause portions of the rock face to collapse (Fig 7.29). Some of the art in the first overhang has also faded from the effects of direct sunlight. The boardwalks have helped to ensure that the sandy ground is not disturbed by the movement of visitors. There was evidence of veld fires in the area and of a fire encroachment onto the site, damaging the stairs leading to the second overhang, thus now the site having new stairs (Fig 7.30). Both overhangs have vegetation; the second more so than the first because of the moist conditions, moss was growing in some parts of the site especially where seepage was observed (Fig 7. 30). Animal faeces were present both on the rocks and boardwalks, deposited by roosting birds and other animals visiting the site. Table 7.23 and Graph 7.22 (see Table and Graph Appendix) indicates that Main Caves is an average site in respect of the natural weathering processes taking place within the rock more so than any other natural impacts affecting the art work.

Figure 7.30: Left: The new stairs replaced after a fire at the second overhang. Middle: Bird faeces. Right: Vegetation growth near the rock surface at Main Caves (Photographs: C.L. Fordred).

General human impacts at a rock art site

The general human impacts that are taking place at this site are increased moisture levels introduced by visitors especially in the second deeper overhang (which is more cave like), research work taking place at the site and past erosion of archaeological deposits where the life size display is situated (Fig 7.28). Main Caves are well maintained, clean with an average to high wear and tear rating as the site has regular visitors. The second overhang has a section where rocks have been specifically laid to create a protective wall and there is a display of where the troops/hikers/campers used to stay in the cave in the past. The site was visited on numerous occasions during the course of my research, and on a number of occasions; research relating to the paintings was taking place at the site. Rock art research is vital but still impacts the site physically and diminishes the aesthetic feel of the site for tourists. On the ceilings of both overhangs were the visible effects of camp fires, possibly dating as far back as to when the San occupied the site to more recent times (Fig 7.28). Table 7.24 and Graph 7.23a, 7.23c (see Table and Graph Appendix) indicates that the effects of general human impacts at the site are average but the result excludes the impact made by the development of the site for tourism.

Intentional human impacts

The most evident example of intentional human impacts at this site was the graffiti found near the rendezvous area at the entrance gate (Fig 7.31). This could be the result of people having too much time on their hands while waiting for their guide to accompany them to the site. Very little graffiti was observed in Main Caves with only a few names scratched into the rock, sadly however, some paintings have been outlined by visitors (Fig 7.31). Commodification of the site is high as the site has been so highly developed for tourism. Table 7.24 and Graph 7.23b, 7.23c (see Table and Graph Appendix) clearly show low results for intentional impacts occurring at Main Caves.

Figure 7.31: *Left*: Graffiti at Main Caves' entrance gate. *Right*: A painting that has been outlined by a visitor or researcher (Photographs: C.L. Fordred).

2. Tourism

Tourism factors at the camp and rock art site

There is a high level of archaeo-tourism at Giants Castle as it is well advertised and has been developed to provide visitors with an enjoyable and informative experience while viewing rock art. Giant's Castle Game Reserve is easy to access both to the camp via tarred roads and to the rock art site via an easy walk on a semi paved path.

There is no rock art centre in the reserve but the San display found at the site provides visitors with a positive rock art experience through information boards. The commodification of the San culture of paintings is advertised at the reception, office and shop through rock art advertising and the sale of rock art souvenirs. Giant's Castle Camp is one of the biggest camps in the UDP, providing over 40 self-catering units, a restaurant and a camping site, while also offering hiking, horse riding and trout fishing opportunities (Ezemvelo, 2007b). A display of free pamphlets on other UDP destinations is available in the reception office. In general, the tourism industry is well developed in the central Drakensberg; as Giant's Castle is on the outskirts of this developed area, visitors can still enjoy a relaxing, peaceful stay. Table 7.25 and Graph 7.24 (see Table and Graph Appendix) clearly represents that Giant's Castle Game Reserve is well developed for tourism.

3. Management

Management methods at the site

Main Caves are advertised as an attraction to visit when staying at Giant's Castle Camp because of this, management methods have been implemented to help protect the site. There is no specific pamphlet for this site but the site is fenced and can only be accessed at prescribed times in the company of a guide. Main Caves is well developed for tourism and an entrance fee is required to visit the site. Boardwalks are provided which give visitors better viewing access to the art, while also creating a flow of direction for traffic (Fig 7.28). The boardwalks also prevent dust/sand from being kicked up from the naturally sandy ground and have railings on them to prevent visitors from touching the paintings. The boardwalks also have large areas which provide viewing space and benches for visitors to rest on while viewing the art (Fig 7.28). Information boards and a life sized San display are present at the site as well as a visitor's book, which is situated in a protective box on a table in the second overhang. The accompanying guide is also able to give an informative explanation of the art. In addition there are various other signs at the site, informing

visitors that KwaZulu-Natal Conservation Services, Ezemvelo KZN Wildlife, Natal Museum and Amafa aKwaZulu-Natali are working together to protect the art for future generations to enjoy (Fig 7.32). Visitors are also informed that the establishment of the interpretative facility available at Main Caves was made possible by a donation from the KwaZulu-Natal Conservation Trust in 1998. These signs demonstrate that while every effort is made to conserve the rock art it is important that the general public must be able to enjoy the art too. There are also signs reminding visitors that the art is protected by legislation and explanations are given as to what is considered 'acceptable etiquette' at rock art sites (Fig 7.32).

KwaZulu-Natal Nature Conservation Services and Amafa aKwaZulu-Natali manage cultural heritage sites in the UDP in terms of the KwaZulu-Natal Heritage Act No. 4 of 2008 (the sign at the site is outdated with Act No.10. of 1997). No other surface and site management methods were in evidence i.e. surface drip lines and varnished surfaces. Table 7.26 and Graph 7.25 (see Table and Graph Appendix) clearly shows that the management methods at Main Caves are good and that the site is well maintained and equipped for tourism.

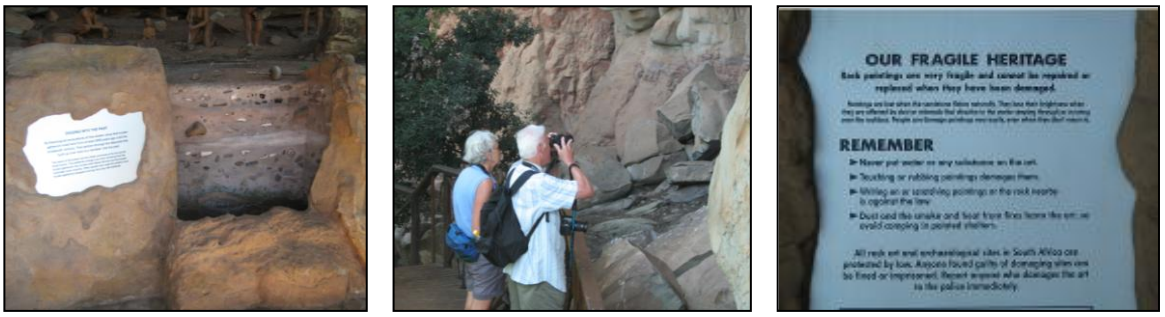


Figure 7.32: *Left:* Information boards. Middle: Tourist visiting the site. *Right:* A sign with rock art etiquette at Main Caves (Photographs: C.L. Fordred).

7.4.2. Barnes Shelter

In addition to the advertised and developed rock art site at Main Caves, Giant's Castle Game Reserve has several other rock art sites. As was the case at Injisuthi, a non developed rock art site was also selected and investigated in Giant's Castle Reserve. The site selected in this reserve was Barnes Shelter because it remains undeveloped and is not advertised to the public for visitation. The site is located outside the accommodation camp area up on a steep ridge. The results of the findings will be presented in the same way as those for the non-developed and unadvertised site at Injisuthi – Fergy's Cave. Detailed results can be found in Tables 7.19 – 7.26 and Graphs 7.18 – 7.25 (see Table and Graph Appendix) and are

displayed in the same style as those for the developed sites that were analysed during this project.

Rock art awareness and route to rock art site

The results for rock art awareness in the camp and the camp's facilities are the same as the results for Main Caves (Table 7.19 – see Table Appendix). The only difference being that the public has free access to the site and no entrance fee required. The location of this shelter is not freely available to the public and no information on its location is available from the camp office. There are no hiking trails leading to the shelter and without prior knowledge of the shelters existence and location it is highly unlikely that members of the general public will discover it by chance. To reach Barnes Shelter, one needs to walk or drive out of the accommodation camp grounds along the access road to the camp. A steep hill needs to be hiked as well as a narrow cliff face before you discover the shelter. The remains of an old damaged fence still exist at the entrance to the shelter which needs to be climbed over/through to enter the shelter (Fig 7.33). The fence was originally erected to try and prevent animals from entering or exiting the site but has fallen into a state of disrepair (Fig 7.33). Graph 7.18 (see Graph Appendix) clearly represents the low results obtained for the advertising of Barnes Shelter. Graph 7.19 (see Graph Appendix) represents an even lower results rating for the conditions on route to the site as there is no path to the site or path at the site. As the site is not advertised, it is therefore obvious that there are also no guided tours and no signage for the site (Table 7.20, see Table Appendix).

Upon arrival at site and the rock surface and paintings

The paintings found in Barnes Shelter are situated in a medium sized overhang of approximately 15 metres in length, the ground surface is coarse to fine sand and there were a number of rocks and rubble from the cliff face in the viewing area/shelter. The shelter provides an extensive view of the area and the camp below and receives a reasonable amount of direct sunlight depending on the sun's angle. On entry, the site felt unapproachable and neglected, an estimated 85% of the weathering of the rock surfaces is natural. The remaining 15% were caused by human impacts as there is evidence that the site was at some time used to keep cattle in or away and may have been the mountain cave that Sydney Barnes used as a shelter when the reserve was proclaimed in 1903 (Pearse, 2006). There is only one entrance, exit point to the shelter as the ledge peters out and becomes impassable. Table 7.21 and Graph 7.20 (see Table and Graph Appendix) represents

a mixture of results, positive results for its obvious entrance point, extensive view and the size of the shelter. Negative results are for the first impressions when entering the site and for maintenance as well as the condition of the site with the natural impacts being obvious (Fig 7.33). The rock surface of this shelter has mainly been damaged by natural processes that are causing the paintings to deteriorate at a faster rate, these include tafoni and flaking (Fig 7.33). Artefacts were found amongst the rubble at this site. The paintings were found at different levels, the majority being closer to the ground (Fig 7.33). No current management methods or obvious intentional human impacts other than some writing on the rock surface were visible. Table 7.22 and Graph 7.21 (see Table and Graph Appendix) indicate that the rock surface quality is poor, but the quality of the paintings is still good. Over all the quality and clarity of the art in Barnes Shelter is average to below average.

Three main criteria

The three main criteria that were investigated throughout this project were; deterioration, tourism and management.

1. Deterioration: *Natural Weathering, deterioration of the surface and paintings*

The present stability of the site is stable but fragile; at some stage it is obvious that the rock surface was unstable, due to the rubble on the ground (Fig 7.33). There is evidence of faded paintings; in this sunny shelter, obviously caused by the sunlight and because of the above mentioned natural processes. The ground is dusty and is easily disturbed by movement in the shelter, as this site is on the side of a cliff, wind is also a major contributing factor to dust disturbance. It seems that in the past animals have rubbed against the art, hence the erection of the fence. Animal faeces were present at the site, the majority of the deposits being from birds and small mammals. There was vegetation growth in the greater fenced off area but none near the rock face where the art is. Water at the site is minimal with no signs of seepage. In Graph 7.22 (see Graph Appendix) the three lower Likert rating results are evident, representing poor results for the condition of the surface dealing with natural weathering (also Table 7.23 in Table Appendix).

General and intentional human impacts at a rock art site

General human impacts at a site are hard to record but logically we can surmise that it must take place i.e. human or animal visitation to the site. Other impacts include, disturbance of dust and damage to the rock surfaces from camp fires. Barnes Shelter was found to be litter free and undeveloped (Table 7.24 - see

Table Appendix). Graph 7.23a, 7.23c, (see Graph Appendix) represents measurements of below average for the amount of general human impacts taking place here. Intentional impacts were also minimal, Table 7.24 and Graph 7.23b, 7.23c (see Table and Graph Appendix) represent this. Only one obvious intentional human impact was found - some writing on the rock surface, luckily not on any art (Fig 7.33).

Tourism and management

Barnes Shelter is not open to the general public and is not advertised. The same tourism factors described for Main Caves applies to Barnes Shelter as they share the same camp and reception area, shop and restaurant (Table 7.25 and Graph 7.24 see Table and Graph Appendix). The management methods that are linked to the camp are also similar to Main Caves' results.

The main site management method used at this site is that there are remains of a fence keeping animals out of the site (Fig 7.33). Besides the fact the site is not open to the public,, the site is not developed and no other management methods have or are taking place at the site to protect the art (Table 7.26 and Graph 7.25 - see Table and Graph Appendix).

Figure 7.33: Examples of factors that were discussed above for Barnes Shelter (Photographs: C.L. Fordred).

Central to Southern Drakensberg Region

In the southern part of the central Drakensberg escarpment, a 45 minute drive from Giant's Castle Game Reserve is Kamberg Nature Reserve, situated on the border between the central and southern Drakensberg (Map 1, 2 & 4, see Map Appendix). The southern Drakensberg is a wilderness region, a paradise for outdoor people especially fishermen. The main access points to southern regions of the Drakensberg are found at Underberg and Himeville both of which are near the base of Sani Pass. The pass itself, can only be accessed by 4x4 vehicles and is popular with those who enjoy extreme driving. In comparison with other UDP regions the southern Drakensberg region attracts low volumes of tourist traffic (Briggs, 2006). Rock art is found in this region, but access to these sites is difficult, very few sites in the south are published/advertised as all site visits need to be arranged well in advance as many sites are on private land. The two sites assessed/analysed in the central to southern Drakensberg region in this project were (Map 1, 2 & 4, see Map Appendix):

- Game Pass Shelter
- Kamberg Rock Art Centre

7.5. Kamberg Nature Reserve

The reserve was established in 1951 and is famous for Game Pass Shelter and Kamberg Rock Art Centre, which provides guided tours, seven days a week to Game Pass Shelter (Ezemvelo, 2007c) (Map 4, see Map Appendix). In addition to this famous rock art site, the Mooi River flows through the Kamberg Reserve and offers visitors excellent fishing opportunities as well as hiking trails (Lewis Williams & Blundell, 1998). The reserve is small in comparison with others in the UDP but offers a unique and peaceful stay, away from tourist attractions and development (Ezemvelo, 2007c) (Map 2 & 4, see Map Appendix) (Fig 7.33).

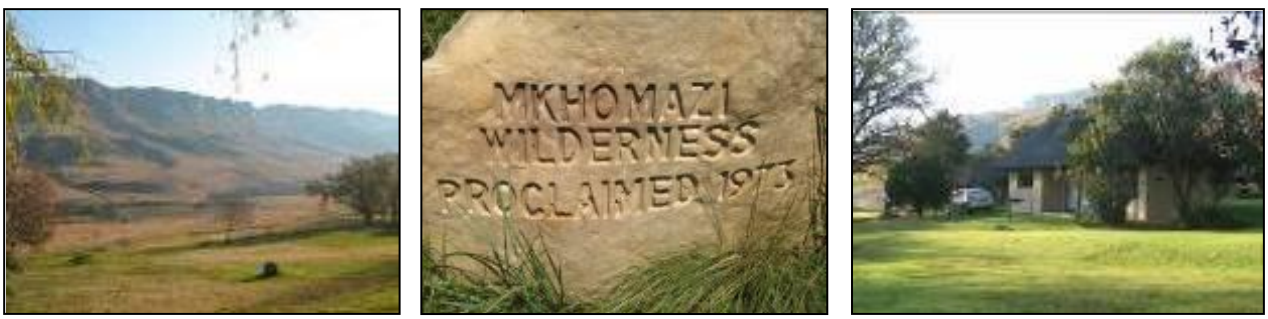


Figure 7.34: View of Kamberg Nature Reserve and camp (Photographs: C.L. Fordred).

7.5.1. Game Pass Shelter

Game Pass Shelter grabbed the world's attention in 1915, when a photograph of the rock art cluster found in the shelter, was published in an American scientific journal (Lewis Williams & Blundell, 1998). David Lewis Williams and Blundell (1998) describe this site as one of the best conserved clusters of paintings yet found, and it is often referred to as the 'Rosetta Stone' of Southern Africa rock art, vital in cracking the code in religious symbolisms (Fig 7.37). The hike to the shelter takes around 90 minutes and is rather strenuous but well worth the effort. Also on route to the site a waterfall, considered sacred by local people can be seen, which also has a few faded San paintings to view (Briggs, 2006).

Camp and rock art awareness

Kamberg Camp has a reception office with a small shop filled with rock art posters, souvenirs and the basic essentials. Kamberg Rock Art Centre is adjacent to the camp and has a larger curio shop which also sells refreshments (Fig 7.34). Both shops have a high level of rock art awareness with the centre being the more advanced. Awareness is projected through rock art posters and the sale of rock art souvenirs.

The Game Pass Shelter is well advertised at the camp, which also provides a basic illustration of the location of the site to enable visitors to orientate themselves. Payment for the guided tour to the site and the entrance fee for the multimedia show at the centre are both payable at the rock art centre's office where further information on the Game Pass Shelter can also be obtained. The Game Pass Shelter may only be viewed when accompanied by a guide. Tours follow a strict timetable and leave from outside the centre's office three times a day. There is no specific pamphlet to Game Pass Shelter, but there is a visitor's register at the office counter which contributes to the management of the site. Other basic facilities such as a parking area, restaurant, toilets and a pamphlet stand providing information on other destinations within the UDP are available at the rock art centre.

Table 7.27 and Graph 7.26 (see Table and Graph Appendix) indicate that the site has a high level of rock art awareness. The camp has a rock art centre and shop which display rock art posters and sell rock art souvenirs. The camp is also well maintained as can be seen in Table 7.27 and Graph 26 (see Table and Graph Appendix). Awareness could be greatly increased however, if a specific pamphlet on the Game Pass Shelter were produced for visitors.

Figure 7.35: Examples of rock art awareness in Kamberg Camp and Rock Art Centre (Photographs: C.L. Fordred).

On route to rock art site

All guided tours to the site leave from outside the centre's office either at the designated times or by special arrangement. The guide firstly informs everyone that the hike to the site is a strenuous nine kilometre hike which takes an average of three hours, there and back. Due to the difficult terrain the guide firstly confirms that everyone will be able to complete the hike and at what pace they would like to hike. The route is a gradual incline until the last kilometre, which is steep and tiring (Fig 7.35). The path to the shelter is fairly well marked and half way along the route is a pleasant resting spot next to a waterfall. No provisions have been made for rubbish, as there are no bins at the site's entrance gate, or at the site. The only rubbish bins are found at the rock art centre and camp. Table 7.28 and Graph 7.27 (see Table and Graph Appendix) indicate a moderate result for the route to the shelter, but the fact that the visitors are informed of the terrain and the average duration of the hike by the rock art guide is a positive aspect.

Figure 7.36: Examples of the terrain and the path to and from Game Pass Shelter (Photographs: C.L. Fordred).

Upon arrival at site

Game Pass Shelter is an impressive rock art site not only because of quality of the rock art paintings but also because of the sheer size of the overhang. The site is on a steep cliff and provides a good view of the reserve; the terrain is rocky and

sandy. The site is protected with a fence that encloses the greater area of the shelter; access to the main site is through a gate that is unlocked by the rock art guide. Sunlight exposure is average at this site due to the depth of the overhang, but it is still estimated that natural impacts affect the site by 60%, with water moisture, lichen, and vegetation growth visible in the shelter. The remaining 40% is caused by the effects of human impacts such as vandalism, development and research taking place at the site. Maintenance and research were both taking place at the time of the visit – a weather station is present and it does not affect the art (Fig 7.36). The suitability of this site for tourism is difficult to assess because of the variation in factors. The distance and difficulty of the hike are a major disadvantage. While the shelter itself is large – nearly 30 meters or longer and allows plenty of room for visitors to rest and view the art (Fig 7.36). There is no visitor's book at the site, but there is one at the centre. Traffic flow is good at the shelter with separate entrance and exit points. The difficult hike to the shelter is well worth the effort, on arrival at this well maintained site, the visitor will immediately feel the easy accessibility of the site and marvel at the quality of the art. While there are no physical developments such as boardwalks present at this site, one can feel a sense of significance at this site, aptly known as the 'Rosetta Stone' of Southern Africa. Table 7.29 and Graph 7.28 (see Table and Graph Appendix) clearly indicates a high level of approval for first impressions when entering the site, its cleanliness, the quality of the paintings and the high potential for development at this site.

Figure 7.37: A view of Game Pass Shelter with a weather station and an example of the terrain (Photographs: C.L. Fordred).

The rock surface and the paintings

Game Pass Shelter has hundreds of detailed paintings of a high level of clarity and in my opinion was one of the best study sites in this project (Fig 7.37). Generally, the rock surface is in a good condition although some areas have a smoother surface than others, some of the clearest paintings are found on these smoothed surfaces (Fig 7.37). Natural factors such as seepage, lichen growth and

vegetation brushing against the painted surface are low, but the site is still experiencing rock surface deterioration such as flaking and tafoni (Fig 7.37 and Fig 7.36). Human impacts on the rock surface are low, with only a few graffiti names scratched on site's rock surface. There are no visible rock surface management methods taking place at this shelter. Artefacts are no longer visible but are sure to have been here in the past. Table 7.30 and Graph 7.29 (see Table and Graph Appendix) represent a mixture of results, the high clarity and detailed paintings on a good quality rock surface gives this site a high rating, but the natural deterioration of rock surface is still evident and there are no surface management methods in place at this site to protect these sharply coloured paintings.

Figure 3.38: Examples of the rock surface and the clarity of the paintings at Game Pass Shelter (Photographs: C.L. Fordred).

Three main criteria: 1. Deterioration

Weathering and deterioration of the surface and paintings - Naturally

Structural instability at this shelter is low with the site being stable and in a good state with only a few cracks evident (Fig 7.38). Natural deterioration as mentioned above is from an array of natural factors such as direct sunlight on the surface of the art, dust being kicked up or blown into the shelter from the sandy ground surface and the influence of animals and insects at the site (Fig 7.36). Animal faeces were visible at this site, but the quantity was fewer than at other sites visited in the UDP. There was evidence of bushfires in the region but no evidence of it near the greater area of the rock art site. Depending on the season, water drips down over the overhang, but luckily no water drips near the paintings. Lichen growth on the rock surface is the most visible natural factor contributing to the weathering of the paintings (Fig 7.37). Table 7.31 and Graph 7.30 (see Table and Graph Appendix) indicate mostly negative issues pertaining to the site's natural deterioration caused mainly by lichen growth. Animal influences at sites are not measurable but still need to be included under possible natural factors of activity occurring at the site that contribute to the art's deterioration.

Figure 7.39: Examples of natural deterioration and Game Pass Shelter's rock stability – Left: flaking. Right: Vegetation coming out of the rock surface (Photographs: C.L. Fordred).

General human impacts at a rock art site

The quality of the art at this site makes it a popular site for both visitors and researchers that are interested in rock art, to visit. Therefore, these are the people that bring in the most general human impacts to the site, such as, the disturbance of dust and the sandy ground and littering (Fig 7.36). Game Pass Shelter was found to be very clean, with only a small amount of erosion from archaeological research. In terms of general development of the site, the only evidence that was found was that the free standing boulders at the site have been moved around to accommodate visitors, thereby providing them with more viewing and resting areas (Fig 7.36). At the time of my site visit, research equipment was present at the site; this can be seen as development at the site as this falls under human involvement and impacts (Fig 7.36). Another good example of human impact deterioration caused by research taking place at the site was the evidence of tracing paintings, resulting in clear signs of the motifs having been outlined. Camping at the site is now strictly prohibited, but evidence of old camp fires at the site still remain, resulting from the San or past campers. On average, the general wear and tear from human visitation to the site is low to moderate. Table 7.32 and Graph 7.31a (see Table and Graph Appendix) show a large percentage, representing that the site has an average rating result for human influences at the site. Therefore improvements can be made, which would help to decrease general human impacts at this site.

Intentional human impacts

Intentional human impacts seen at the shelter were scratching and writing on the rock surface using different materials (Fig 7. 39). There is some graffiti on the paintings but most is found next to the paintings (Fig 7.39). In general, Game Pass Shelter has an average amount of graffiti, the outlining of the paintings in included in this conclusion – intentional or not, it has taken place at this site. There are no signs

of attempted removal of the rock paintings and the site has not been altered other than the movement of rocks to accommodate visitors at the site. As at all sites, other undetermined intentional impacts have taken place over time, from touching and wetting the art to the removal of souvenirs from the site. Commodification has not taken place at the site but is present at the Kamberg Camp, due to the development of the rock art centre and the use of the San painting theme. Graph 7.32b (see Table and Graph Appendix) illustrates this among the high percentage rates along with the moderate rates of vandalism that have occurred at the site. Table 7.32 and Graph 7.31b, 7.31c (see Table and Graph Appendix) lists and illustrates the undetermined values of human impacts that have taken place at the site.

Figure 7.40: Examples of intentional human impacts at Game Pass Shelter (Photographs: C.L. Fordred).

***2. Tourism**: Tourism factors at the camp and rock art site*

Game Pass Shelter is a well known site and has become more popular because of Professor Lewis-Williams' (2002) work on religious symbolisms and because of the site being labelled as Southern Africa's 'Rosetta Stone'. Archaeo-tourism in the camp is therefore highly developed especially with the establishment of the rock art centre. Kamberg Camp is advertised in the tourism industry as a popular rock art destination, easily accessible by a tarred road most of the way, only a nine kilometres stretch of gravel road needs to be travelled to reach the reserve.

The camp has limited accommodation with only a few self-catering units and a small shop which provides basic essentials and information pamphlets on other destinations in the UDP. The camp is small and undeveloped with only few activities available to partake in. (Fig 7.33). In the surrounding area, there are other forms of accommodation found along the gravel road, their main focus is on horse riding and fishing, other than this, there is minimal tourism development in the area. The majority of the visitors to the camp are there for the archaeo-tourism and because of this rock art, commodification has taken place throughout the camp and rock art

centre linking to the San culture. Table 7.33 and Graph 7.32 (see Table and Graph Appendix) clearly indicate high percentages for archaeo-tourism factors in the camp, mainly due to the rock art centre and the camp providing visitors with comfortable facilities.

3. Management: *Management methods at the site*

Due to the fact that Game Pass Shelter is world famous, the site and Kamberg Rock Art Centre receive more advertising than the camp and its facilities. The management methods at all the art sites under review are similar; this site operates under strict gate control access, with the rock art guide in control of the key, while visits to the site are in accordance with a strict timetable or arrangements (Fig 7.40). Even though Game Pass Shelter is well known there is no specific pamphlet on the site and the site itself contains little infrastructure for visitors such as boardwalks and information boards about the site and paintings. The art is situated above normal human height therefore the provision of raised boardwalks would be of great advantage to the site allowing visitors closer viewing access to the art and preventing the dust disturbance of visitor's feet. A decision must be made if it is better to provide tourist facilities or to keep the site as natural as possible and to some extent protecting the art because of its inaccessibility. The site runs along a ridge which provides a natural flow of direction with a few rocks in place to contribute to the flow of direction and to provide viewing space for the visitors (Fig 7.36 and Fig 7.40).

There was no visitor's book at the site, but visitors are required to fill in the book at the centre when paying for their tour, this also gives an indication of the number of visitors visiting the site and their comments. Other existing management methods for the protection of the site and art are, the required entrance fee, identified viewing and resting points to help lessen congestion at the site which can lead to people accidentally brushing up against the art work, see Table 7.34 (in the Table Appendix). Clear indications that management methods have been applied at this site are evident by means of signs stating that the art is protected by legislation at the rock art centre and at the site's entrance gate and placed along the route to the shelter (Fig 7.40). Informative signage at the site about the paintings and rock art etiquette would benefit the management method by providing visitors with more knowledge about the art. Not all management methods are needed at the site, a rubbish bin at the centre is an example of this, along with posters informing visitors of the conservation of rock art. There are no obvious remains of previous surface and

site management methods, such as drip lines or the remains of a previous fence. Table 7.34 and Graph 7.33 (see Table and Graph Appendix) indicate a high percentage for management improvements at the site, but at the same time represent positive indications for the management methods taking place at the site. Overall, the site is well managed, and is regularly maintained, but there is still room for improvements.

Figure 7.41: Examples of management methods at Game Pass Shelter. *Left:* A fence protecting the site. *Right:* A guide present at the site at all times (Photographs: C.L. Fordred).

7.5.2. Kamberg Rock Art Centre

With the opening of the Kamberg Rock Art Centre in 2001, Smith (2006) describes Game Pass Shelter as being a new generation of open public rock art sites. Kamberg Rock Art Centre can be seen in Table 7.9 and Graph 7.9 (see Table and Graph Appendix) as modest in comparison to the Didima Rock Art Centre in the northern UDP.

The centre consists mainly of a room where a movie is played concerning Game Pass Shelter and the history of the San in the UDP (Fig 7.41) and provides visitors with a better understanding of San rock art and what to expect at the shelter. The movie can be paid for separately or can be included into the price of the guided rock art tour to Game Pass Shelter.

In this room, there is a replica of a rock overhang with examples of rock paintings (Fig 7.41). The centre's office is in the curio shop found in the centre, it is filled with rock art posters and is where the bookings and payments are done for the movie and the guided tour. The visitor's book is also found there and it serves as the meeting point to commence the hike to the shelter (Fig 7.34). Refreshments, snacks, local crafts and rock art souvenirs can also be purchased at the store, thereby

representing a moderate to high level of commodification of rock art at the centre (Fig 7.34). A restaurant is also forms part of the rock art centre that remains open until after the last rock art tour has left. It provides visitors with a place to rest and wait for the movie or/and the tour to the shelter (Fig 7.41). Other basic facilities at the centre include a display of other areas to visit in the UDP, toilets and wheel chair access. The parking area is shared with Kamberg Camp, which is adjacent to the centre, providing visitors with accommodation should they wish to stay over - the camp is run separately to the centre. Kamberg Rock Art centre is not ideal for large tourist groups; it differs from Didima Rock Art Centre, in that it is not a museum with lots of informative static displays and information boards providing information by using different multi-mediums. Kamberg Rock Art Centre can be better described as a rock art interpretive or information centre. The need for lots of signage and flow of direction is not necessary as the centre is small with three clearly defined main areas, the shop, the movie room and the restaurant. Using Didima Rock Art Centre as an example, there are many ways in which the Kamberg Rock Art Centre could be extended and improved, should funding be available.

Figure 7.42: Left: A view of Kamberg Rock Art Centre. Middle: the centre's opening plaque. Right: The room where one watches a rock art movie (Photographs: C.L. Fordred).

CHAPTER 8: DISCUSSIONS AND RECOMMENDATIONS

A detailed overview has been supplied, defining rock art, tourism, conservation and management. The study area, the uKhahlamba-Drakensberg Park (UDP) was discussed including its physical attributes as well as the cultural history focusing on the San that lived there and left their mark – notably in the form of rock paintings. The rock art that exists today, is the most prominent and enduring artefact that remains for our enjoyment and continued research into the San people and their painting practises. The nine selected study sites and the site observations have been explained in depth, providing the reader with a thorough insight into the conditions at each site, the general rock art awareness taking place in the respective camps and examining the link between tourism and rock art.

8.1. Overview of the purpose of the study

Rock art documentation and research has already been completed, using various different disciplines, including the main focuses of this project – conservation, management, and tourism. But few such studies have been conducted on these nine sites in terms of tourism and visitation. Tourism has both, positive and negative influences on the sites and art work; this has been identified throughout the project. For example, the negative impacts of tourism at sites is, the increase in development and visitation, altering the natural state of the entire site. The positive impacts of tourism are its ways of contributing to the awareness and conservation of rock art. The aim of this project was to evaluate the complexities of tourism at the selected sites through an analysis of what management and conservation methods are taking place at these rock art sites and what methods could be applied in relation to tourism.

A detailed summary of the results and observations of all the sites is summed up and discussed in the next section, all of which can be used and can contribute to:

- determining what management measures exist at uKhahlamba-Drakensberg Park open rock art sites, and which of these methods are proven successful;
- determining what management methods are missing;
- suggest solutions that can be applied to fill the shortcomings discovered at these selected sites, to improve the resilience of the site for tourism;
- to propose future recommendations for other sites, should they be opened for tourism elsewhere and;

- providing results that will add value to Ezemvelo, KwaZulu-Natal Nature Conservation, Amafa and any other specific database on rock art sites in the uKhahlamba-Drakensberg, and in South Africa.

Below is a summary of the results and observations in relation to the project objectives.

8.2. Summary of results and recommendations for each site

Nine study sites were selected - two rock art centres, five open sites for visitation and two non-developed sites not open for tourism. The objective of the study was to analyse the current conditions at all nine sites in relation to the three main criteria;

1. Deterioration: especially that caused by human visitation and natural impacts at rock art sites;
2. tourism and the development of rock art and related sites in the study area and the;
3. management and conservation of the rock art sites.

In addition, to the graphs formulated, used for analysis in the results Chapter (using the Likert scaling system, discussed in Chapter 3) an overall percentage graph for each site was created. This was done by using all the Likert scaling rates for every factor investigated at each site. The different colours represent the different scaling/rating units, which were used in the tables that analysed each site. Below is a reminder of the rating unit's implications and the colour that they represent:

1. Non-existent: factor does not exist at the site (Blue)
2. Strongly unfavourable to the concept: low scale measurement (Purple)
3. Somewhat unfavourable to the concept: average scale measurement (Green)
4. Undecided: not totally considered as high or low (Yellow)
5. Somewhat favourable to the concept: an improved measurement from the last (Orange)
6. Strongly favourable to the concept: the highest obtained measurement at a site, describing that the factor exists and has a high rating (Red)

These graphs provide a visual overall average result for each site. Using dedicated chapters, the project has discussed in great detail the natural and human impacts that have occurred at each site and links them to the topics of tourism,

management and conservation, all of which is supported by examples and case studies from around the world. I here provide a concluding encapsulation of my findings at each of these nine study sites, discussing their current situations of the management and conservation methods linking to tourism. Providing possible recommendations to achieve a tourism friendly site if the site is open to visitation, while managing and conserving the site and paintings effectively.

Sigubudu Rock Shelter

Sigubudu Rock Shelter, in the Royal Natal National Park is the smallest rock art site that has been opened for tourism that was analysed in this project. The main factors that this shelter and camp lack are;

- a specific pamphlet on the shelter and its art;
- additional interpretive resources at the site or camp to explain rock art and its significance;
- signage providing guidelines on etiquette at rock art sites in general and;
- warning signs informing visitors that the art is protected by legislation.

Improvements in these areas would contribute to rock art awareness at both, the shelter and the camp. Even though the site's rock surface has been damaged by direct sunlight over many years, it is still a good example of rock art for visitors to enjoy. The major attraction that brings tourists to this shelter, is that only a short, easy hike is required to reach the site and that it is also accessible to day visitors. As the site is small, visiting groups should be limited to a maximum of six people at a time, which would prevent congestion at the site and reduce the risk of people brushing up against the art. Smaller numbers at the site would also give the guide greater control over the group, making it easier to monitor the visitor's behaviour, thereby preventing possible acts of vandalism i.e. graffiti.

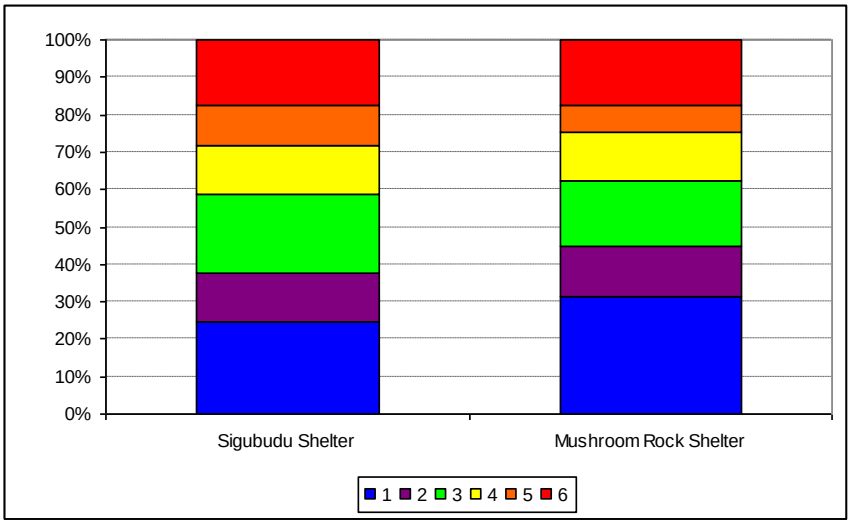
The site needs to be made more approachable, this could be achieved by making the viewing space larger, with minimal alteration to the physical setting. Many of the rocks that currently have to be climbed over to view the art at the site could be removed but only after a comprehensive baseline survey and relevant permits from Amafa. Alternatively, structures could be built around the rocks, though the same caveats to such development would apply. These alternatives would help prevent people accidentally touching the art as they reach out to maintain their balance while climbing over the rocks. This would also help to negate the chance of climbing

accidents at the site. Unfortunately, at present there is no viable way of preventing the direct, intense sunlight that shines onto the rock art without radically changing the natural physical conditions at the site. The general and intentional impacts on this site were found to be very low, this is a positive indication that the management methods that have already been implemented such as; the entrance fee, the fence even though it is only in the greater area of the site and the fact that a guide was present on site at all times are proving to be successful in the prevention of vandalism and graffiti.

Also a fence closer to the site would have a negative aesthetic impact that would impact the site's sub-surface archaeology; as well as be difficult to maintain. Should tourist numbers continue to rise at Royal Natal National Park and in the surrounding areas, so will the numbers of visitors that wish to visit the rock art site. Increased visitation could impact this site negatively and cause the site to deteriorate faster than those in more remote areas. Thus, the alternative plan if this is to happen would to relieve Sigubudu Shelter of high tourism numbers by opening up another rock art site to visit. This would be an option before closing the site from the use of tourism for its own protection. The commodification of rock art is high at the Royal Natal National Park, where the San culture has been used as a marketing medium to create and sell products at the curio shop. As of this, Ezemvelo should consider paying royalties to the South African San Institution (SASI) or Working Group of Indigenous Minorities in Southern Africa (WIMSA) to acknowledge San Intellectual Property (IP) and to make their products and marketing more socially responsive and ethical. Management methods are generally lacking at the site, which needs to be addressed as the rock art site is advertised as a camp attraction.

In addition limiting the tourist visiting numbers to no more than six to eight people at the site, at any given time and making the area generally more attractive to tourists. The problem of dust up stir needs to be addressed. A solid medium needs to be introduced. As the site is situated on a cliff edge and therefore not level, a wooden boardwalk would be the best solution. Elevated boardwalks would give better viewing access to the art, as the paintings with the best clarity are found higher up on the walls of the shelter. Fire treated wood, together with regular fire control programmes for the nearby vegetation would then be a must. Should funding not be available for the establishment of boardwalks a clearly defined path needs to be established with the help of flagstones at the site to restrict the current random movement of visitors. A previous site management method is still evident at the site –

the remains of probably what was a gate and fence, this might have been taken away because it increased the congestion problem that is experienced at this site. Other positive management methods that were evident included a parking area, a rubbish bin at the gate and signage indicating access times to the site accompanied by a guide. Graph 8.1 indicates that the Sigubudu Shelter has an overall positive measurement of 60% and therefore has plenty of room for improvement.



Graph 8.1: Overall percentage graphs representing open sites for visitation – Sigubudu Shelter and Mushroom Rock Shelter in the northern Drakensberg.

Mushroom Rock Shelter

Mushroom Rock Shelter is situated in Cathedral Peak region and was the second rock art site to be assessed in the northern Drakensberg. Take note – only Ezemvelo camps with nearby rock art sites were analysed in this project. Thus, details of Cathedral Peak Hotel were not included on how they incorporate rock art tourism. I found that the impacts and management methods were very similar to those found at Sigubudu Shelter. The main difference being that there is a rock art centre at the Didima Camp. However, greater co-operation and interaction needs to take place between the Didima Camp and the Didima Rock Art Centre by means of a better advertising campaign for the site and guided tours to the Mushroom Rock Shelter. It was found that at Didima Camp, little or no advertising existed firstly to inform visitors that there was an open rock art site nearby or that guided tours to it were available. The only advertisements for the site were seen at the rock art centre, where Mushroom Rock is advertised as a tourist attraction for the Didima Camp. Tours to the site need to be better organised, no set timetable exists for the guided tours and the information that was available was vague as no general information about the hike to the shelter is given from the price to how far the hike is. All tours are

by arrangement only and must be pre-booked at the Didima office where a time that suits the guide and the visitor is agreed upon. Of all the sites analysed during this project the Mushroom Rock Shelter was the site with the most undisturbed, natural setting, with no further archaeo-tourism developments or management methods taking place, this may because the rock art centre started attracting archaeo-tourists more. The site is large and congestion is not an issue as is the case at Sigubudu Shelter and no more than ten people should visit the site at any given time.

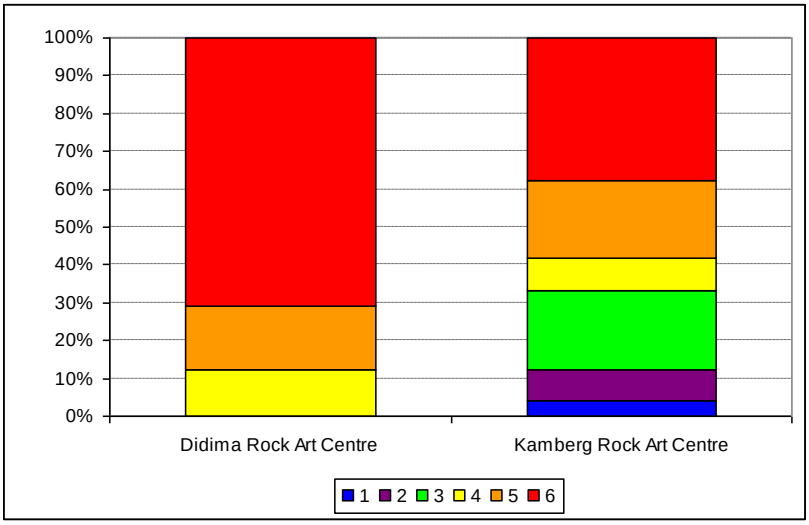
The downfall of this site is that when compared to the state-of-the-art rock art centre at Didima Camp, the Mushroom Rock Shelter to some would seem neglected. The excellent multi-media displays at the rock art centre explaining the San culture and rock art in general give visitors a sense of raised expectations and the underdeveloped state of the Mushroom Rock site can lead to disappointment even if Mushroom Rock Shelter is an authentic sites rather than a copy/representation of a rock art site. Thus, the centre should stress the importance of pristine sites more. A specific pamphlet on the site would be useful and would give prospective visitors a better understanding of to expect at the Mushroom Rock Shelter and why the site has been left undeveloped. Visitors could then decide if they wanted to visit the undeveloped site or would rather just visit the rock art centre.

Recommendations for Mushroom Rock Shelter are to keep the site open for tourism but advertise it as a pristine site for those visitors who want to see rock art in its natural physical setting. A pamphlet should be produced to inform visitors of what to expect at the site to avoid disappointment. All visitors should be encouraged to visit the excellent facilities at the rock art centre to learn more about the San people and rock art in general. More protection at the site however, is debatable as a fence would impact the site physically and aesthetically and will attract vandals. There have been no problems until now, thus a fence for extra protection is not yet needed. Surface management methods also need to be applied with the possible introduction of an artificial drip line, subject to the usual permits and permissions - to keep the surface water away from the art. Again, a similar issue appeared, that the art is currently in a good condition and by altering the site's environment may cause more harm than good. At the same time it would change the site from being 'pristine' to visibly managed. Didima Camp received the highest commodification rating in this project, this is because the San culture is used throughout the camp as the main theme and that there is a rock art centre on the camp premises. Graph 8.1 show similar results to those found at Sigubudu Shelter indicating that there is room for

improvement at the site should the decision be made to develop the site further for tourism in future. Where there is rock art commodification, San Intellectual Property needs to be dealt with - especially by Ezemvelo.

Didima Rock Art Centre

No negative aspects – in terms of what is needed as a 'museum' to convey information while still having an enjoyable experience were noted at this rock art centre as Graph 8.2 clearly indicates, representing only positive rating scores. The centre has been well developed for tourism using a range of multimedia methods, which explain the San culture and rock paintings of the region. No negative observations or results were obtained for this centre, which is thus, the better of the two rock art centres that were analysed - according to the criteria in Table 7.9 (see Table Appendix). The only recommendations that can be made in regard to improvements at the centre would be, that better signage is needed at the centre to advertise the guided tours to the Mushroom Rock Shelter.



Graph 8.2: Overall percentage graphs representing Didima and Kamberg Rock Art Centres, in the uKhahlamba-Drakensberg Park.

Battle Cave

Battle Cave is found in Giant's Castle Game Reserve at the Injisuthi Camp, which is more remote than those camps found in the northern Drakensberg. The poor access route to the camp, a dirt road for 30kms - is a major disadvantage and means the camp does not receive high tourist numbers as of those camps with tarred access roads. The hike to Battle Cave is long, an average hike of almost two hours up hill, due to the length of the hike, the site is not suitable for day visitors. Most visitors that choose to visit the site do so because of the well-documented battle

scene paintings. Rock art awareness at the camp is average and the camp provides little advertising on the site itself or at the camp office. The guided tours are well organise but advance booking is essential. The artwork at Battle Cave is of a very high quality and quantity, rock art enthusiasts and researchers will not be disappointed. However, inexperienced visitors of rock art might be a bit disappointed after a hard hike to the site to discover an undeveloped site; but on the contrary, rock art enthusiasts take the long hike exactly to find a pristine site (besides the fence around the site). The site is far from tourist friendly and to view the art, visitors must firstly clamber onto rocks, this adding to the prestige of visiting the site but at the same time can be seen by some as dangerous. The site is large undeveloped, there are no boardwalks or easy means of having access to view the art adequately. However, the site is large and has the space for development if it is ever considered - but I would strongly advise against this as it will be hard to maintain, expensive and pointless for this site. The major impacts affecting the paintings are natural, the site receives intense sunlight and the flaking and cracking visible on the rock surface is evident of this.

Non-obstructive surface management methods would be the way to go, to safe guard the remaining paintings. Human impacts at the site are low with a small amount of graffiti observed; this could be because the site is a distance away from the camp and it would therefore be unlikely that casual people would wander onto the site, to impact it intentionally. The camp has positive factors looking at the facilities that are available to accommodate tourists. The UDP has one major tourism information centre – Thokozisa, which in the central Drakensberg region, but represents the entire UDP, providing information of rock art, sites, accommodation and activities to do.

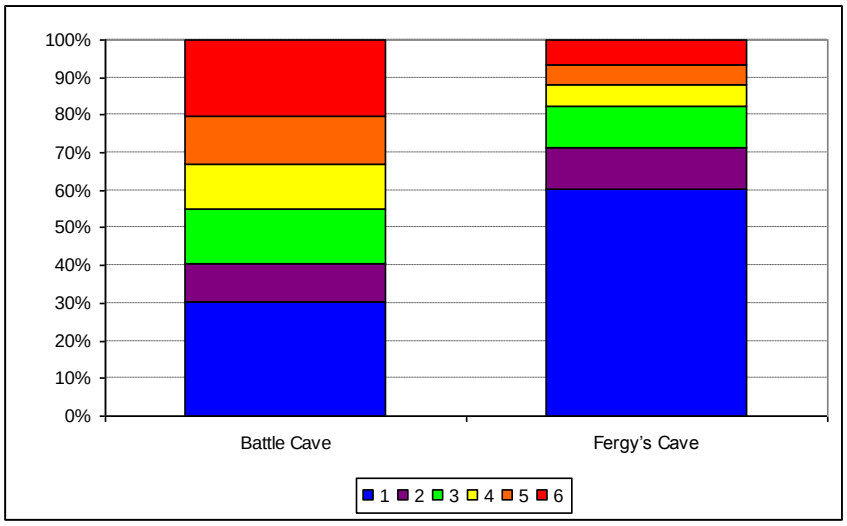
However, management at the Injisuthi Camp and Battle Cave site, to conserve the rock art is low, the main management methods of paying an entrance fee, the site is fenced and a tour guide is present at all times take place. No other methods take place to conserve the site further and if no future developments are going to take place here – tourism management methods will not be needed. However, increasing the awareness of rock art conservation is where attention should be concentrated. Graph 8.3 represents that Battle Cave and Injisuthi Camp has a variety of being a camp with tourism facilities and a camp with an advertised rock art site. On Graph 8.3, 30% represents room for improvement which would focus on better conservation management methods of the site. Here, I need to point

out that the site is located far from camp and if developments were to happen at this site, considerations need to be thought out. Instead of developing the site mainly for tourists, which are less likely to casually visit the site, due to location, management methods need to be put in place to conserving the site i.e. surface management methods and contribute to lessening the natural impacts that are effecting the site the most. It is not only the sites that are addressed in this project – but the camps too. The Injisuthi camp can also be more developed for rock art enthusiasts that travel to this very camp to see Battle Cave.

Fergy's Cave

Fergy's Cave, found in Giant's Castle Game Reserve of Injisuthi Camp differs from the other sites as this site is not advertised for tourism and is seldom visited, only hikers or campers. However, it must be pointed out that the site is not advertised for visitation and is not fenced off. By keeping this site as unadvertised, is keeping the site safe from tourists. It is not necessary to include development and advertising for this site or others in the area, as Battle Cave is open for tourism and visitation. The main management method at this site is there is a sign stating that no camping is allowed in the shelter. The outcome of this sign is not working as the site has evidence of recent camping occurring in the site. The visitors that visit this site are hikers, rock art enthusiasts and people that have read up on the site's art, have the desire to hike to this shelter. Besides camping taking place in the site, no intentional impacts have occurred on the rock surface or on the paintings.

Recommendations for this site would be to let researchers document the site and the paintings, contributing to learning as much as possible from the paintings and to keep the site quite from visitors and tourism. Otherwise – this site can be opened for rock art enthusiasts to enjoy while the art still exists at this site. Here is a prime example of the complexities of rock art tourism. A sign should be put at the camp near the hiker's register stating not to camp in any caves where there is rock art and emphasis that all rock art in South Africa is protected under legislation. The positive aspect of Injisuthi Camp is that there is a rock art etiquette sign at the reception office. Graph 8.3 represents 60% of the investigated results as low according to the three main criteria that were investigate, which can be depicted as something positive, for those not interested in tourism and management at a site. This is because the site is undeveloped and scored differently when compared to a site open for tourism. When comparing Battle Cave to Fergy's Cave, it is clear that less deterioration, management and tourism is occurring at Fergy's Cave.



Graph 8.3: Overall percentage graphs representing Injisuthi study sites. Battle Cave, being open for visitation while Fergy's Cave is not open for tourism visitation.

Main Caves

Main Caves, located in Giant's Castle Game Reserve, is the most developed site that was investigated in this project, with over 60% of positive scaling rates represented in Graph 8.4. Rock art awareness and conservation at the camp is reliant on the interpretive display at the site and guided tours to the site. More rock art awareness needs to be done at the camp i.e. more posters and pamphlets on rock art conservation. The walk to the site is short – less than a five kilometres round trip. It is an easy hike, with three quarters of the hike being paved and thus okay for partially disabled visitors.

Main Caves needs to be marketed more, making the site appealing for tourists who are not hardcore rock art enthusiasts to visit. Main Caves is developed with boardwalks and a life-size diorama of San camp life – even though this suffers from stereotyping males as active and females as passive (Dowson & Lewis-Williams, 1994). A visitor's book is on site, a guide, the site is fenced and one needs to pay a small amount to enter the site. The site is visually impressive on first arrival and is ideal for tourism. Main Caves is large, with two caves but no more than 15 people should visit the site at any given time so that the guide can pay full attention to the visitors. The rock surface at this site varies but is in a good condition compared to Battle Cave which is flaking and fading at a fast rate. Graffiti has taken place at the site before the site was protected with a fence (graffiti dates indicate this). Today there is a fence as the site is so close to the camp. There are other rock art sites

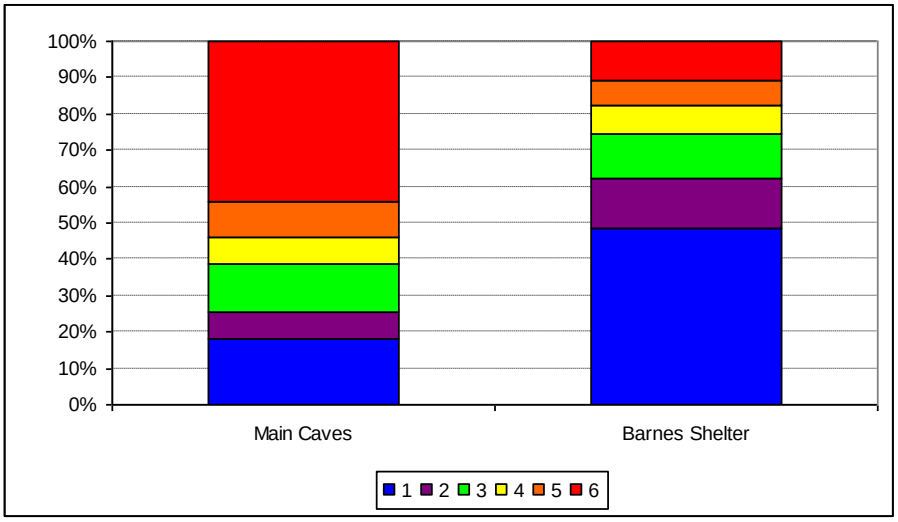
near the camp too, but Main Caves has been advertised for tourism to channel visitors to one managed site. Management strategies need to be attended to at the entrance gate before entering the site, where present graffiti is at the highest. A management method needs to be put in place, maybe putting information boards about the art they are going to see while they wait for the guide to meet them for their tour. For some, seeing graffiti before entering the rock art site might encourages graffiti at the site and at other rock art sites – a risk not worth taking. Another option is to rather move the meeting point for the guide can be considered to be moved to meeting at the camp rather than at the caves.

Giant's Castle Camp is one of the most ideal tourism destinations for a casual visitor to visit a rock site out of all the selected study sites, providing easy access to the camp, facilities and activities for visitors. The camp is well advertised as seen at all the other camps displaying pamphlets on the site and at the central Drakensberg information centre, all which attract visitors to the site. Main Caves is a great example of San art, with high quality paintings and clarity, a short easy walk to the site, life size display and easy movement and traffic flow at the site. The site is ideal for rock art tourism and the management at this site is working to accommodate tourism and conservation of the art and site at the same time. Recommendations for this site would to continue with the management taking place at the site and keep this site open for tourism in the UDP. Other recommendations would be for more active attention towards the visitor's comments in the visitor's book and for more of an informative display on the rock art at the rendezvous spot and at the camp. Otherwise it is an ideal example of San rock art in the UDP while accommodating tourist comfortably at the site and the camp having an overall good rock art tourism experience (Graph 8.4). Thus tourists will have positive feedback of their rock art experience which will lead to positive word of mouth advertising for the site and thus of rock art.

Barnes Shelter

Barnes Shelter is another non-developed site in this project and was another prime example of the site not being influenced by international human impacts. It is found outside the Giant's Castle camp but very close to the camp's main access road. The site has been left alone as Main Caves is the site open for tourism. Sites opened for tourism need to be stable, in a state to handle tourism and the paintings need to a good example to satisfy the tourism desire of seeing rock art. Barnes Shelter is in no condition for tourism, access to the site is difficult to hike as of the

steep incline of the slope to reach the site. The natural weathering processes at this site are high and the condition of the rock surface is poor. The site is also an example, that even without tourism at the site, natural impacts such as sunlight fading the paintings and tafoni are deteriorating the state of the art. Sadly, rock art is not going to exist forever and decisions need to be made with the remaining rock paintings that they exist, open them for the public to enjoy or to hide them away and let them carry on deteriorating naturally. Recommendations for Barnes Shelter is simple, to keep tourism development and tourists at one site and to leave the other sites alone, leaving them to be researched but not open for further impacts made by tourism. Graph 8.4 has a variation of results for Barnes Shelter as positive results come from sharing Giant's Castles Camp, which has high results for accommodating tourists at the camp. But Barnes Shelter still indicates nearly 50% overall, poor rating results for the condition of the site and rock surface.



Graph 8.4: Overall percentage graphs representing Giant's Castle Game Reserve's study sites - Main Caves being open for visitation while Barnes Shelter is not open for tourism visitation.

Game Pass Shelter

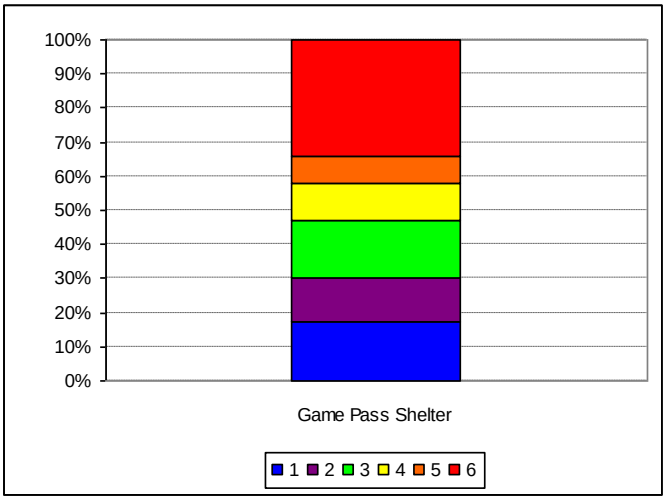
Game Pass Shelter has a special status in southern African rock art research, being the Rosetta stone for South Africa; and this status alone attracts visitors to the site. The site is found in the Kamberg Nature Reserve and is large in size, and has space to present without congestion. But still, this site should not take more than 15 people at any given time so that the guide can pay full attention to the visitors. The is a flow of direction at the site, a guide is present at all time and the site is fenced off, all positive indications for the site to be advertised for tourism. The status of the site and its appeal for tourists has been one for the main reasons for the development of

the Kamberg Rock Art Centre. The site is on average – a nine kilometre round trip, away from the camp, thus it is typical for visitors to visit the centre first or only. Rock art awareness and conservation is high in the camp with the help of the rock art centre on the premises. The draw card but at the same time a plus card for the site, is the distance and difficulty to Game Pass Shelter, as this influences the number of visitors – being an example of the complexities of tourism. The further the site is away from camp, fewer people visit. As per Battle Cave, the long walk, confers status, is what the rock art enthusiasts seek, as it guarantees more-or-less pristine status.

Thus, the site does not attract visitors of the same amount as Giant's Castle Camp with Main Caves being in close proximity and the camp. Kamberg Camp only has a limited number of chalets (six) for visitors. Human impacts at this site are mainly done by researcher, there is equipment such as a weather station on site and there is evidence of paintings being outlined caused by tracing paintings. Tracings of paintings and copies are kept at RARI and on SARADA.

The current surface condition of the site is average and does not experience intense sunlight, thus the paintings are not as faded, as the surface is not flaking or cracking. Seeing the site is located far from the camp, the Kamberg Rock Art Centre is available for visitors to learn, and see what Game Pass Shelter and rock art is about without visiting the site too. The movie shown at the centre is useful for people to watch, understanding the San and interpretation of the paintings at the site. A recommendation for the site in my opinion is to continue the current management methods that exist as they are working as little intentional impact exists at the site.

The rock art centre creates awareness of the significance of rock art and is used as a medium to satisfy the tourist's desires of seeing rock art without seeing it in real life. Graph 8.5 represents over 50% of the site having positive ratings for Game Pass Shelter, low ratings being because of the limited accommodation to the site, the dirt road drive to the site and no development at the site. Developments at the site are not necessary any time soon, but if boardwalks were built, the site's ground surface and up stir of dust would not be disturbed and they would provide better viewing access to the paintings.



Graph 8.5: Overall percentage graph for Kamberg Nature Reserve's open rock art site - Game Pass Shelter.

Kamberg Rock Art Centre

A summary of Kamberg Rock Art Centre is that it small and cannot accommodate many visitors – no more than 20 people in the movie room and the curio shop. It was not developed as a large rock art centre as not many visitors come at one time to this site – which was observed in the visitor's book. The centre differs somewhat from Didima Rock Art centre as it is mainly a curio shop and a movie room.

It has no entrance fee to centre/shop, just for the movie and guided tour to the shelter. There are no interpretive rock art displays, information boards and facilities, as of this there are no tours in the centre just to Game Pass Shelter. Kamberg Rock Art centre is idea for anyone visiting the camp that wants to experience rock art, hiking to the Shelter or not. In Graph 8.2, Kamberg can be clearly seen as a positive contribution to rock art awareness and has high rating concerning the different factors looked at each rock art centre. The lower Likert ratings indicate room for future improvement. The movie mainly focuses on Game Pass Shelter; it should maybe discuss rock art in general more first. Recommendations of the centre would to add a few displays in the movie room about rock art for visitors to enjoy before or after the movie. There is no need for the centre to be similar to Didima Rock Art Centre as long as the understanding of the San paintings is portrayed as well, as the need for us to conserve them. Out of the two rock art centres in this project, Didima is clearly the better centre of the two, which is because of the location, the size of the camp as well as the money coming in, to sustain the rock art centre (Graph 8.2).

8.3. Main factors from the summary of results and recommendations

Common management methods

There was a number of common management methods found at the open sites for tourism, these were:

- Entrance fee to visit the site;
- tours conducted by a rock art guide;
- tours conducted at specific times;
- the site is fenced or the greater area of the site is;
- a sense of direction flow with viewing areas and;
- a parking area and dustbin found at a distance from the art.

Common management methods that are missing

Along with existing management methods, there was common management methods missing at open tourism sites too, they were:

- a need for better advertising of these guided rock art sites providing;
    - the necessary information i.e. times, entrance fee and where to meet;
- and a need for a pamphlet on the specific rock art site as well as general rock art information – including other rock art sites to visit.

Expectations at an open rock art site

What to expect at rock art site when they are open for visitation:

- psychological barriers such as boulders, to prevent visitors from touching the art and to direct traffic flow;
- information boards on the rock art at the site or just before the site;
- a sign for rock art site etiquette at the camps and/or the rock art site, stating what one must not do to the art to help conserve it;
- a sign emphasising rock art is protected by legislation and that one will be fined for damaging the art;
- a site in a stable condition before/while tourism takes place at the site;
- a visitor's book at the site and/or at the end of the hike when you get back to the camp and;
- more rock art awareness, through better advertising of rock art, representing its significance and how and why to conserve it.

Expectations at a rock art site that is not open for visitation

Factors to point out about the undeveloped/closed rock art sites for visitation are:

- sites are not advertised at all;
- some sites the paintings are deteriorating naturally faster than some developed sites;
- sites have fewer intentional human impacts, such as graffiti, and;
- hikers camp in unfenced shelters, thus a management method needs to emphasis more to campers to not make a fire in the shelter and to camp only in designated areas.

Observations at rock art centres

Main observations of rock art centres:

- They add to the value of rock art awareness and conservation in the camp and generally for rock art;
- is a medium used to educate visitors and school groups about the San;
- the camp office of the reserve still needs to add to rock art awareness and conservation by having posters or/and pamphlets on the art, and;
- where there is a rock art centre, many tourists visit the centre more/instead of visiting an original rock art site.

Site and camp recommendations

Common recommendations observed at the selected study sites/and for all rock art sites, including do's and don'ts at sites;

- every site needs to have a sign stating the art is protected by legislation – even if that means that some signs may have to be off-site so as to leave the site 'pristine' and if 'on-site' they cannot be dug into the ground (their supports) as this damages archaeological deposit;
- sites need rock art etiquette signs stating the do's and don'ts at a site;
- a pamphlet or leaflet needs to be made for each site, stating the times, prices of tours, what to expect along the walk there and about the rock art;
- rubbish bins, to be put more at the camps and before the route to the rock art site begins;
- a site should only be open for tourism if stable;
- sites need viewing space, flow of direction and need to avoid congestion at the site, as this causes the visitors to touch rock surfaces at the site;

- better signage at the camp and marketing of the art without over doing commodification of rock art;
- if there is available money for rock art sites besides the ones for tourism, to fence sites where it seems necessary – to keep animals out of the site for example;
- to put a visitor's book at a site or at the end of the hike where people can leave their comments instead of at the counter where one pays for entrance at the beginning of the hike or visiting a rock art centre;
- if a site is open to tourism, accommodate the site for it, so that visitors can enter the site, enjoy it and leave, without struggling to walk at the site, climbing over rocks and having no easy access to view the art at higher levels;
- to not allow camping at shelters;
- surface management methods (if necessary i.e. drip lines) to be implemented with the necessary permits at these tourism sites where the quality of the rock surface is deteriorating at faster rates;
- to implement ground surface management methods, such as flagstones that rest on the ground surface or fire treated boardwalks (avoiding gravel which can be used by vandals to scratch rock art surfaces) to contribute to better access to viewing the art and other mentioned situations at the sites and to decrease the up stir of the dust;
- undeveloped site locations must be kept anonyms;
- to have interpretive display at sites and at UDP camps to increase the awareness and education of rock art;
- to invest in more training of rock art guides, to engage in, informed storytelling, which will contribute to human capital development than interpretive displays as the different rock art sites;
- parking area to be a distance away from the art, at least a minimum of 200m away from the site;
- to provide information boards to describe what visitors are viewing;
- erect low barriers at sites to prevent visitors touching the art and it is a way to portray the arts importance;
- monitor the site subjectively visually and photographically;
- train guides to work at rock art site and to take part in regular workshops to increase their knowledge of rock art and the San culture;

- better interaction and correspondence between all parties involved, through organised meetings and updates on any developments or suggestions for the future of rock art and;
- site development and conservation should also take inconsideration the impacts that will be made by researchers and the heritage community (which is necessary for further understanding of the art too).

These recommendations are viable and useful for organisations such as Ezemvelo, Amafa and even KwaZulu-Natal Nature Conservation Services, as these organisations work together and manage cultural heritage sites in the uKhahlamba-Drakensberg Park, in terms of the KwaZulu-Natal Heritage Act No. 4 of 2008. Rock art is part of the national estate and people want to experience it outside the museum environment and in my opinion should be should be allowed, albeit in a managed way. The landscape is part of the rock art experience and is an important part of the meaning of the art itself, thus best appreciated when seen in their natural setting. But at the same time, it has been studied that allowing visitors to view the art, the rock and the art is/will deteriorate at a faster rate. Rock art has lasted for so many years already, facing many natural impacts and will continue so as long as it exists (thus how fragile is it?). The very fact that it exists today, states that the art is durable to a point, thus what remains should be enjoyed by all. Sites that have been open to the public for visitation for many years i.e. Main Caves demonstrates having long-term visitation with little negative physical impacts on the site, is possible. It is also important to point out that active tourism management at these open sites are good for the site

8.4. My comments linking to research

Throughout this project, references have been made to help understand terms and investigate the purpose of this study. Many ideas that were found in the literature coincided with my results. Work by Buckley *et al.,* (2000), Monz (2000), Mason (2003) and Whitley (2005) all highlighted that tourism effects varied, enhancing the awareness of rock art but at the same time, increasing deterioration rates at sites. Again, Mushroom Rock Shelter, Main Caves and Game Pass Shelter all suggest negative human impacts are limited – even when sites have been visited for decades. Whitely (2005) stated that the most obvious negative impact of sites being visited was that physical harm was done to the site, while a positive impact was that attention was drawn to the art through research and sites being open to visitation as well as bringing in money for site maintenance, improvements,

development and research. Whitely (2005) concluded that the survival of rock art is through commercialisation of rock art tourism. Buckley *et al.,* (2000) and Mason (2003) enforce the concept that environmental impacts such as soil disturbance, compaction, erosion, a decrease in vegetation growth, sediment runoff as well as development and infrastructure does not fit in the environment when there is tourism at the site even area. However all these factors can be managed if the will is in place and if it is done according to each specific site requirements, as no two sites are the same. The uKhahlamba-Drakensberg is a major draw card for tourists, as it has natural and cultural beauty, which contributes to the marketing of rock art and draws attention to rock art conservation (Hattingh, 1994; Godde *et al.,* 2000; Loubser, 2001; Whitley, 2005). Renfrew & Bahn (2004) continues, by stating that heritage is becoming a commodity with an increasing economic turn over, signs of commodification. After visiting various sites – and the nine used and discussed above in particular, I can say that the first impression of a site does make an impact on how the art and the site in general is perceived.

Even Loubser (2001) discusses how first impressions count towards people's behaviour at a site. Even though commodification was found as an issue – make the San culture into a product that can be sold without the San being considered for royalties to the SASI or WIMSA. Commodification provides a means of extending the survival of rock art and provides opportunities to enjoy the art – a complexity of tourism (Kusler, 1991). The commodification of the San culture and art was evident at sites; this can be used as a positive motive in creating interest in rock art, the long term protection and the survival of the San heritage (Greenwood, 1989; Kusler, 1991; Fennell & Dowling, 2003). At the more developed camps and sites, such as Didima Camp, the commodification of the San culture was the most prominent – in the camp designs and in the Didima Rock Art Centre (MacLeod, 2006). At this camp, a sense of authenticity was lost through the commodification of the San culture (Pedersen, 2002; MacLeod, 2006). But this has made the camp famous in the northern UDP area, attracting visitors to the camp and the rock art centre; represents a management method that protects the surrounding rock art sites and at the same time satisfies the tourist demand for the rock art experience. Tourism needs to be managed effectively at rock art sites to ensure the conservation of the rock art and the site itself. Meaning that each individual rock art site needs to have an environmental management plan that includes methods to suit the rock art's location, condition and tourism, in order to manage and conserve the sites and rock art (Ouzman, 2001). A site needs to be managed in order to be conserved, but

assessments of the site, the rock and art's conditions needs to be done in order to manage the site effectively. These assessments need to be scheduled at regular, ongoing intervals in order to ensure proper monitoring and to keep in touch with visitor needs and perceptions. The factors that were included in my site assessment tables are issues that need to be looked at, to understand the site's current condition and in order to manage it correctly as seen in Loubser's work (2001). Factors that were included in the tables also contribute to managing visitation at sites – linking to George's (2007) work. Direct and indirect management methods were observed at the selected sites and evaluated matching up to methods in the literature as mentioned in Chapter 6. Above mentioned recommendations and site etiquette needs at sites in the Drakensberg also matched up with work in Chapter 6 especially with work done by Mazel (1982) and Deacon (1993).

It is highly unlikely that the San artists that originally created these paintings envisioned that these sites would become national heritage sites that would need to be conserved - as they lived holistically with the landscape and most likely expected the paintings to become part of the environment and to weather away naturally. Aboriginal people do not always understand the physical conservation of painted surfaces in the same way as non-indigenous people do (Sullivan, 1991). They may not see that it is necessary to change the paintings or to add to add to them (Sullivan, 1991). In the past, rock art was perceived as belonging to the indigenous people of southern Africa, this focus is now being realigned to suggest that San art belongs to the whole country as their heritage and culture too. That is why it has been included in the South African national coat of arms as a symbol to unite a nation and renewing cultural pride (Shaw & Williams, 1994; Smith *et al.,* 2000).

8.5. Unexpected findings and limitations

An unexpected finding was that rock art researchers and enthusiasts doing research at the sites contribute far more to the physical impact and deterioration of a site than expected. Constant visiting and study methods such as excavating, documenting and tracing the art are all very invasive and potentially destructive; even though they produce research. It was understood that the temperature equipment found at various sites was necessary for research but it was hard to understand why research was being undertaken at sites that are open for tourism. The simple answer to this unexpected finding was because these sites are open for visitation and research. It was surprising to see that sites with equipment had no signs saying research is being undertaken or any mention of the research by the guides.

Meanwhile it is the research that is providing us with knowledge to understand the art and how to better the methods of taking care of the art and site – as we can see in all the published work done on rock art. None of the undeveloped sites selected in this study as well as other rock art sites visited in the UDP, in the duration of my project - have research equipment. In some sense, the equipment on site, spoilt the natural physical setting through the evident use of technology and even spoilt the aesthetic beauty of the site and art. These factors again contribute to the complexities of tourism as researchers fall under people visiting and impact sites even if their research is for the greater good of the art and cultural history. Concluding that, sometimes conservation has to be sacrificed for knowledge – as suggested by Sullivan (1991). From this, a recommendation should include that site development must be done in preparation of research taking place at sites. Another recommendation is that researchers should hold public talks on their work on/near the sites they have equipment on or where they are/have researched, to educate the public on what they are doing, justify their impacts on the site and bring more interest to the site and rock art topic.

Commodification of rock art paintings and the San culture is another paradox of tourism, as the marketing of rock art may make the art look 'cheap' or seen as disrespectful to the San nation as it has become a marketable commodity. But at the same time, commodification works in the art's favor as it brings awareness of rock art outside sites and camps into the public eye. By doing this, it increases the interest in rock art letting people enjoy the art while it exists, contributes to conserving it and educates the public about South Africa's culture. Even though researchers have contributed greatly to the study of understanding rock art, I feel that there are also subliminal limitations in the way tourists perceive rock art. It is a fact that the San people who created the art that we visit, do not exist today and that no one knows the true meaning of the paintings, though current research seems to approach such meanings. The archeological and anthropological world, have come up with common ideas and perceptions of how the art should be viewed and interpreted, that are widely published around the world. This is an indirect limitation as it gives the people viewing the art with preconceived ideas, rather than allowing visitors to envision their own interpretations of the art. It was noted throughout my investigation of this topic, that visitors are told the same thing about the paintings at every site (about the San's culture and what the paintings mean); and that this information, is taken from published work by other people's preconceived ideas of what the meanings of the paintings are. Renfrew & Bahn (2004) discuss the concept that, how we interpret the

past is directly linked to our experiences of our present and how we perceive the future. From this we can deduce how easy subjective thought influences today's society who are inclined to believe what they are told and do not allow their imagination to interpret what they see. There is a need for balance between research and personal enjoyment/perception. Research provides one with information that creates the desire and interest to see rock art, be it in its physical natural environment, an interpretive centre or a museum. Another unexpected finding and limitation found during this project was the unavailability of open rock art sites that are developed for tourism in the southern UDP – which had an effect on the selection of my study sites. I am not stating that there were no sites open to the public, but that there are no real advertised archaeo-tourism sites in the south, with or without site development for visitation. The project's aim was to look at sites in regions developed for tourism that are marketed to have open rock art sites and attractions.

Therefore the southern Drakensberg could not be included in this project like I had planned. Some rock art sites required a permit from Amafa aKwaZulu-Natali to visit rock art sites in KwaZulu-Natal which also influenced the selection of my study sites. But it was decided not to include these sites as they were not open for tourism. However, the requirement of a permit to visit a site is a good way to conserve sites and the paintings. It was noticed at the sites that have tour guides that the guides have a very basic knowledge of the rock art and that this is a limitation in their explanations. It can sometimes occur, that the visitor is better informed about rock art than the guide. When visitors ask in depth questions, the guides are often unable to provide the correct answers or in some cases, any answer. The future of rock art awareness and education depends on the interaction that takes place on site and at camps. It is this interaction between guides and staff that contributes to the experience of visiting a rock art site. Face to face communication increases rock art awareness and conservation faster than reading and understanding interpretive displays. This conservation method does not only have to occur on site but at camps, at rock art and tourism centres, and education institutions. Investments need to be put into training guides and other enthusiasts that want to spread the word of rock art awareness and conservation. Financial limitations are a major issue in the development and conservation of rock art. In order for the site to improve and/or develop, money, the correct management plans must be implemented by the approved people. Only Giant's Castle – Main Caves site had a visitors' book on site, other sites, either didn't have one or that you were required to fill in a book before going on the tour, therefore the 'comment' section of the book generally remained

empty as the majority of people did not return to add their comment. This was a common occurrence, leading me to recommend that visitor's books should be on site or at the gate when leaving the site. Another unexpected finding through the collection of the quantitative data was that the paint seems to be quite stable and the rock not less so. Thus back to the concept, how fragile is the rock art really? Also, most impact by visitors at a site was made on the shelter floor and at high-contact areas of paintings found on surfaces near the route of movement and at certain clusters of paintings. These unexpected findings are viable to the implications of whether development should take place and/or stay at a site or not, and what further consequences these developments might cause.

8.6. Additional factors observed at sites for future research opportunities

While visiting the various rock art sites, it was noticed that rock art guides have very basic knowledge of the art - as mentioned above. A study on the interaction between guides and their tourists would be informative. Investigating the common questions that were asked by tourists and how the knowledge exchanged between guide and tourist, impacts the tourist's experience of seeing original rock art. It was noticed at the various sites that guides use a number of apparatus such as pens, sticks, twigs and long grass to point out the paintings – and I am sure the paintings have also been touched numerous times by academics using similar apparatus and even more so when tracing of the art occurs. Studies should be carried out to measure these impacts and a common management method needs to be investigated into the best way for guides to point out the art. Research could also be done on the different locations of visitor's books on site and/or at camps, and the impacts it has on the amount of people who fill them in and if having a visitor's book on site really does decrease graffiti at a site. Research potential lies in GIS (Geographical Information Systems) in conserving rock art, being used to generate distribution maps and site positions. Lastly, future site management research and visitor's behaviour will provide future managements to improve the conservation of rock art.

Future in rock art

The future of rock art lies in the concentrated efforts made by the government, scientific institutions, researchers, non-governmental organisations, landowners and individuals. The National Heritage Resources Act of 1999 was developed for the protection of all heritage resources in South Africa. The KwaZulu-Natal Heritage Act of 2008 and its statutory body Amafa also protect San rock art in

the UDP. While TARA is a trust for African rock art and aims at creating global awareness of rock art and promoting conservation measures. Visitors also need to contribute to rock art conservation by adhering to rock art site etiquette, so to keep open/tourism sites for visitation open and available for future visitors.

Custodians of sites on private land contribute by controlling access. Rock art that is found in parks and reserves are also managed by access control, and in some cases an entry fee to see the art is required. A top to bottom government approach is needed for necessary funding and legislation, in order for provincial and local parties to produce proactive management methods at sites. Government could contribute funding towards the education of rock art at educational institutions through educational subsidies and varies campaigns. The management of rock art sites require a management plan with management strategies on hand to be implemented at each specific site. A good management plan will accommodate the needs of many interested parties without compromising the safety of the site. Assistance from museums, educational institutions and other researched, recorded, published work done on rock art contributes to rock art awareness, thus contributing to the future of rock art. It is important not to alienate the local people from the promotion and conservation of the rock art sites. Local populations should be empowered with knowledge of the San culture, thereby creating national pride. It also provides the opportunity for the modern San people to be compensated through rock art tourism. Ideas for this are; providing free entrance for the San to sites and providing a certain percentage of the profits made from sales – entrance fees and curios to them and their communities. If all of the above mentioned suggestions and more are implemented, successful conservation of rock art is possible.

8.7. Final comments

If rock art is part of a universal, national or even group ‘heritage’, then at least some rock arts sites were intended to be visited and enjoyed. After the completion of this study, my opinion favours the idea of setting some rock art sites aside for tourism and visitation. The fact that visitation increases the deterioration of the site is viable, it is still minimal in the greater sense, i.e. Main Caves being open for visitation for many years and today being in a good state of condition. It is this visitation that provides better care and management for sites. Yes, tourism has its complexities; negatively it can contribute towards increasing the rate of deterioration of the site and art, while positively it can increase the awareness of rock art and gives people the opportunity to view the art. By opening sites for tourism and allowing people to view the art, this

will increase people's appreciation for the art and will help them to understand its unique beauty and the significance of this fading heritage that we are still able to see at first hand.

Rock art will not last forever, purely because natural processes of rock deterioration cannot be halted. Thus the concept of depriving the present and future generations of viewing this art is not fair, as the paintings will fade in time irrespective of conservation methods. Therefore I conclude people should be encouraged to visit rock art sites, at least once in their lifetime. Bednarik (1993) and Deacon (1993) both suggest that only a few sites should be selected for tourism to satisfy visitor's interest, rather than making all the sites available for access. I agree with this suggestion, making sites with easy access - sites set aside for tourism while making other closed sites open for research so that we can learn as much as possible while the paintings last. With the help of management methods, tourism will be managed so to have sustainable rock art tourism. Also, a key recommendation is the need for Ezemvelo and related bodies to employ social scientists to help manage San cultural heritage. Some may disagree with this suggestion, i.e. Levin (1991) as he explains that a historical site is a heritage that should be conserved rather than a commodity to be exploited. I disagree with Levin (1991) because in post-colonial contexts, commodification can help people make a living off their heritage. We should use commodification to create awareness of the art and let people see original rock art in its natural setting.

Smith (2006) mentions that in order to have sustainable rock art tourism, time, money and effort needs to be put in. Commodification is an easy way to create a faster interest in rock art and create awareness. Awareness and money will contribute further to the education of rock art, the hiring of the correct professionals to be involved in rock art site developments and conservation, the printing of posters and pamphlets of rock art will provide opportunities to fulfil the recommendations mentioned above. However, rock art commodification must not get to the point, where the essence of authentic San culture being lost – past and contemporary San culture. Sites and camps must not over-developed and become general tourism facilities and attractions, rock art tourism needs to stay within its own category of archaeo-tourism, keeping this type of tourism unique for viewing these distinctive paintings. A generalisation can be deduced that those that are really interested in seeing the art will go the extra mile to view the paintings, and they are the ones that are less likely to damage the art.

The FIFA World Cup was held in South Africa in June/July 2010, where again a San rock painting was incorporated in the marketing of the event (Fig 8.1). On the main FIFA 2010 logo was an image of a San person, in this case kicking a soccer ball. It is said that this logo idea was taken from examples of South African San rock art paintings (Technology Device, 2010). It represents the African continent's rich long lasting history (Technology Device, 2010). A San painting was also used in the South African Olympic team logo – not forgetting its inclusion in the South African national coat of arms (Fig 8.1). All of these being unique symbols that represent the country and the nation. These examples represent South Africa's pride in the San culture and how it is part of the country's heritage. As a result - the UDP is a World Heritage Site today. Through these logos, San art has been commodified – positively, as they represent the country's pride in the country's heritage – especially in the coat of arms, one of our most important emblems. These logos have created attention and awareness of San rock art and their culture, making rock art more noticeable and even images that people will remember. With this use of rock art, as a logo and it becoming familiar to people, attention is drawn to rock art and through this an increase in archaeo-tourism is possible, thus management for these open sites will have to increase and improve.

Fig 8.1. San rock art commodified and used in logos representing South Africa (Picasa - Google, 2010; South African Government Information, 2009; Football wallpapers, 2010)

Awareness is important as it attracts interest in rock art and creates funding for the conservation of sites and paintings. Future interest and education in rock art will attract people to take part in further research to conserve the art. Through awareness, a message can be conveyed on the country's San heritage and the risk of losing it through not conserving the remaining rock art. With globalisation and cultures becoming westernised, the risk of losing the intangible and non-material

aspects of the San culture and its art, is increasing and will be even more so once the art has faded away and only exist through researched work.

Thus, the need for research and conservation, go hand in hand. Among rock art awareness, commodification, education and opening/sacrificing sites to for tourism, the first step in conserving the paintings is through conserving the rock and site first. Hence the need for future research on rock surfaces and site management as there is no standard treatment or diagnosis for rock art conservation. The value and importance of a rock art and sites, varies from person to person, with views varying, linking to sexism, racism, spirituality, religion etc. All these views need to be included as different views is positive feedback, providing different gateways for research that can be conducted. Rock art provides a window into the past, people's love for art and cultural heritage will vary subjectively and objectively and this needs to be accepted. Another reason to sacrifice sites is to let people see original rock art in its physical, natural setting for what they want to see and perceive, purely for the love and interest in the art. This study has shown that rock art is a widely shared human heritage and the issue of whether people should be allowed to visit these heritage sites or to hide our world heritage from each other will remain a controversial topic. The main complexities of tourism being that if visitation is to occur at sites, one needs to accept that a price has to be paid - the rate of rock deterioration and of the paintings will increase, the loss of authenticity of the site by increasing developments and people on site. Or if sites are kept secret, present humankind, as well as the future generations will not have the chance of experiencing original rock art in its physical setting, only seeing it in museums.

How then to balance these two demands is the big question. Answer? Management – focusing on appropriate management for each site as the amount of damage at each site varies site to site, image to image. Visiting rock art sites during this study has shown me that no two sites are that same, each site needs its own specific management methods to be applied. Other management methods and effort needs to be developed through communication and cooperation between the different parties to conserve the art and the environment the art is in, as well as tourism management for open sites. Although this priceless heritage of art should be accessible and appreciated by everyone, it is obvious that controlled access to the sites and management for open sites as well as education and awareness of the art is vital, should we wish to conserve the art in its physical setting for as long as possible

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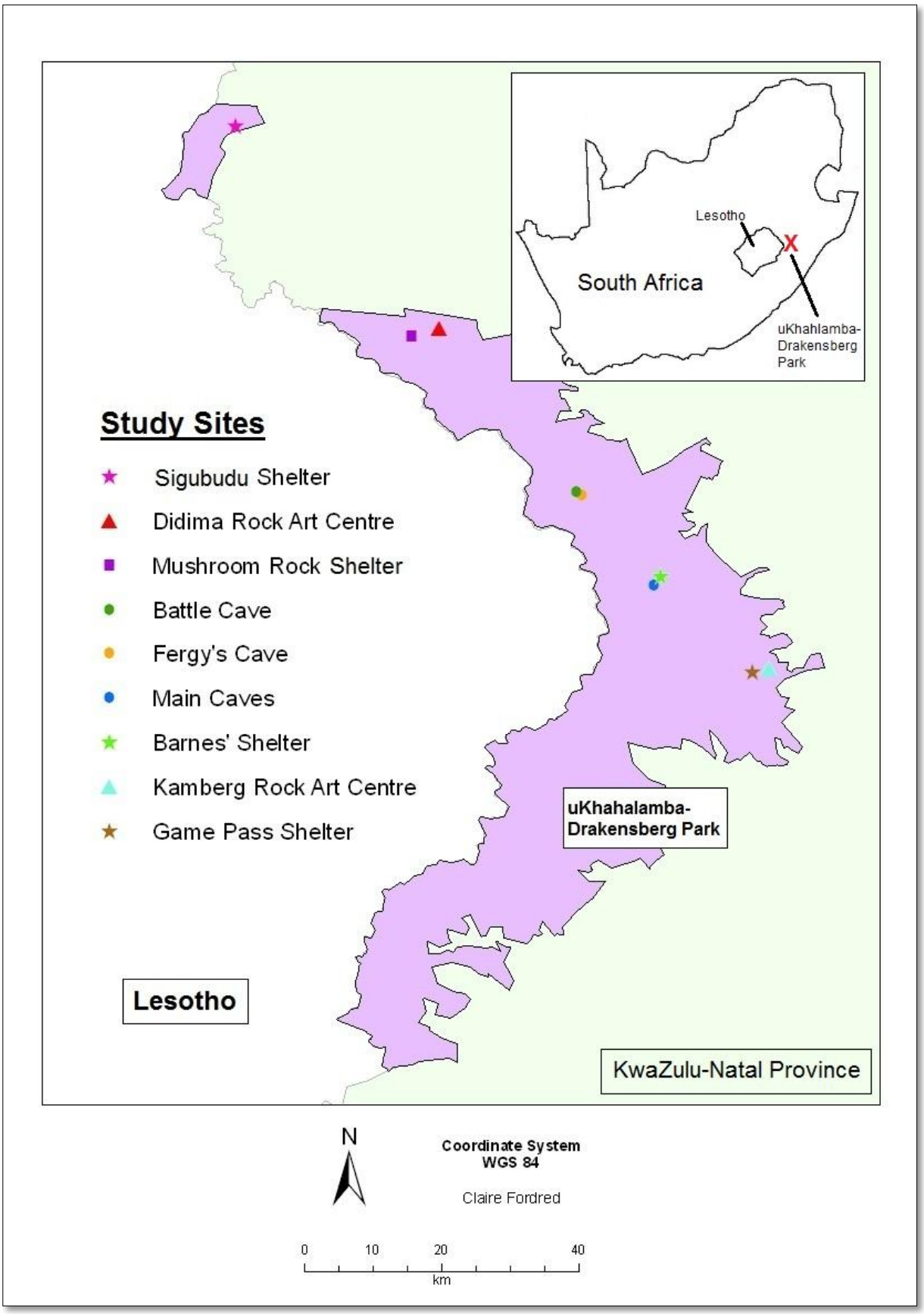
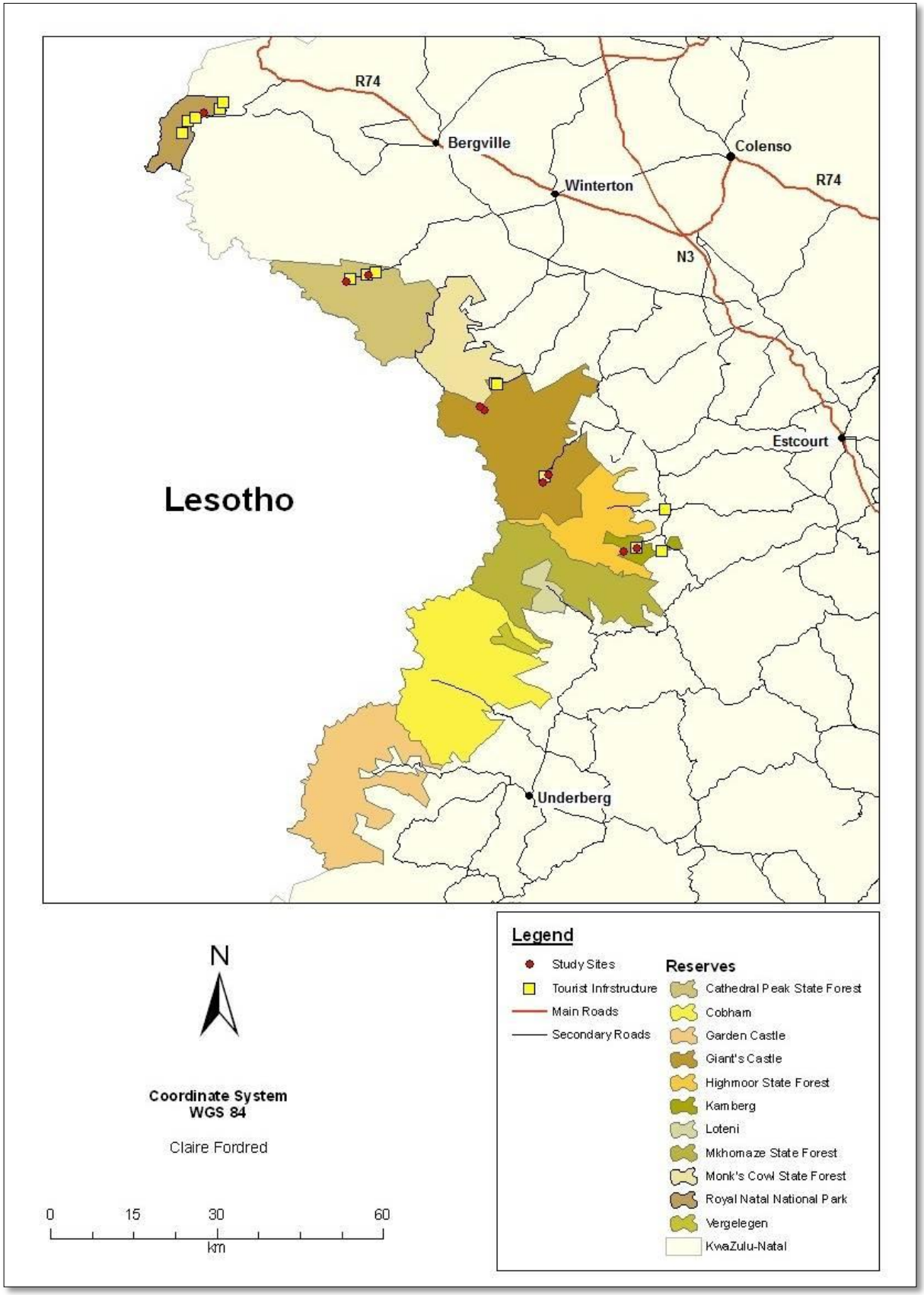
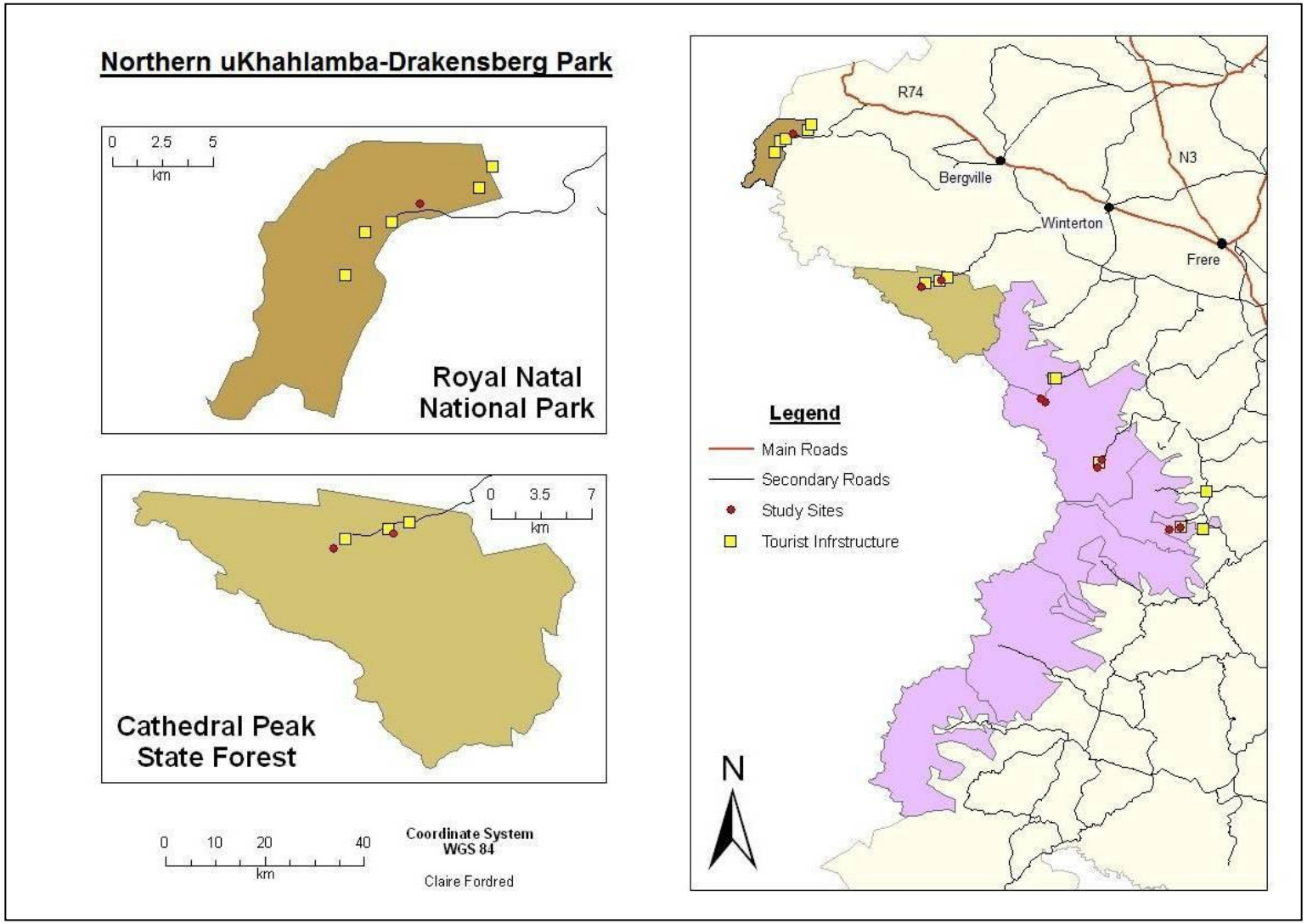
Map Appendix



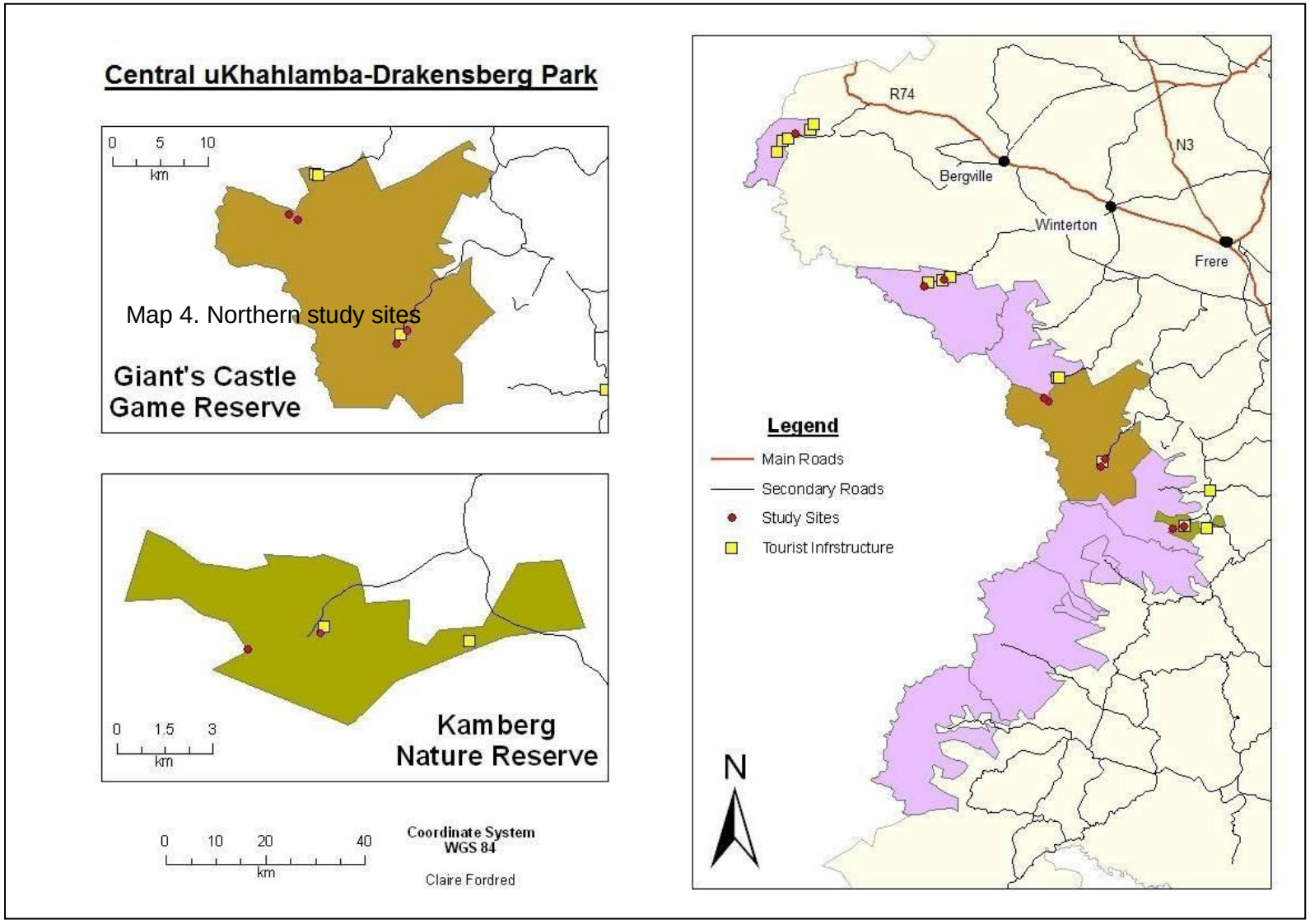
Map 1: Location map of the uKhahlamba-Drakensberg Park and study sites.



Map 2: Location map of the reserves that make up the uKhahlamba-Drakensberg Park.



Map 3: Location map of the Northern uKhahlamba-Drakensberg Park, study sites



Map 4. Northern study sites

Map 4: Location map of the central uKhahlamba-Drakensberg Park, study sites.

Table Appendix

Factors of the camp's rock art awareness	Sigubudu Shelter				Mushroom Rock			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Office with rock art information and awareness	x		5	Good		x	2	Poor
Poster on rock art site in the reserve	x		3	Not very visible	x		4	Reasonable
Entry fee to rock art site	x		6	R20p/p (average price)	x		6	Varies on group size
Entry free advertised for site with visitation times	x		3	At the gate only	x		3	At the office counter only
Description of the difficultly of the route to site	x		4	By the guide		x	1	None
Rendezvous point for visitors to meet guide	x		6	At the entrance gate for the hike	x		6	At the camp or rock centre office
Pamphlets on rock art site		x	1	Parks pamphlet	x		1	Parks pamphlet
Map to rock art site		x	1	None		x	1	None
Shop with rock art souvenirs	x		6	Visitor's centre	x		6	Camp shop
Shop to buy refreshments and snacks	x		6	Yes	x		6	Yes
Toilet facilities	x		6	Visitor's centre			6	Camp & centre
Car park area	x		6	Near entrance gate			6	Rendezvous point, entrance
Visitor's register for rock art site	x		1	Visitor's centre		x	1	None
Rock art centre in the reserve		x	1	No	x		6	Yes
Display, with pamphlets on the camp, rock art site, and other camps & activities in the surrounding	x		6	Visitor's centre and at the camp	x		6	Rock art centre and camp

Table 7.1. Rock art awareness

Factors on route to rock art site	Sigubudu Shelter				Mushroom Rock			
	Yes	No	Likert Scaling	Comment	Yes	No	Likert Scaling	Comment
Rubbish bin at the entrance gate	x		6	At the gate		x	1	Parking lot
Meet the guide at site's entrance gate	x		5	At the gate		x	1	At the camp
Walk with a guide to site	x		6	Information along the hike	x		6	Information along the hike
Informed of the type of terrain and walking difficulty	x		5	Told before	x		4	Told before
Distance to site	x		3	3km round trip	x		3	5km round trip
Average time it takes to walk to site	x		3	40mins - varies	x		3	1hr 20mins,varies
Well-marked path to site	x		4	Not along route	x		3	Not along route
More than one path to site		x	6	None	x		3	Half way

Table 7.2. Route to rock art site

Factors investigated at arrival of site	Sigubudu Shelter				Mushroom Rock			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Description of the type/form of rock art site	x		5	Overhang	x		5	Overhang
Site size	x		3	Small - 3m		x	3	Small – 5m
Gradient of site	x		3	Steep	x		4	Steep
Site terrain	x		4	Rocky	x		5	Rocky
Is the site protected from people entering easy	x		3	Reserve fence		x	2	Reserve fence
Extensive view of the landscape/elevation	x		5	Broad view	x		5	Broad view
Is there a perennial river nearby?	x		5	Yes	x		5	Yes
Is the site exposed to sunlight?	x		5	Varies	x		3	Deeper overhang
Approximate percentage of the site affected by natural impacts like light and botanical factors			5	80%			5	75%
Approximate percentage of the site affected by human factors like vandalism and development	x		2	20%	x		3	25%
Is the site suited for tourism?	x		3	Small groups			3	Small groups
Is a visitor's register present?		x	1	None		x	1	None
Are entry and exit points separate?		x	6	Same		x	6	Same
Does the site have a path to direct visitor traffic?		x	4	Open space		x	4	Open space
A general good first impression of site for visitors?		x	3	Undeveloped		x	3	Undeveloped
Does the site feel approachable?		x	3	Congested		x	3	Unplanned
Does the site feel of significance linked to the amount of development and maintenance?		x	4	Undeveloped		x	4	Undeveloped
Does the site feel maintained?	x		3	It is clean		x	4	Looks unvisited

Table 7.3. Arrival at site

Rock surface and paintings investigated	Sigubudu Shelter				Mushroom Rock			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Clarity of paintings		x	3	Poor		x	3	Poor
Detail of the paintings	x		4	Average when compared		x	3	Not as much as other sites
Artefacts present at site?		x	1	Fossils though		x	1	Unsure
Are natural impacts obvious?	x		4	Fading , sun	x		4	Lichen growth
Are human impacts obvious?		x	2	Scratching		x	2	Scratching
Approximately how many paintings are present?	x		3	Not more than one hundred	x		3	Not more than one hundred
General condition of the rock surface	x		3	Good and rather smooth with slits	x		2	Average and uneven
Surface management methods present?		x	2	None for the surface, just a guide is present		x	2	None for the surface, just a guide is present

Table 7.4. Rock surface and the paintings

Factors investigated for natural impacts	Sigubudu Shelter				Mushroom Rock			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Structural instability	x		4	Cracks evident	x		4	Cracks evident
Natural fading from sunlight	x		4	Majority of the site		x	2	Not as much when compared
Evidence of bush/veld fires		x	2	In the area		x	2	In the area
Dust (kicked up from the ground)		x	4	Dusty ground	x		3	Dusty ground
Animals rubbing against the art	x		1	Unsure	x		1	Unsure
Animal faeces	x		3	A bit	x		2	A bit
Bird nests	x		5	Big swallows nest		x	1	None
Vegetation to close to the art	x		3	Tree branch	x		5	Bushes near the ground
Water runoff and moisture at the site		x	2	Not really	x		4	Evident
Lichen/algae/moss on the surface		x	2	Little	x		6	Lots
Insect nests on the surface	x		4	A few	x		4	A few

Table 7.5. Natural impacts on rock surface and paintings - Weathering and deterioration of rock surface (1. Natural deterioration criterion)

Tourism factors investigated	Sigubudu Shelter				Mushroom Rock			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Archaeo-tourism present at camp?	x		4	Site available to see 'sacrificed'	x		4	Commodification
Easy access to camp?	x		6	Tarred road	x		6	Tarred road
Rock art site adapted to accommodate tourists?	x		3	Made some space at the site	x		3	Made some space at the site
Commodification of rock art at camp?	x		4	At the shop	x		6	Camp, shop and rock art centre
Rock art centre at the camp?		x	1		x		6	Didima rock centre
Rock art site advertised for tourism?	x		5	In brochure	x		4	At the office
Accommodation and facilities available for tourists?	x		6	A variety	x		6	Didima camp and Cathedral Peak hotel
Display, with information on camp, rock art site, other camps and activities in the surrounding areas?	x		6	In the shop and at the camp	x		6	In the shop and at the camp
General tourism and development in the vicinity of the camp/reserve?	x		5	Development and activities available	x		6	Development and activities available

Table 7.6. Human impacts on rock surface and paintings

Factors investigated for human impacts	Sigubudu Shelter				Mushroom Rock			
General impacts	**Yes**	**No**	**Likert rating**	**Comment**	**Yes**	**No**	**Likert rating**	**Comment**
Increase in moisture from people's breath?	x		1	Unsure	x		1	Unsure
Increase of up stir of dust?	x		3	Dusty ground	x		3	Semi dusty
Litter on site?		x	1	Clean		x	1	Clean
Development at a site?		x	1	None		x	1	None
Erosion of archaeological deposits?		x	1	None		x	1	None
Impact of rock art researcher?			1	None to low			1	None to low
Camp fires from hikers?		x	1	None		x	2	Low
General wear and tear?	x		3	Average	x		3	Average
Intentional Impacts								
Graffiti on the rock surface	x		2	Low		x	1	None
Graffiti on rock art		x	1	None		x	1	None
Vandalism at the site	x		2	Low		x	1	Low
Attempted removal of rock art?		x	1	None		x	1	None
Scratching on rock surface	x		3	Evident	x		1	None to low
Outlining paintings		x	1	None		x	1	None
Touching of the art	x		1	Unsure	x		1	Unsure
Wetting paintings	x		1	Unsure	x		1	Unsure
Collecting souvenirs (artefacts, rocks)	x		1	Unsure	x		1	Unsure
Commodification of the rock art	x		3	At camp	x		4	Rock art centre and camp

Table 7.7. Tourism impacts at the camp and rock art site

Management factors investigated	Sigubudu Shelter				Mushroom Rock			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Site advertised for tourism?	×		5	Brochures	×		4	Camp office
Site fenced?	×		4	Area, not site	×		2	Camp, not site
Admission fee to access site?	×		3	A bit unclear where to pay	×		5	Rock art centre or at the camp
Site opened to the public at certain times only?	×		6	Guide availability		×	2	Open
Pamphlets available on the rock art site		×	2	Site mentioned in camp brochure		×	1	None
Guide present to take you to the site	×		6	At the gate	×		6	Meet at the camp
Boardwalks and other measures for keeping tourists off the ground and away from the art, preventing contact with the art?		×	1	None		×	1	None
Other types of psychological barriers keeping tourists away from the art?		×	1	None		×	1	None
Other types of psychological barriers, directing the traffic flow at the site?	×		2	Few positioned rock	×		2	Few positioned rocks
Direction flow of visitors at the site?	×		6	One way	×		6	One way
Viewing point/area?		×	2	Small		×	2	Small
Area for visitors to rest?	×		2	On the rocks		×	2	On the rocks
Information boards present on rock art at site?		×	1	None		×	1	None
Other interpretive approaches used at the site?		×	1	None, just guide		×	1	None, just guide

Table 7.8. Site management methods

Management	Sigubudu Shelter				Mushroom Rock			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Sign stating the art is protected by legislation	x		3	At the camp	x		5	At the rock art centre
Information boards on site etiquette?		x	1	None		x	1	None
Evidence of surface management methods: drip line/ vanished surface?		x	1	None		x	1	None
Evidence of the removal of graffiti?		x	1	None		x	1	None
Evidence of previous management methods	x		3	Old remains		x	1	None
Signs that the site is regularly maintained	x		2	Clean		x	1	Unvisited
Visitor's register present		x	1	None		x	3	At the Didima camp's office
Parking area with a rubbish bin?	x		6	At the entrance gate	x		2	At hotel

Table 7.8. Site management methods continued

Rock Art Centres investigated	Didima Rock Art Centre				Kamberg Rock Art Centre			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Parking area?	x		6	Large in size	x		5	Medium sized
Entrance fee?	x		6	R20-R40		x	5	Movie optional
Visitor's book?	x		4	At entrance, don't ask to sign though			5	Not very visible, but asked to sign it
Information boards?	x		6	Everywhere	x		3	Posters, rather
Guided tours?	x		5	Not well advertised, good for big groups		x	4	Not a real "museum" type institute
Wheel chair access?	x		6	Yes, flat inside		x	5	Narrow, stairs
Multi media methods of presentation?	x		6	Sound clips, movie		x	5	Movie
Interesting displays?	x		5	Variety		x	2	Posters
Well signed displays?	x		5	Visible		x	2	No real displays
Evaluation of the extent of commodification at the centre	x		6	High	x		4	Souvenirs
Signed flow of direction through the centre?	x		4	Split section, unmarked, rest okay		x	3	Only to the movie area
Replica of rock art paintings of nearby rock art site(s)	x		6	Large display	x		6	Medium sized
Includes offer of a guided walk to a nearby rock art site(s)?	x		4	To sites open to the public	x		6	To Game Pass Shelter
Operated separately from camp management and office?	x		6	Separate	x		6	Separate

Table 7.9. Rock Art Centres evaluation

Factors of the camp's rock art awareness	Battle Cave				Fergy's Cave			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Office with rock art information and awareness	x		4	Fairly good	x		4	Fairly good
Poster on rock art site in the reserve	x		4	Camp office		x	1	Not advertised
Entry fee to rock art site	x		6	Camp office		x	1	Shouldn't be visited
Entry free advertised for site with visitation times	x		1	No		x	1	Not advertised
Description of the difficultly of the route to site	x		4	By the guide		x	1	Not advertised
Rendezvous point for visitors to meet guide	x		6	Camp office		x	1	No guide
Pamphlets on rock art site		x	1	Generally		x	1	Not advertised
Map to rock art site		x	1	None		x	1	Not advertised
Shop with rock art souvenirs	x		5	Some souvenirs	x		5	Rock art generally
Shop to buy refreshments and snacks	x		6	Camp office	x		6	Camp office
Toilet facilities		x	1	Not at office, chalets or camp site		x	1	Not at office, chalets or camp site
Car park area	x		5	Average size	x		5	Average size
Visitor's register for rock art site		x	3	Hiking register		x	2	Hiking register, not suppose to visit
Rock art centre in the reserve		x	1	None		x	1	None
Display, with pamphlets on the camp, rock art site, and other camps & activities in the surrounding	x		6	Camp office	x		6	Camp office

Table 7.10. Rock art awareness

Factors on route to rock art site	Battle Cave				Fergy's Cave			
	Yes	No	Likert Scaling	Comment	Yes	No	Likert Scaling	Comment
Rubbish bin at the entrance gate		x	3	At the camp		x	3	At the camp
Meet the guide at site's entrance gate		x	1	Camp entrance		x	1	No guide
Walk with a guide to site	x		6	All the way		x	1	No guide
Informed of the type of terrain and walking difficulty	x		5	By the guide		x	1	No path
Distance to site	x		6	Over 10km hike	x		5	+- 9km
Average time it takes to walk to site	x		5	110mins, varies	x		5	1hr 40mins, varies
Well-marked path to site	x		4	Clear path, one sign		x	1	No path there
More than one path to site	x		4	Depends		x	1	No path

Table 7.11. Route to rock art site

Factors investigated at arrival of site	Battle Cave				Fergy's Cave			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Description of the type/form of rock art site	x		5	Overhang/cave	x		4	Overhang/cave
Site size	x		6	Large +- 25m	x		4	Medium +- 20m
Gradient of site	x		5	Gradual - Steep	x		5	Gradual up
Site terrain	x		6	Rocky, sandy	x		6	Vegetated, sandy
Is the site protected from people entering easy	x		6	Fence		x	1	No fence
Extensive view of the landscape/elevation	x		6	Broad view		x	1	No view
Is there a perennial river nearby?	x		6	Yes	x		6	Yes
Is the site exposed to sunlight?	x		6	High intensity		x	1	Shade
Approximate percentage of the site affected by natural impacts like light and botanical factors	x		4	80%	x		3	75%
Approximate percentage of the site affected by human factors like vandalism and development	x		4	20%	x		3	25%
Is the site suited for tourism?	x		5	Medium groups		x	1	Not for tourism
Is a visitor's register present?		x	1	None - Hiking		x	1	None
Are entry and exit points separate?		x	1	Same		x	1	Aren't any
Does the site have a path to direct visitor traffic?	x		3	Logical flow		x	1	No path
A general good first impression of site for visitors?	x		4	Large site		x	1	Undeveloped
Does the site feel approachable?	x		4	Large site		x	1	Vegetated
Does the site feel of significance linked to the amount of development and maintenance?		x	3	Undeveloped, fading away		x	1	Undeveloped
Does the site feel maintained?	x		3	It is clean		x	1	Looks unvisited

Table 7.12. Arrival at site

Rock surface and paintings investigated	Battle Cave				Fergy's Cave			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Clarity of paintings	x		4	Poor to good	x		3	Average
Detail of the paintings	x		5	Some very good	x		3	Average
Artefacts present at site?	x		3	Tools in the area		x	1	Not visible
Are natural impacts obvious?	x		5	Fading, sun	x		2	Lichen growth
Are human impacts obvious?	x		3	Scratching		x	2	Camping
Approximately how many paintings are present?	x		6	Hundreds	x		3	Not more than one hundred
General condition of the rock surface	x		3	Flaking, bumpy and tiffoni	x		3	Natural, bumpy, course, tiffoni
Surface management methods present?		x	2	None for the surface, just a guide is present	x		2	None for the surface, just a guide is present

Table 7.13. Rock surface and the paintings

Factors investigated for natural impacts	Battle Cave				Fergy's Cave			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Structural instability	x		5	Cracks and flaking		x	2	Presently stable
Natural fading from sunlight	x		6	Fading, and flaking		x	1	No direct sunlight
Evidence of bush/veld fires	x		2	In the area	x		2	In the area
Dust (kicked up from the ground)	x		5	Dusty ground	x		3	Dusty but vegetated too
Animals rubbing against the art	x		1	Unsure	x		1	Unsure
Animal faeces	x		5	Lots	x		2	A bit
Bird nests	x		2	Not near the art	x		2	Not near the art
Vegetation to close to the art	x		3	Tree branches, not near the art	x		4	Bushes near the ground/art
Water runoff and moisture at the site	x		3	Seasonal	x		2	Damp
Lichen/algae/moss on the surface	x		1	Little - none		x	1	Little - none
Insect nests on the surface		x	1	Not visible		x	1	Not visible

Table 7.14. Natural impacts on rock surface and paintings - Weathering and deterioration of rock surface (1. Natural deterioration criterion)

Factors investigated for human impacts	Battle Cave				Fergy's Cave			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Increase in moisture from people's breath?	x		1	Unsure	x		1	Unsure
Increase of up stir of dust?	x		3	Dusty ground	x		3	Semi dusty
Litter on site?		x	1	Clean		x	1	Clean
Development at a site?		x	1	None		x	1	None
Erosion of archaeological deposits?		x	1	None		x	1	None
Impact of rock art researcher?		x	1	None to low		x	1	None
Camp fires from hikers?		x	1	No evidence	x		5	Evidence
General wear and tear?	x		3	Average	x		3	Average
Intentional Impacts								
Graffiti on the rock surface	x		3	Some		x	1	None
Graffiti on rock art		x	1	None		x	1	None
Vandalism at the site	x		2	Low	x		2	Low
Attempted removal of rock art?		x	1	None		x	1	None
Scratching on rock surface	x		3	Evident		x	1	None
Outlining paintings		x	1	None		x	1	None
Touching of the art	x		1	Unsure	x		1	Unsure
Wetting paintings	x		1	Unsure	x		1	Unsure
Collecting souvenirs (artefacts, rocks)	x		1	Unsure	x		1	Unsure
Commodification of the rock art	x		3	At the camp, average	x		3	At the camp, average

Table 7.15. Human impacts on rock surface and paintings

Tourism factors investigated	Battle Cave				Fergy's Cave			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Archaeo-tourism present at camp?	x		4	Site available to see 'sacrificed'	x		4	Battle Cave
Easy access to camp?		x	2	Long dirt road		x	2	Long dirt road
Rock art site adapted to accommodate tourists?	x		2	Made some space at the site		x	1	Not for tourism
Commodification of rock art at camp?	x		3	Average	x		3	Average
Rock art centre at the camp?		x	1	None		x	1	None
Rock art site advertised for tourism?	x		4	In brochure		x	1	Not for tourism
Accommodation and facilities available for tourists?	x		6	A variety	x		6	A variety
Display, with information on camp, rock art site, other camps and activities in the surrounding areas?	x		6	In the shop at the camp	x		6	In the shop at the camp
General tourism and development in the vicinity of the camp/reserve?	x		4	Yes, but at a distance	x		4	Yes, but at a distance

Table 7.16. Tourism impacts at the camp and rock art site

Management factors investigated	Battle Cave				Fergy's Cave			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Site advertised for tourism?	x		5	Brochures		x	1	None
Site fenced?	x		6	Greater site area		x	1	None
Admission fee to access site?	x		6	At the camp office		x	1	Not for tourists
Site opened to the public at certain times only?	x		6	Guide availability		x	1	No times
Pamphlets available on the rock art site		x	2	Site mentioned in camp brochure		x	1	None
Guide present to take you to the site	x		6	At the camp entrance		x	1	Not for tourists
Boardwalks and other measures for keeping tourists off the ground and away from the art, preventing contact with the art?		x	1	None		x	1	None
Other types of psychological barriers keeping tourists away from the art?		x	1	None		x	1	None
Other types of psychological barriers, directing the traffic flow at the site?	x		2	Few positioned rock		x	1	None
Direction flow of visitors at the site?	x		6	One way		x	1	None
Viewing point/area?	x		2	Small		x	1	None
Area for visitors to rest?	x		2	On the rocks		x	1	Not for tourists
Information boards present on rock art at site?		x	1	None		x	1	None
Other interpretive approaches used at the site?		x	1	None, just guide		x	1	None

Table 7.17. Site management methods

Management	Battle Cave				Fergy's Cave			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Sign stating the art is protected by legislation	x		5	At the camp and on the site's fence		x	2	At the camp
Information boards on site etiquette?		x	1	None		x	1	None
Evidence of surface management methods: drip line/ vanished surface?		x	1	None		x	1	None
Evidence of the removal of graffiti?		x	1	None		x	1	None
Evidence of previous management methods		x	1	None		x	1	None
Signs that the site is regularly maintained	x		2	Clean		x	1	Unvisited
Visitor's register present		x	1	None		x	1	None
Parking area with a rubbish bin?	x		6	At the camp office	x		6	At the camp office

Table 7.17. Site management methods continued

Factors of the camp's rock art awareness	Main Caves				Barnes Shelter			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Office with rock art information and awareness	x		5	Fairly good	x		5	Fairly good
Poster on rock art site in the reserve	x		5	Just one		x	5	Not advertised
Entry fee to rock art site	x		6	Camp office		x	1	Shouldn't be visited
Entry free advertised for site with visitation times	x		1	No		x	1	Not advertised
Description of the difficultly of the route to site	x		4	By the guide		x	1	Not advertised
Rendezvous point for visitors to meet guide	x		6	Site's gate		x	1	No guide
Pamphlets on rock art site		x	1	Generally		x	1	Not advertised
Map to rock art site		x	2	General		x	1	Not advertised
Shop with rock art souvenirs	x		5	Some souvenirs	x		5	Rock art generally
Shop to buy refreshments and snacks	x		6	Camp office	x		6	Camp office
Toilet facilities		x	6	At the camp office		x	1	At the camp office
Car park area	x		6	Large	x		6	Large
Visitor's register for rock art site		x	6	At the site		x	1	None
Rock art centre in the reserve		x	1	None		x	1	None
Display, with pamphlets on the camp, rock art site, and other camps & activities in the surrounding	x		6	Camp office	x		6	Camp office

Table 7.18. Rock art awareness

Factors on route to rock art site	Main Caves				Barnes Shelter			
	Yes	No	Likert Scaling	Comment	Yes	No	Likert Scaling	Comment
Rubbish bin at the entrance gate		x	3	At the camp		x	3	At the camp
Meet the guide at site's entrance gate	x		6	Waiting area		x	1	No guide
Walk with a guide to site		x	1	Meet there		x	1	No guide
Informed of the type of terrain and walking difficulty	x		2	Ask at camp		x	1	No path
Distance to site	x		6	+- 5km hike	x		5	+- 1km
Average time it takes to walk to site	x		5	60mins, varies	x		5	15mins, varies
Well-marked path to site	x		6	Clear path, one sign		x	1	No path there
More than one path to site	x		4	No		x	1	No path

Table 7.19. Route to rock art site

Factors investigated at arrival of site	Main Caves				Barnes Shelter			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Description of the type/form of rock art site	x		6	Overhang/cave	x		4	Overhang
Site size	x		6	Large +- 40m each	x		3	Medium +- 15m
Gradient of site	x		5	Gradual - Steep	x		6	Steep
Site terrain	x		6	Rocky, developed	x		6	Rocky, sandy
Is the site protected from people entering easy	x		6	Fence	x		2	Broken ,old fence
Extensive view of the landscape/elevation	x		6	Broad view	x		6	Broad view
Is there a perennial river nearby?	x		6	Yes	x		6	Yes
Is the site exposed to sunlight?	x		3	Average	x		3	Average
Approximate percentage of the site affected by natural impacts like light and botanical factors	x		3	20%	x		2	85%
Approximate percentage of the site affected by human factors like vandalism and development	x		6	80%, a lot of development	x		2	15%
Is the site suited for tourism?	x		6	Developed		x	1	Not for tourism
Is a visitor's register present?	x		6	Present		x	1	None
Are entry and exit points separate?	x		6	Different	x		6	Logical entrance
Does the site have a path to direct visitor traffic?	x		6	Logical flow	x		2	A bit
A general good first impression of site for visitors?	x		6	Large & developed		x	1	Undeveloped
Does the site feel approachable?	x		6	Large & developed		x	1	Rocky
Does the site feel of significance linked to the amount of development and maintenance?		x	3	Undeveloped, fading away		x	1	Undeveloped
Does the site feel maintained?	x		6	Clean & developed		x	1	Looks unvisited

Table 7.20. Arrival at site

Rock surface and paintings investigated	Main Caves				Barnes Shelter			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Clarity of paintings	x		5	Good	x		3	Average
Detail of the paintings	x		6	Very good	x		4	Good
Artefacts present at site?	x		3	Tools in the area	x		5	Tool in the site
Are natural impacts obvious?	x		3	Average	x		4	Deterioration
Are human impacts obvious?	x		4	Scratching and development	x		3	Old fence, scratches
Approximately how many paintings are present?	x		6	Hundreds	x		4	Over a hundred
General condition of the rock surface	x		4	Good	x		3	Natural, bumpy and tiffoni
Surface management methods present?		x	2	None for the surface, just a guide is present	x		2	None for the surface, just a guide is present

Table 7.21. Rock surface and the paintings

Factors investigated for natural impacts	Main Caves				Barnes Shelter			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Structural instability		x	3	Cracks, rocks all over the site		x	3	Presently stable, but rocky
Natural fading from sunlight	x		3	Average	x		3	Average
Evidence of bush/veld fires	x		5	In the area, burnt stairs	x		2	In the area
Dust (kicked up from the ground)		x	1	Boardwalks	x		3	Rock, dusty
Animals rubbing against the art	x		1	Unsure	x		1	Unsure
Animal faeces	x		5	Lots	x		3	Some
Bird nests	x		4	Not near the art	x		2	Not near the art
Vegetation to close to the art	x		2	Not near the art		x	1	None
Water runoff and moisture at the site	x		3	In the deeper sections of site	x		2	Damp, but dry mostly
Lichen/algae/moss on the surface	x		2	Little - none		x	1	Little - none
Insect nests on the surface		x	1	Not visible		x	1	Not visible

Table 7.22. Natural impacts on rock surface and paintings - Weathering and deterioration of rock surface (1. Natural deterioration criterion)

Factors investigated for human impacts	Main Caves				Barnes Shelter			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Increase in moisture from people's breath?	x		1	Unsure	x		1	Unsure
Increase of up stir of dust?		x	1	Very low	x		3	Semi dusty
Litter on site?		x	1	Clean		x	1	Clean
Development at a site?	x		6	Boardwalks etc		x	2	Remains of some
Erosion of archaeological deposits?	x		3	In one cave		x	1	None
Impact of rock art researcher?	x		3	Equipment		x	1	None
Camp fires from hikers?	x		4	Evident	x		3	Evident
General wear and tear?	x		3	Average	x		4	Run down
Intentional Impacts								
Graffiti on the rock surface	x		3	Some		x	3	Some
Graffiti on rock art		x	1	None		x	1	None
Vandalism at the site	x		2	Low	x		2	Low
Attempted removal of rock art?		x	1	None		x	1	None
Scratching on rock surface	x		3	Evident		x	2	Low
Outlining paintings		x	1	None		x	1	None
Touching of the art	x		1	Unsure	x		1	Unsure
Wetting paintings	x		1	Unsure	x		1	Unsure
Collecting souvenirs (artefacts, rocks)	x		1	Unsure	x		1	Unsure
Commodification of the rock art	x		6	At the camp, average	x		4	At the camp, average

Table 7.23. Human impacts on rock surface and paintings

Tourism factors investigated	Main Caves				Barnes Shelter			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Archaeo-tourism present at camp?	x		6	Site available to see 'sacrificed'	x		5	Main Cave
Easy access to camp?	x		6	Tarred road	x		6	Tarred road
Rock art site adapted to accommodate tourists?	x		6	Large site, development, display		x	1	Not for tourism
Commodification of rock art at camp?	x		4	Average	x		4	Average
Rock art centre at the camp?		x	1	None		x	1	None
Rock art site advertised for tourism?	x		5	In brochure		x	1	Not for tourism
Accommodation and facilities available for tourists?	x		6	A variety	x		6	A variety
Display, with information on camp, rock art site, other camps and activities in the surrounding areas?	x		6	In the shop at the camp	x		6	In the shop at the camp
General tourism and development in the vicinity of the camp/reserve?	x		4	Yes, but at a distance	x		4	Yes, but at a distance

Table 7.24. Tourism impacts at the camp and rock art site

Management factors investigated	Main Caves				Barnes Shelter			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Site advertised for tourism?	x		5	Brochures		x	1	None
Site fenced?	x		6	Greater site area		x	2	A bit
Admission fee to access site?	x		6	At the camp office		x	1	Not for tourists
Site opened to the public at certain times only?	x		6	Guide availability		x	1	No times
Pamphlets available on the rock art site		x	2	Site mentioned in camp brochure		x	1	None
Guide present to take you to the site	x		6	At the site's entrance		x	1	Not for tourists
Boardwalks and other measures for keeping tourists off the ground and away from the art, preventing contact with the art?	x		6	Boardwalks, with railings		x	1	None
Other types of psychological barriers keeping tourists away from the art?	x		6	Railings		x	1	None
Other types of psychological barriers, directing the traffic flow at the site?	x		6	Development, boardwalks		x	2	Rocks
Direction flow of visitors at the site?	x		6	One way		x	2	Logical
Viewing point/area?	x		6	Small		x	1	None
Area for visitors to rest?	x		6	Benches		x	1	Not for tourists
Information boards present on rock art at site?	x		6	Present		x	1	None
Other interpretive approaches used at the site?	x		6	Display & guide		x	1	None

Table 7.25. Site management methods

Management	Main Caves				Barnes Shelter			
	Yes	No	Likert rating	Comment	Yes	No	Likert rating	Comment
Sign stating the art is protected by legislation	x		6	At the camp, site and on the site's fence		x	2	At the camp
Information boards on site etiquette?	x		2	A bit		x	1	None
Evidence of surface management methods: drip line/ vanished surface?		x	1	None		x	1	None
Evidence of the removal of graffiti?		x	1	None		x	1	None
Evidence of previous management methods		x	1	None	x		4	Fence remains
Signs that the site is regularly maintained	x		5	Clean		x	1	Unvisited
Visitor's register present	x		6	On site		x	1	None
Parking area with a rubbish bin?	x		6	At the camp office	x		6	At the camp office

Table 7.25. Site management methods continued

Factors of the camp's rock art awareness	Game Pass Shelter			
	Yes	No	Likert rating	Comment
Office with rock art information and awareness	x		5	Good
Poster on rock art site in the reserve	x		6	A few
Entry fee to rock art site	x		6	Price varies, if movie is included
Entry free advertised for site with visitation times	x		3	Not very visible
Description of the difficultly of the route to site	x		4	By the guide
Rendezvous point for visitors to meet guide	x		6	At the centre
Pamphlets on rock art site		x	1	Parks pamphlet
Map to rock art site	x		3	General one
Shop with rock art souvenirs	x		6	Centre's shop and camp's shop
Shop to buy refreshments and snacks	x		6	At the centre and camp
Toilet facilities	x		6	At the centre
Car park area	x		3	At the camp
Visitor's register for rock art site	x		6	At the centre
Rock art centre in the reserve	x		6	Yes
Display, with pamphlets on the camp, rock art site, and other camps & activities in the surrounding			6	Rock art centre and at the camp

Table 7.26. Rock art awareness

Factors on route to rock art site	Game Pass Shelter			
	Yes	No	Likert rating	Comment
Rubbish bin at the entrance gate		x	3	At the centre
Meet the guide at site's entrance gate		x	3	At the centre
Walk with a guide to site	x		6	Information along the hike
Informed of the type of terrain and walking difficulty	x		4	Told before, by the guide
Distance to site	x		4	+- 9km round trip
Average time it takes to walk to site	x		4	90mins - varies
Well-marked path to site	x		3	Not all the way
More than one path to site		x	6	None

Table 7.27. Route to rock art site

Factors investigated at arrival of site	Game Pass Shelter			
	Yes	No	Likert rating	Comment
Description of the type/form of rock art site	x		6	Overhang
Site size	x		6	Large +- 30m
Gradient of site	x		6	Steep
Site terrain	x		5	Rocky, sandy
Is the site protected from people entering easy	x		6	Fenced
Extensive view of the landscape/elevation	x		6	Broad view
Is there a perennial river nearby?	x		6	Yes
Is the site exposed to sunlight?	x		3	Varies
Approximate percentage of the site affected by natural impacts like light and botanical factors	x		2	60%
Approximate percentage of the site affected by human factors like vandalism and development	x		2	40%
Is the site suited for tourism?	x		6	Large groups
Is a visitor's register present?		x	1	At centre
Are entry and exit points separate?	x		6	Different
Does the site have a path to direct visitor traffic?	x		5	Open space
A general good first impression of site for visitors?	x		5	Good
Does the site feel approachable?	x		5	Large and open
Does the site feel of significance linked to the amount of development and maintenance?	x		3	Not very developed
Does the site feel maintained?	x		5	It is clean

Table 7.28. Arrival at site

Rock surface and paintings investigated	Game Pass Shelter			
	Yes	No	Likert rating	Comment
Clarity of paintings	x		6	Good
Detail of the paintings	x		6	Good
Artefacts present at site?		x	1	No visible
Are natural impacts obvious?		x	3	General deterioration, lichen on the surface
Are human impacts obvious?	x		2	Scratching
Approximately how many paintings are present?	x		6	Hundreds
General condition of the rock surface	x		4	Good and rather smooth
Surface management methods present?	x		2	None for the surface, just a guide is present

Table 7.29. Rock surface and the paintings

Factors investigated for natural impacts	Game Pass Shelter			
	Yes	No	Likert rating	Comment
Structural instability	x		2	Cracks evident
Natural fading from sunlight	x		2	Naturally
Evidence of bush/veld fires	x		1	In the region
Dust (kicked up from the ground)	x		2	Dusty ground, low down from art
Animals rubbing against the art	x		1	Unsure
Animal faeces	x		2	A bit
Bird nests		x	1	None visible
Vegetation to close to the art		x	1	Not near
Water runoff and moisture at the site	x		3	Drips in the area
Lichen/algae/moss on the surface	x		4	Surface and on the art
Insect nests on the surface	x		2	Few

Table 7.30. Natural impacts on rock surface and paintings - Weathering and deterioration of rock surface (1. Natural deterioration criterion)

Factors investigated for human impacts	Game Pass Shelter			
	Yes	No	Likert rating	Comment
Increase in moisture from people's breath?	x		3	Unsure, but this is a popular site
Increase of up stir of dust?	x		3	Dusty ground & visitors
Litter on site?		x	6	Clean
Development at a site?	x		4	Space at the site
Erosion of archaeological deposits?	x		2	Research
Impact of rock art researcher?	x		6	Outlines of paintings and weather instruments
Camp fires from hikers?	x		2	In the past
General wear and tear?	x		3	Average
Intentional Impacts				
Graffiti on the rock surface	x		3	Low/ average
Graffiti on rock art	x		2	A bit
Vandalism at the site	x		3	Low, scratches
Attempted removal of rock art?		x	1	None
Scratching on rock surface	x		5	Evident
Outlining paintings	x		5	Can see it on a few paintings
Touching of the art	x		1	Unsure
Wetting paintings	x		1	Unsure
Collecting souvenirs (artefacts, rocks)	x		1	Unsure
Commodification of the rock art	x		4	At camp

Table 7.31. Human impacts on rock surface and paintings

Tourism factors investigated	Game Pass Shelter			
	Yes	No	Likert rating	Comment
Archaeo-tourism present at camp?	x		6	Popular site
Easy access to camp?	x		4	Tarred and gravelled road
Rock art site adapted to accommodate tourists?	x		4	Made some space at the site
Commodification of rock art at camp?	x		5	At the shop and the rock art centre
Rock art centre at the camp?	x		6	Yes
Rock art site advertised for tourism?	x		6	In brochure and in rock art published books
Accommodation and facilities available for tourists?	x		4	Kamberg Camp is small, other accommodation is not so nearby
Display, with information on camp, rock art site, other camps and activities in the surrounding areas?	x		6	In the camp shop and at the rock art centre
General tourism and development in the vicinity of the camp/reserve?	x		3	Average camp, has a dirt road and less accommodation to choose from

Table 7.32. Tourism impacts at the camp and rock art site

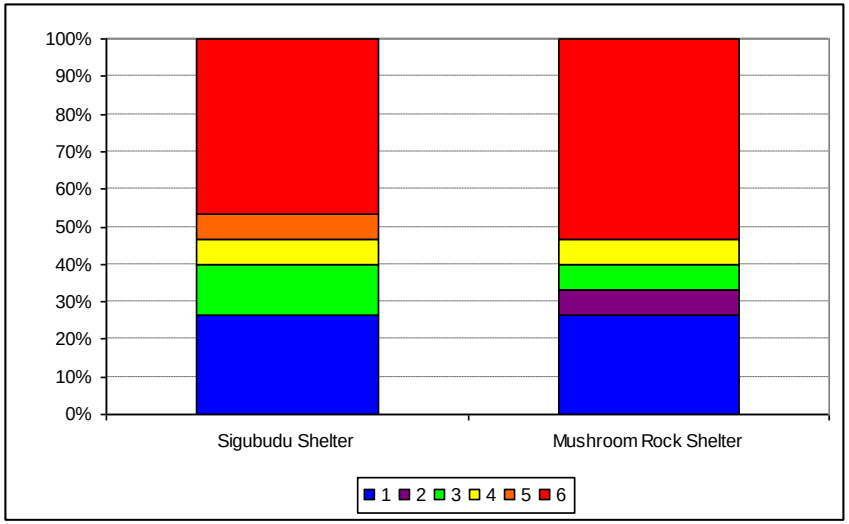
Management factors investigated	Game Pass Shelter			
	Yes	No	Likert rating	Comment
Site advertised for tourism?	x		6	Brochure/ popular
Site fenced?	x		6	Site fenced
Admission fee to access site?	x		6	Varies if you see the movie
Site opened to the public at certain times only?	x		6	Guide availability
Pamphlets available on the rock art site		x	6	Site mentioned in camp brochure
Guide present to take you to the site	x		6	At the centre
Boardwalks and other measures for keeping tourists off the ground and away from the art, preventing contact with the art?		x	1	None
Other types of psychological barriers keeping tourists away from the art?	x		2	Boulders, rocks
Other types of psychological barriers, directing the traffic flow at the site?	x		2	Few positioned rock
Direction flow of visitors at the site?	x		6	One way
Viewing point/area?	x		6	Large
Area for visitors to rest?	x		6	On the rocks, large site
Information boards present on rock art at site?		x	1	None
Other interpretive approaches used at the site?		x	1	None, just guide
Sign stating the art is protected by legislation	x		2	At the centre and on the site's fence
Information boards on site etiquette?	x		1	None
Evidence of surface management methods: drip line/ vanished surface?	x		1	None
Evidence of the removal of graffiti?	x		1	None

Table 7.33. Site management methods

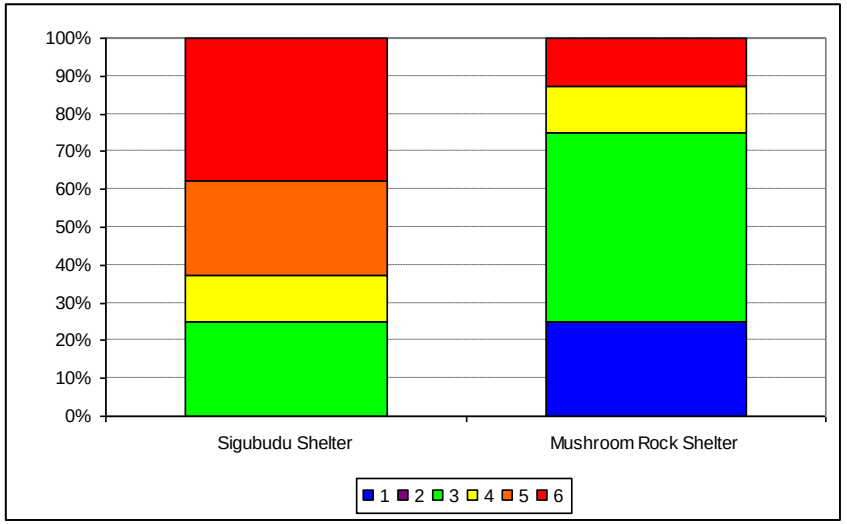
Management factors investigated	Game Pass Shelter			
	Yes	No	Likert rating	Comment
Evidence of previous management methods	x		1	None
Signs that the site is regularly maintained	x		4	Clean, research at site
Visitor's register present		x	3	At the centre
Parking area with a rubbish bin?	x		3	At the camp

Table 7.33. Site management methods continued

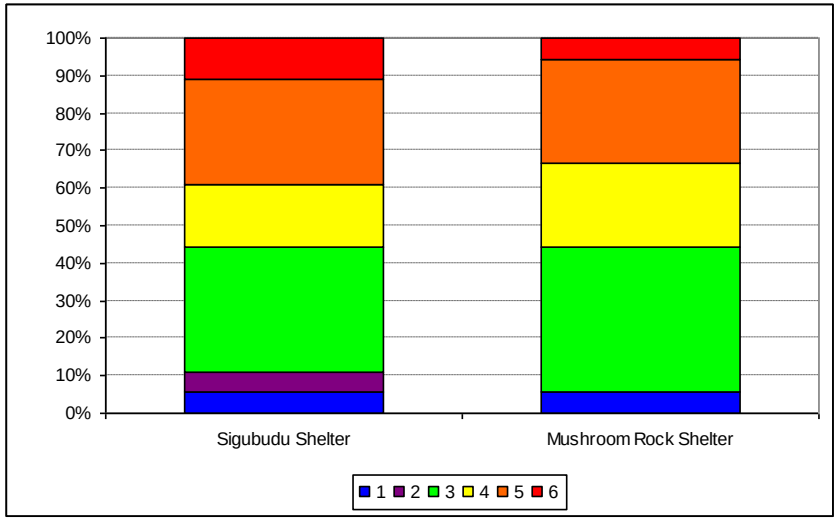
Graph Appendix



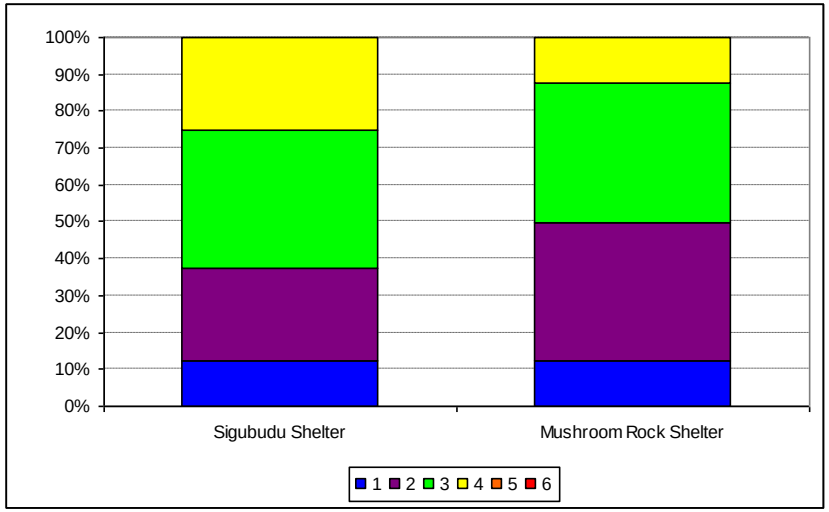
Graph 7.1. Rock art awareness and camp



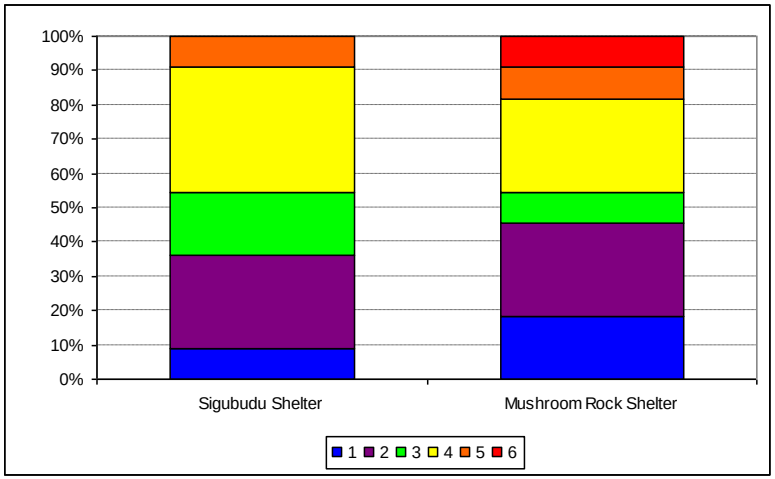
Graph 7.2. On route to site



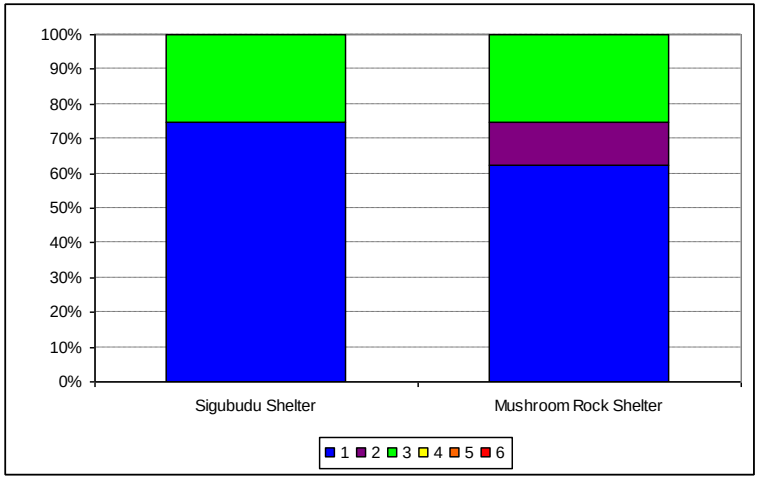
Graph 7.3. Upon arrival at site



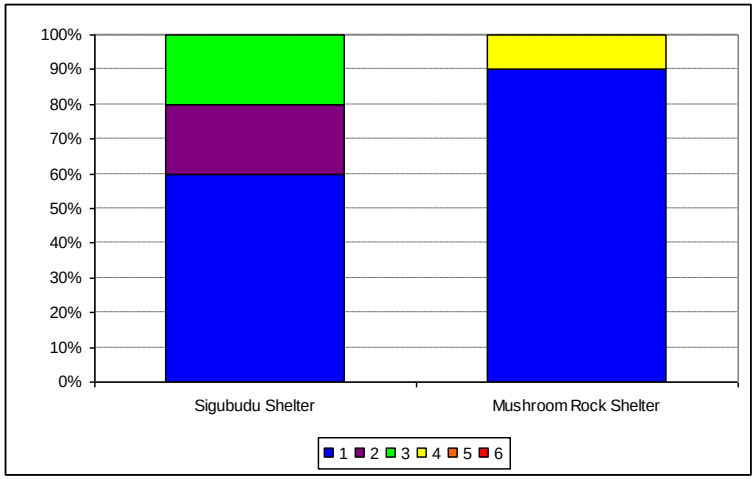
Graph 7.4. Rock art surface and paintings



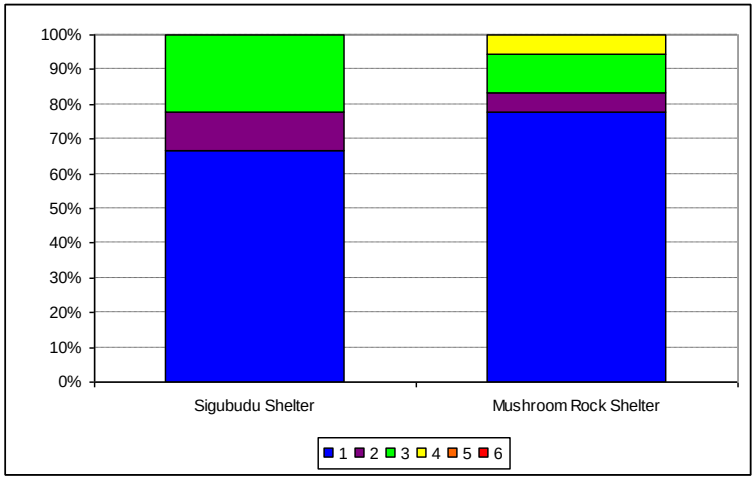
Graph 7.5. Natural weathering and deterioration of the surface and paintings



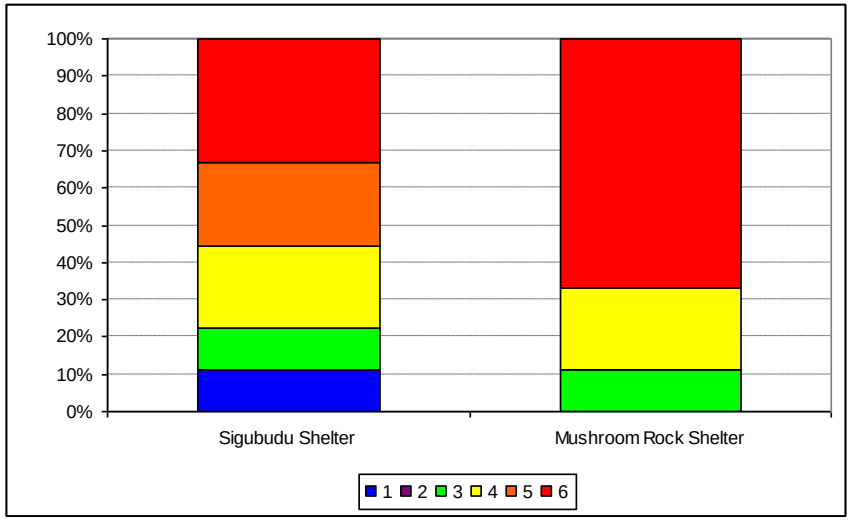
Graph 7.6a. General human impacts



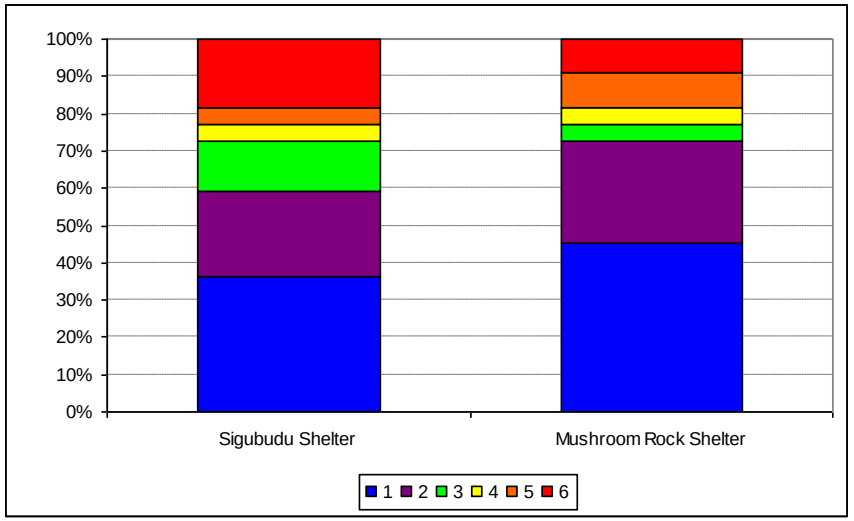
Graph 7.6b.Intentional human impacts at a rock art site



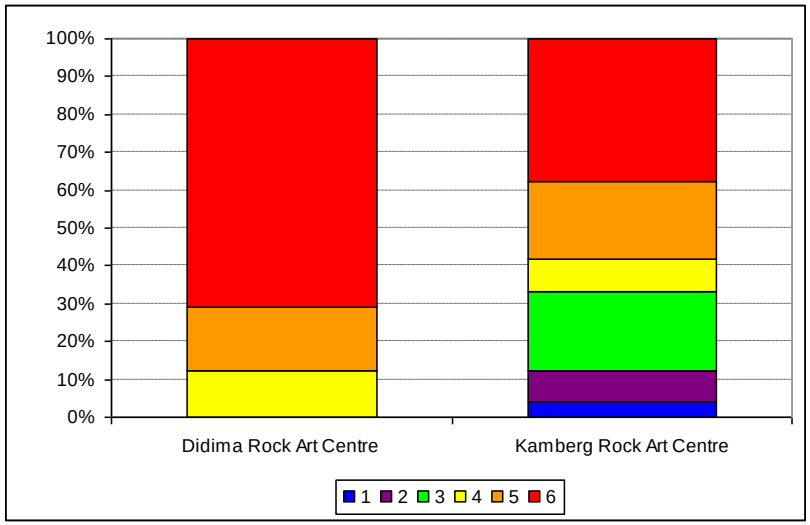
Graph 7.6c. General human impacts – Combined



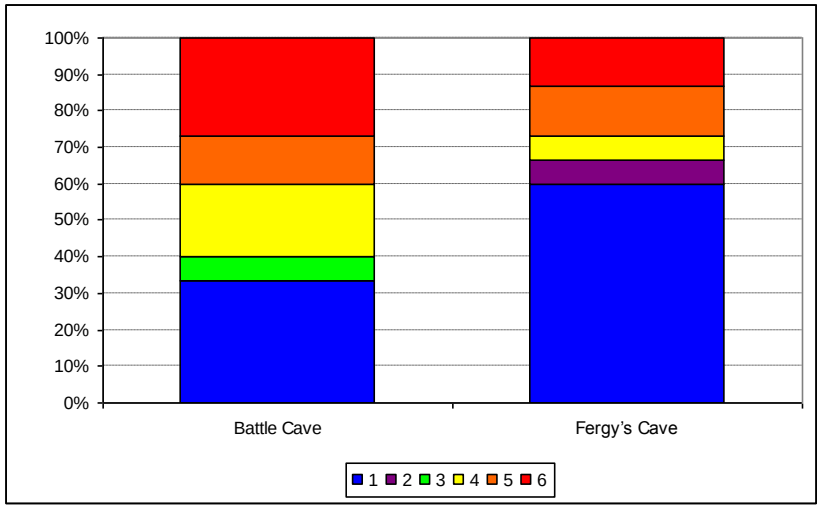
Graph 7.7.Tourism factors at the camp and rock art site



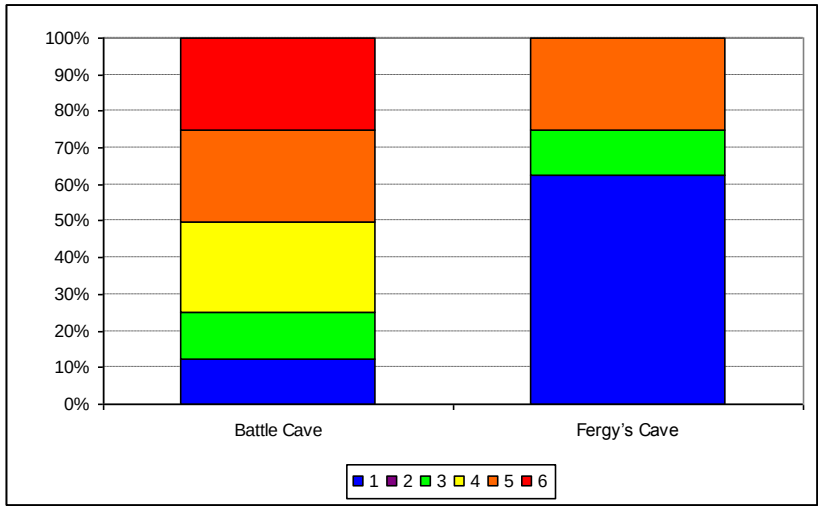
Graph 7.8. Management methods at the site



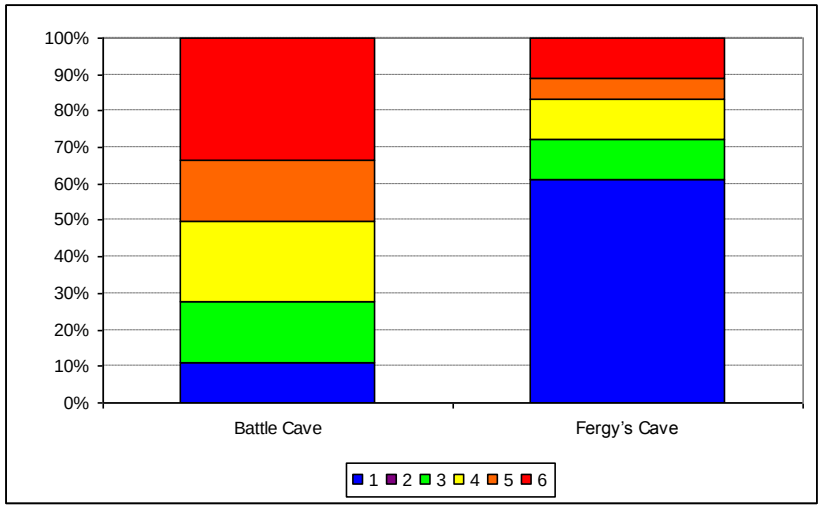
Graph 7.9. Rock art centres in the UDP



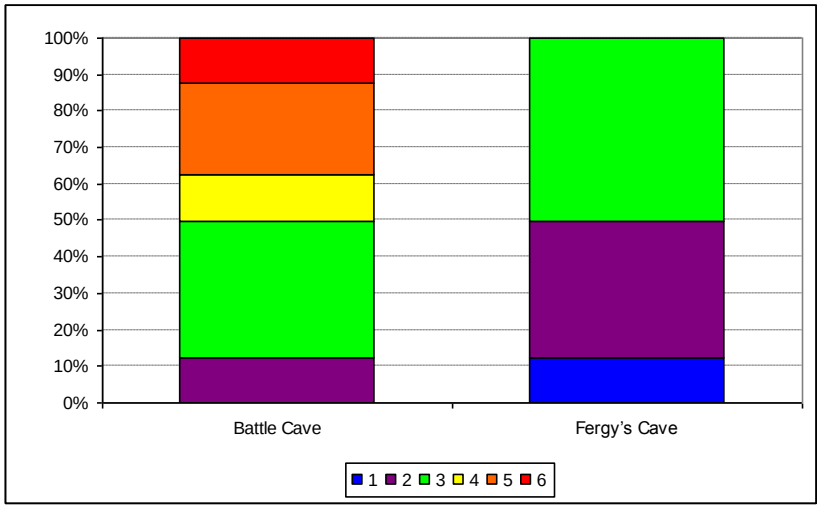
Graph 7.10. Rock art awareness and camp



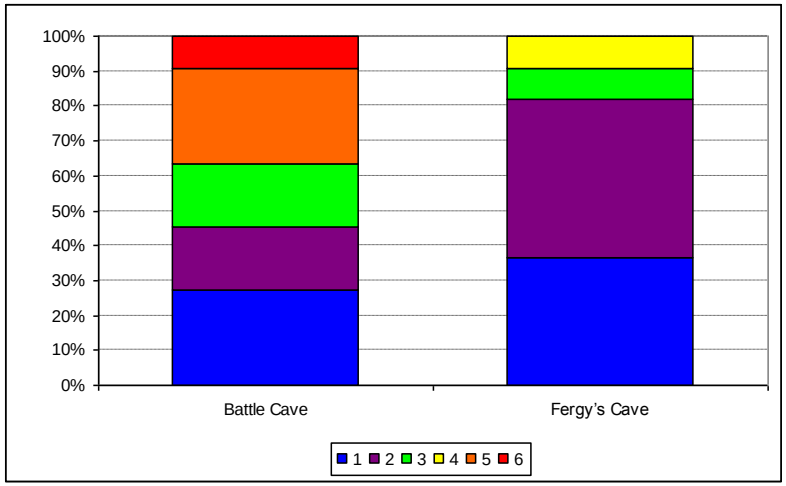
Graph 7.11. On route to site



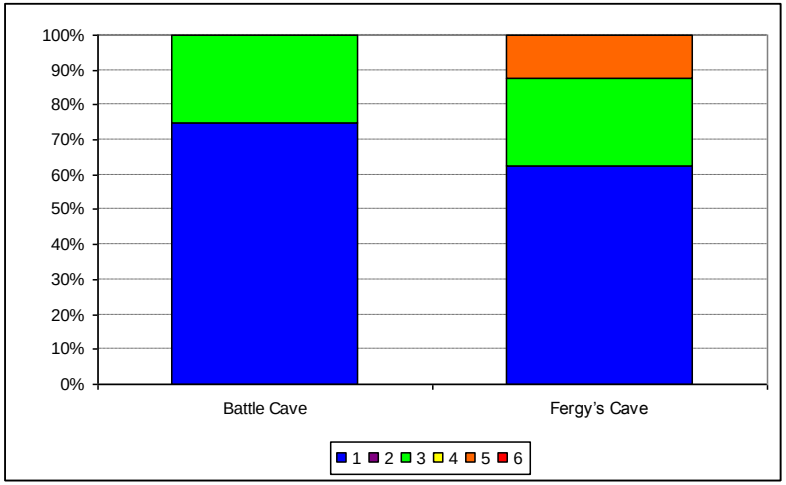
Graph 7.12. Upon arrival at site



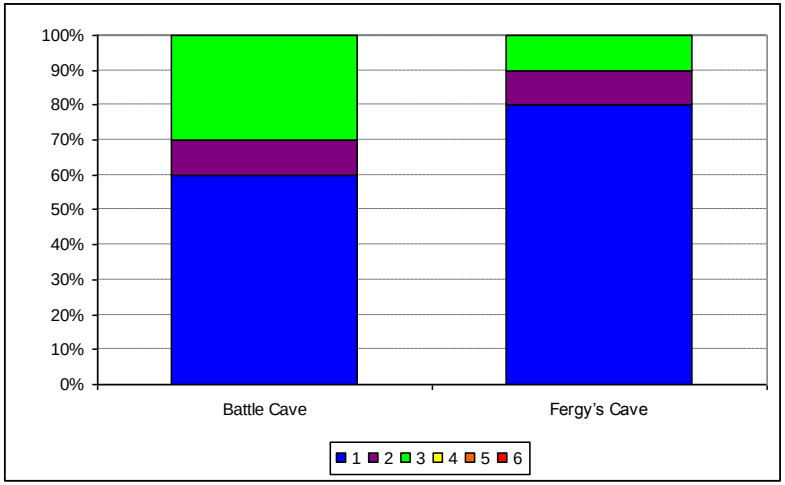
Graph 7.13. Rock art surface and paintings



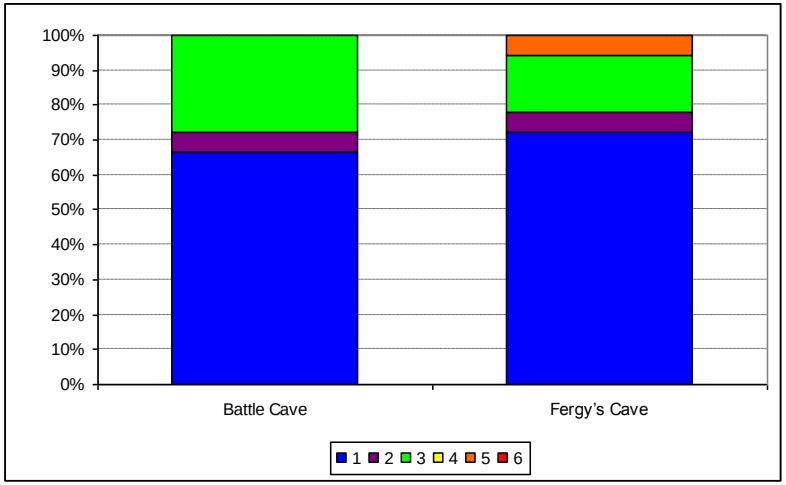
Graph 7.14. Natural weathering and deterioration of the surface and paintings



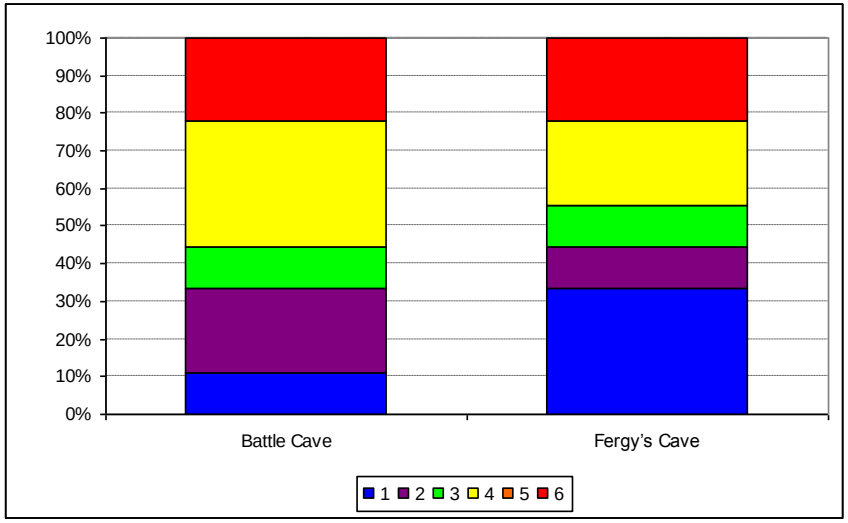
Graph 7.15a. General human impacts



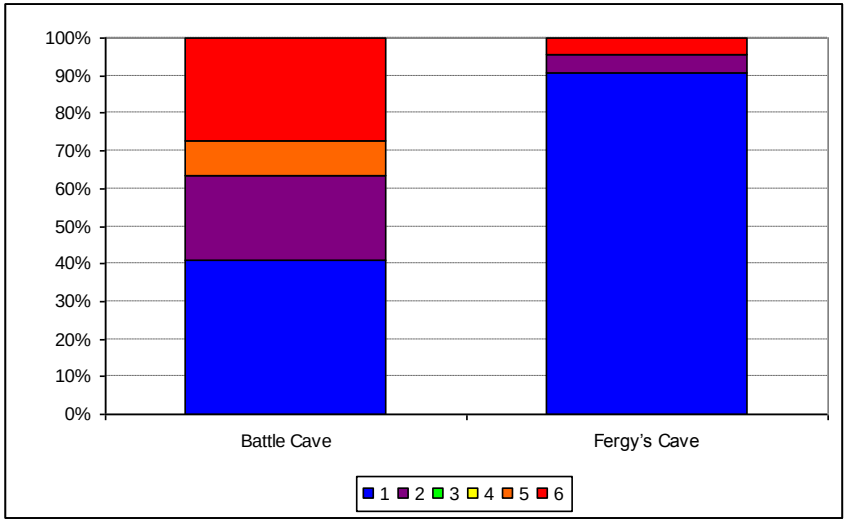
Graph 7.15b.Intentional human impacts at a rock art site



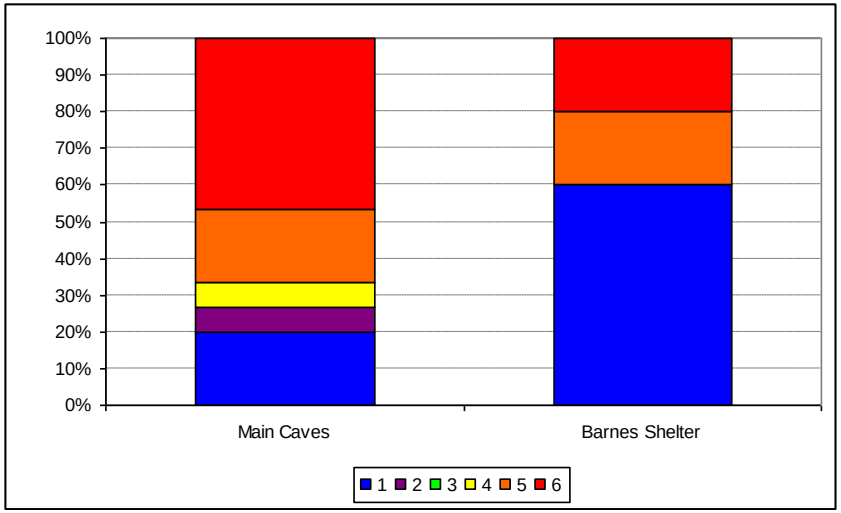
Graph 7.15c. General human impacts – Combined



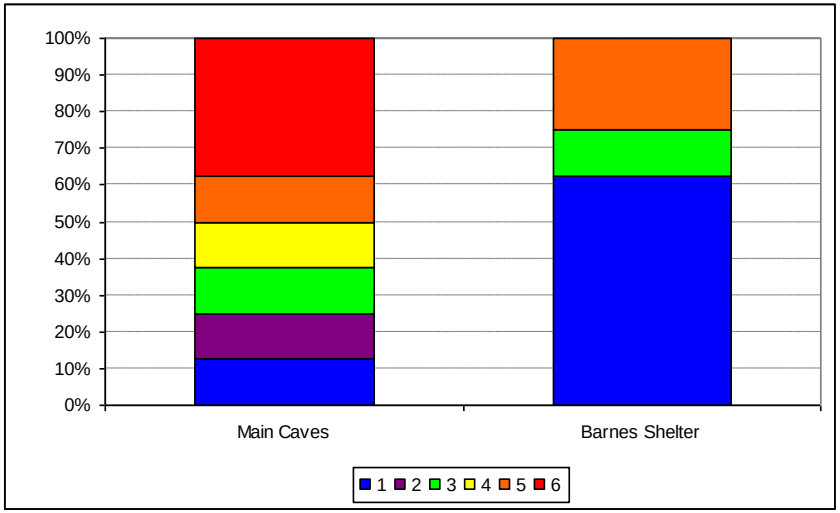
Graph 7.16.Tourism factors at the camp and rock art site



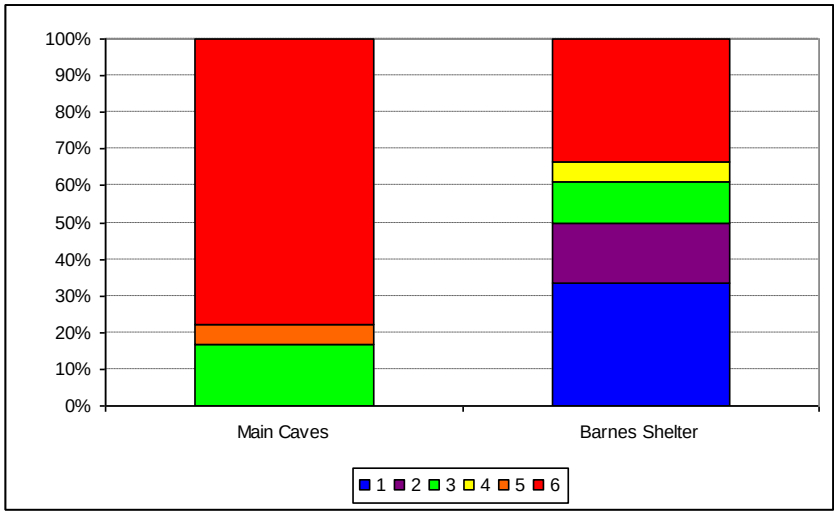
Graph 7.17. Management methods at the site



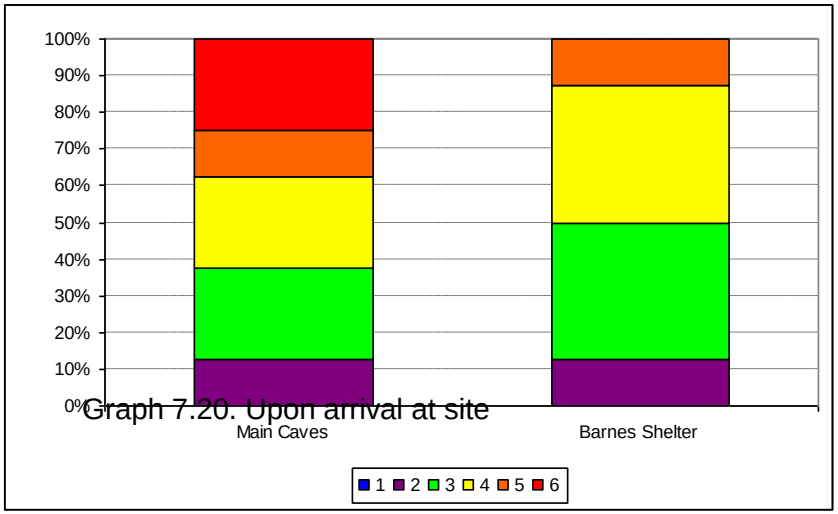
Graph 7.18. Rock art awareness and camp



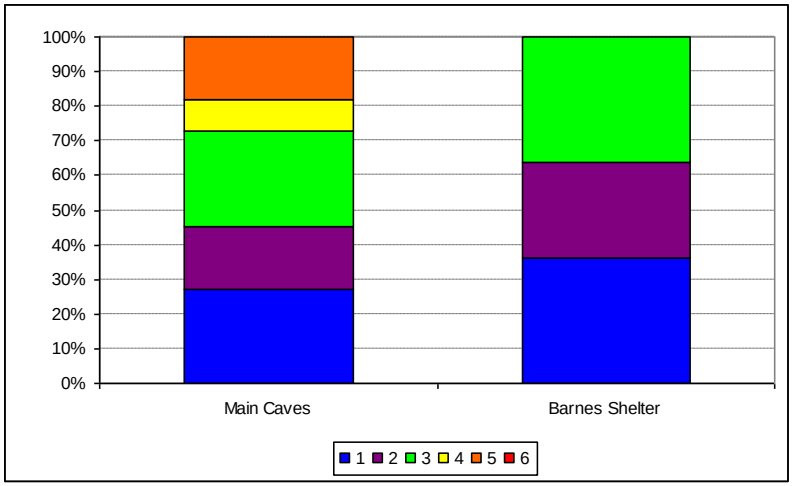
Graph 7.19. On route to site



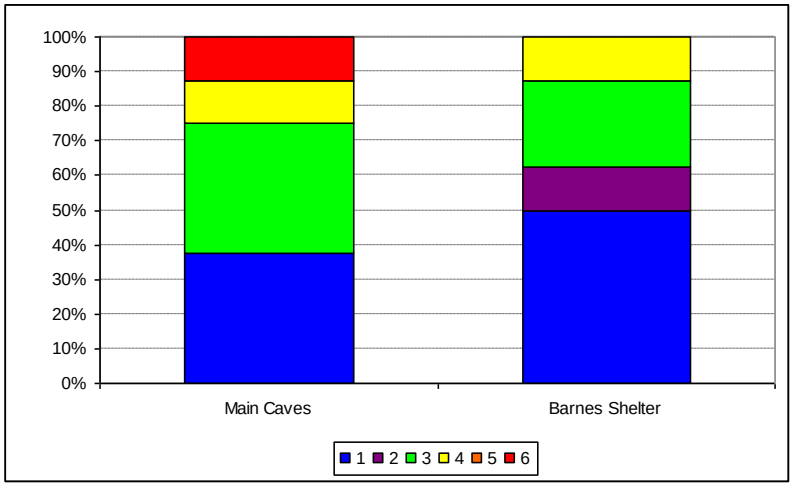
Graph 7.20. Upon arrival at site



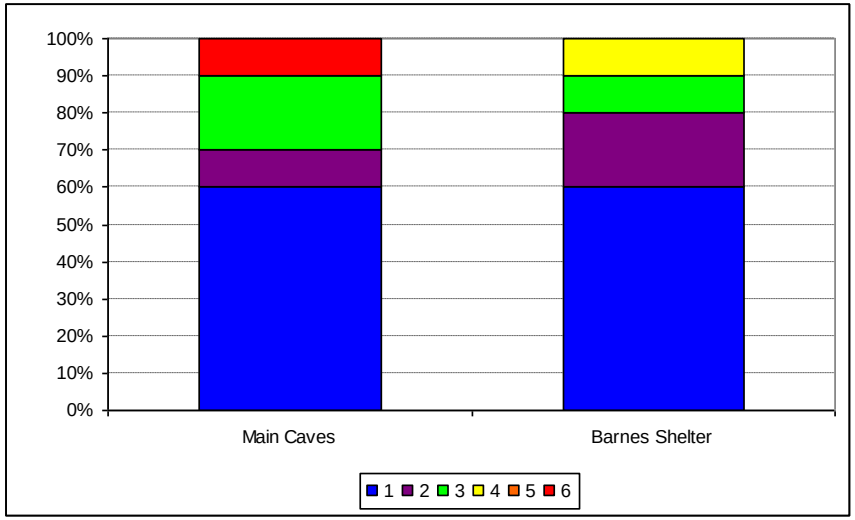
Graph 7.21. Rock art surface and paintings



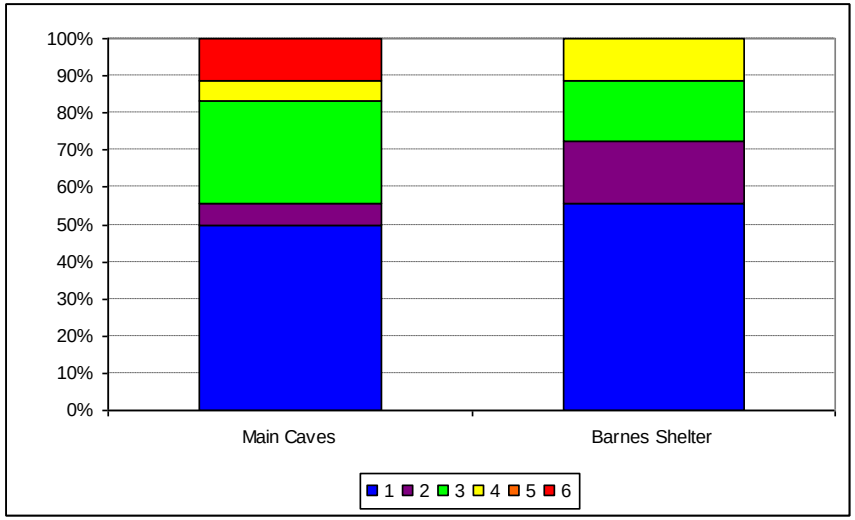
Graph 7.22. Natural weathering and deterioration of the surface and paintings



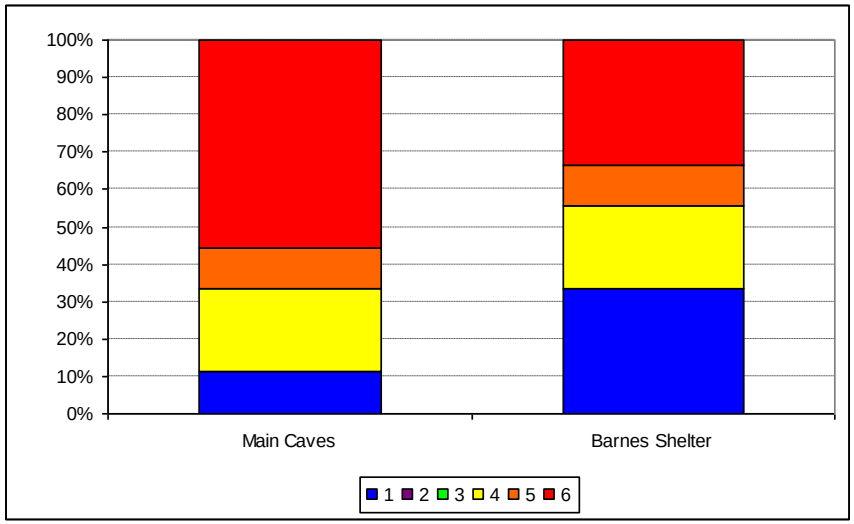
Graph 7.23a. General human impacts



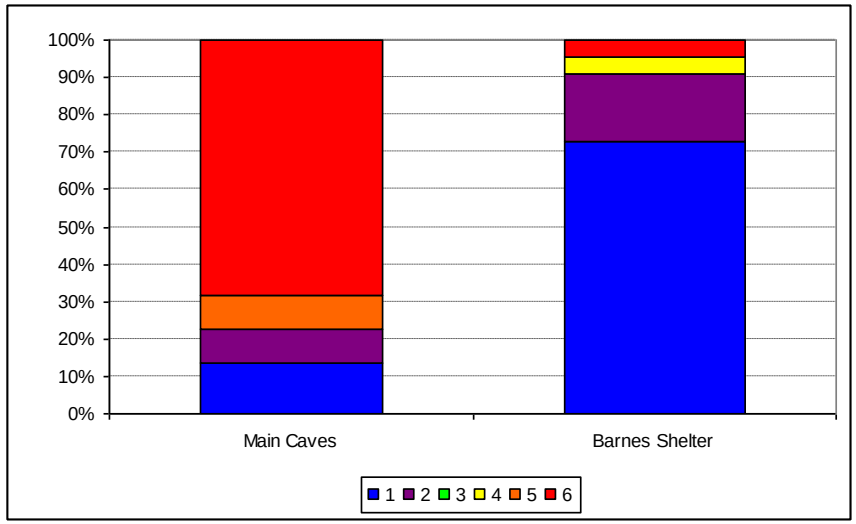
Graph 7.23b.Intentional human impacts at a rock art site



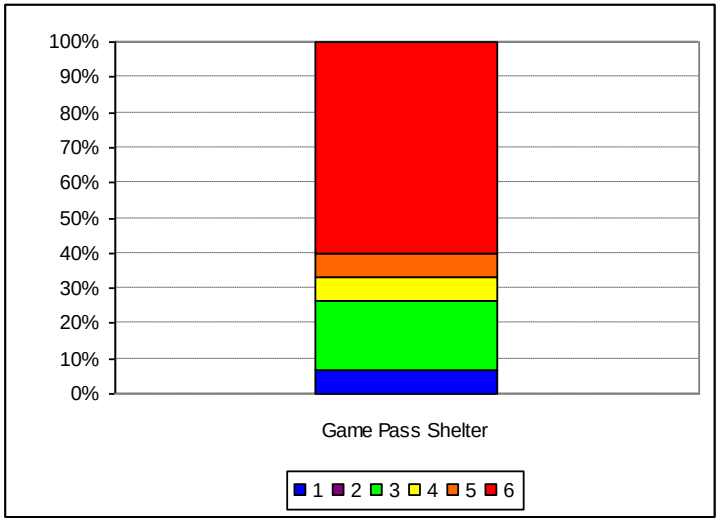
Graph 7.23c. General human impacts – Combined



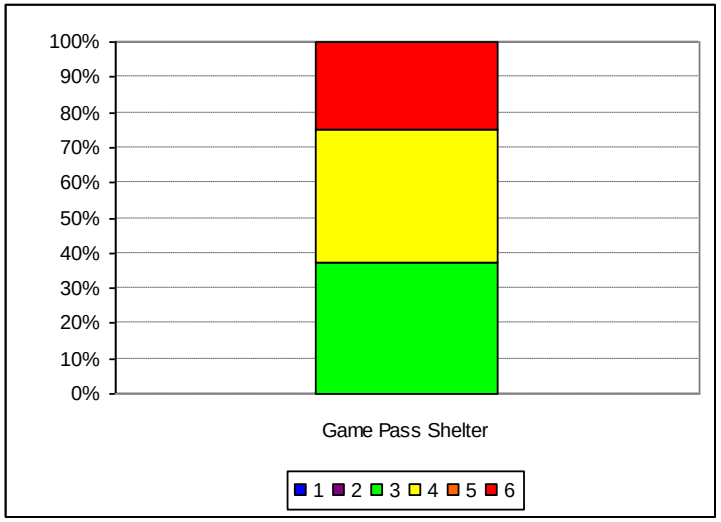
Graph 7.24.Tourism factors at the camp and rock art site



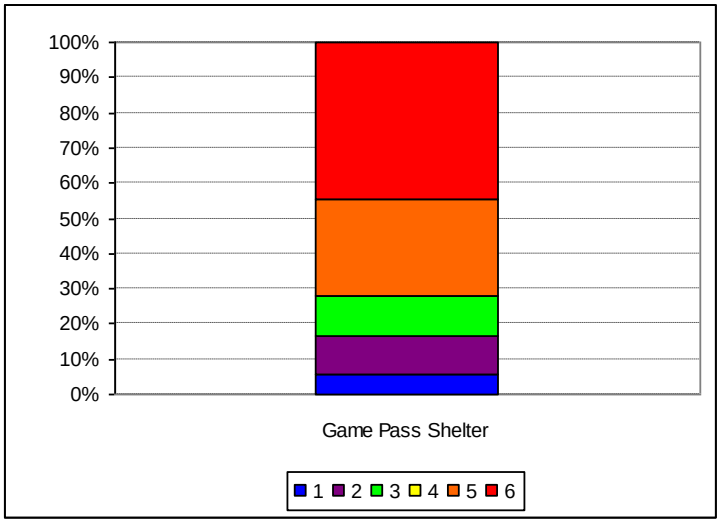
Graph 7.25. Management methods at the site



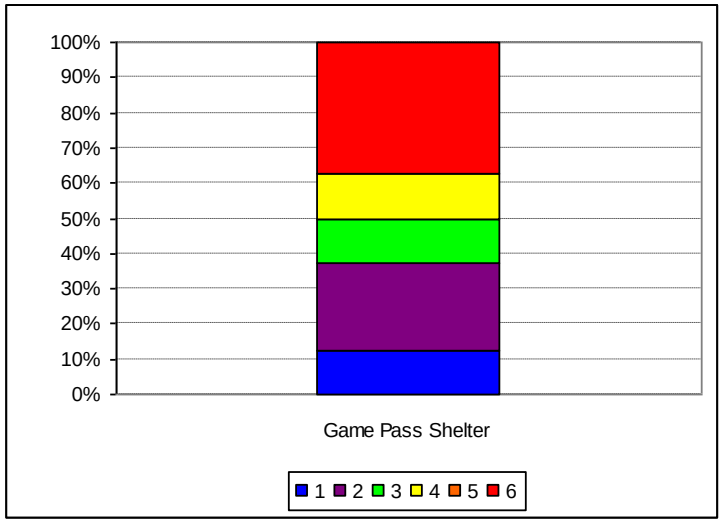
Graph 7.26. Rock art awareness and camp



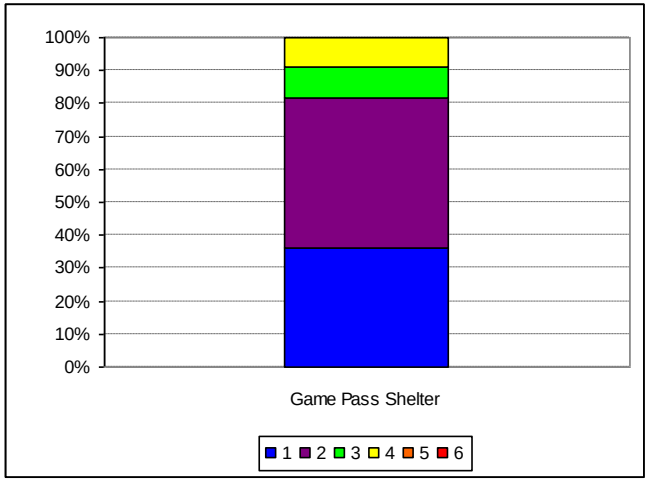
Graph 7.27. On route to site



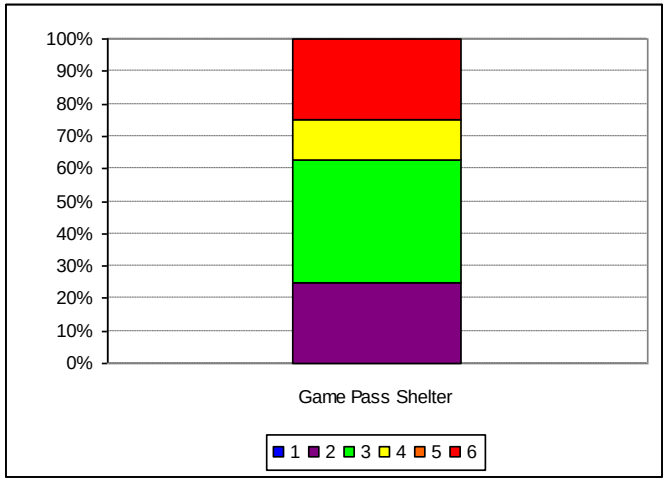
Graph 7.28. Upon arrival at site



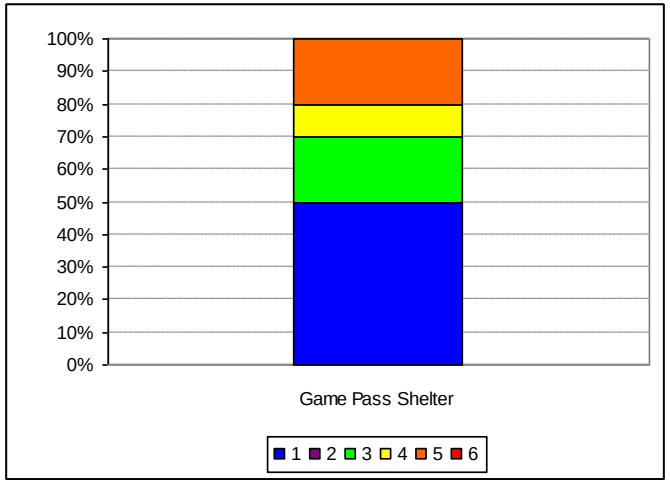
Graph 7.29. Rock art surface and paintings



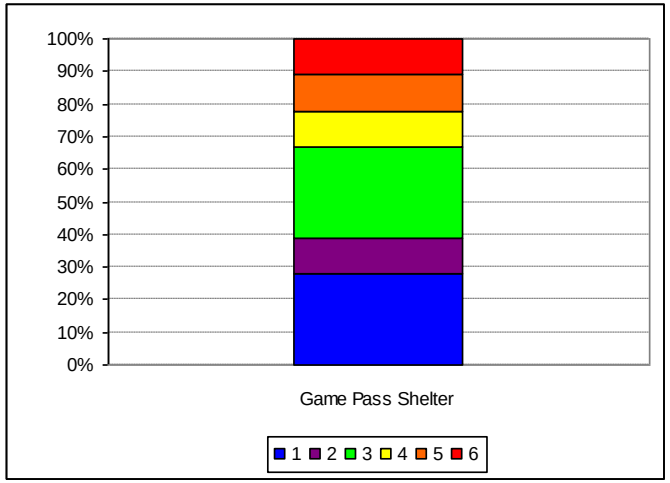
Graph 7.30. Natural weathering and deterioration of the surface and paintings



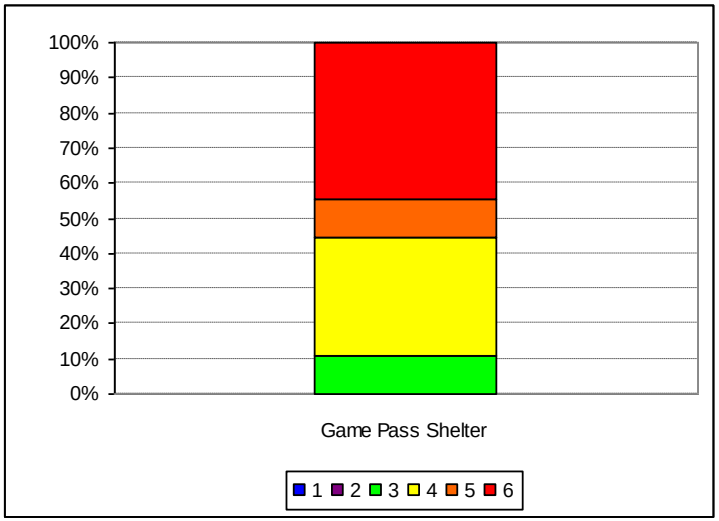
Graph 7.31a. General human impacts



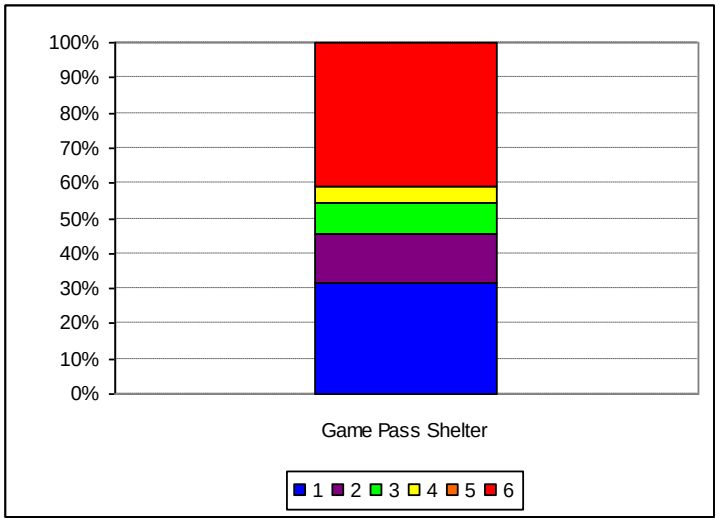
Graph 7.31b.Intentional human impacts at a rock art site



Graph 7.31c. General human impacts – Combined



Graph 7.32.Tourism factors at the camp and rock art site



Graph 7.33. Management methods at the site