Treading a Fine Line

An Examination of Interpretive Materials from World Heritage Sites in the United States, Canada and Australia

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This thesis was completed as part of a Masters in Cultural Heritage Management from the Department of Archaeology at Flinders University, Adelaide.
DECLARATION

I certify that this research does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person, except where due reference is made in the text.

..................................................
ABSTRACT

The interpretation of world heritage sites has often focused on certain aspects of significance at the expense of others, which are considered less important. This has frequently occurred where different perspectives lead to conflicting interpretations of a place. Two of the most frequently conflicting viewpoints are those of the scientific community and Indigenous communities. This research examines the language used in the publicly available literature from world heritage sites to determine whether they emphasise certain heritage values over others. It does this via an examination of Indigenous archaeological landscapes in the United States, Canada and Australia.

By using both qualitative and quantitative analytical techniques this research explores how the language used in interpretive materials at three world heritage sites, the Willandra Lakes World Heritage Area, the Mesa Verde National Park and the Head-Smashed-In Buffalo Jump site each of which presents conflicting viewpoints. Thematic analysis is used to determine the themes and language used by heritage managers to present both the scientific and social values of each landscape to the public. These themes are then quantified and analysed using content analysis and key-word-in-context to determine whether one theme dominates. Such triangulation of methods has to date enjoyed only limited application in the analysis of interpretive heritage materials. The benefits of combining these techniques in a single analysis can be seen in the way that each technique highlights different approaches used by each place to present values to the public.

The results presented here indicate clear differences in the interpretation of world heritage sites. The interpretive material from the case study in the United States focuses specifically on two scientific values, while those from the Canadian case study place more emphasis on the social values of the landscape. With only a small set of samples from the Australian world heritage site analysed in this research, it is difficult to highlight any specific trends. Generally, the North American brochures encourage school and other education-orientated groups to their world heritage sites, something that has not been adopted in Australia, but which has great potential to increase visitation. By focussing on specific audiences, particularly schools due to the enactment of a new history curriculum in Australia, Indigenous heritage landscapes have the chance to implement a new generation of effective long-term interpretive programs. These programs can then be used to ensure that all Australians understand and appreciate the importance that these places have, not only to Indigenous communities, but all sections of society.
I would like to thank Amy Roberts and Mick Morrison, my co-supervisors, for all their comments and advice. Their guidance and support is greatly appreciated. Thanks also to Michael Westaway and Alice Gorman for their assistance in developing my research project.

I would like to acknowledge the traditional owners of the world heritage places being investigated in this research. From the Willandra Lakes World Heritage Area the Barkindji, Ngiyampaa, and Mutthi Mutthi people. From Head-Smashed-In Buffalo Jump Site the Blackfoot community. From the Mesa Verde region the Acoma, Cochiti, Hopi, Isleta, Jemez, Laguna, Nambe, Ohkay Owingeh, Picuris, Pojoaque, Sandia, San Felipe, San Ildefonso, Santa Ana, Santa Clara, Santo Domingo, Southern Ute, Taos, Tesuque, Ute Mountain, Ysleta del Sur Pueblo and Zuni Tribes and the Navajo Nation. In particular, I would like to thank the Elders from the Willandra Lakes for giving their time and sharing their knowledge during my visit.

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### Glossary of Terms and Acronyms

One of the consequences of investigating places in more than one country is that terminology that is common and accepted in one location is unfamiliar or inappropriate in the others. In order to minimise any potential offence or misunderstanding an explanation of key terms is included here. Acronyms used in the text are also listed here for ease of cross-reference.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>Aboriginal:</td>
<td>A term used to describe the original inhabitants and their descendants in former colonial countries, particularly used in Australia in relation to non Torres Strait Islanders.</td>
</tr>
<tr>
<td>Ancient Puebloans:</td>
<td>A term used in the southwestern United States to refer to the groups of people who traditionally inhabited the Mesa Verde Region.</td>
</tr>
<tr>
<td>First Nations:</td>
<td>A term used primarily in Canada, but also in the United States and Australia to refer to the descendants of original inhabitants of counties prior to European colonisation.</td>
</tr>
<tr>
<td>HSI:</td>
<td>An abbreviation given to the Head-Smashed-In Buffalo Site, located in Alberta, Canada.</td>
</tr>
<tr>
<td>Indigenous:</td>
<td>A term used around the world to distinguish between the original descendants of the inhabitants of former colonial territories from the more recent European arrivals. In Australia the term encompasses Aboriginal and Torres Strait Islands peoples.</td>
</tr>
<tr>
<td>Native American:</td>
<td>A term used primarily in the United States to refer to those who consider themselves to be descendants of the Indigenous inhabitants of the continent.</td>
</tr>
<tr>
<td>Terminology</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Settler Societies</td>
<td>A term used to describe the self-governing dominions, often now independent countries, which were formed and settled by colonial powers.</td>
</tr>
<tr>
<td>Tribes</td>
<td>A form of political organisation focused around kinship connections, used primarily in North America to describe the socio-political organisation of most Native American groups. More recently this term has become synonymous with terms such as „First Nation”.</td>
</tr>
<tr>
<td>WLWHA</td>
<td>An abbreviation given to the Willandra Lakes World Heritage Area, located in New South Wales, Australia.</td>
</tr>
</tbody>
</table>
When undertaking any form of investigation that considers the perspectives of a number of different cultural groups and communities, it is important that your own preconceptions are clearly defined and acknowledged. This is because a person’s viewpoint can affect the recognition and interpretation of results. Since two positions are rarely identical acknowledging ones position can help readers with different perspectives to understand the interpretation of results.

For this reason I wish to make my own views clear so that readers will be able to take into account any subconscious bias that may affect my interpretation of the data. As a white, male British archaeologist only recently arrived in Australia I am part of the traditionally privileged stereotype that has been involved in the analysis and interpretation of Indigenous Australian heritage. My position is therefore unavoidably Eurocentric. The way that I understand and perceive places with heritage is based on those places that I have been exposed to in Western Europe and particularly in the United Kingdom. Such places are generally built environments with built structures, such as castles, churches and settlements. These types of heritage places are often accompanied with widely known and documented histories. This is markedly different from the typical places that have importance to many Indigenous groups.

All of the sites being investigated are Indigenous in nature and as a person of non-Indigenous descent my understanding of the importance of the sites and the type of connection felt by Indigenous peoples to such sites is limited. In order to minimise the effects of my own biases, this research is not directly examining the type of significance Indigenous groups have to a place, nor the reasons for its identification. Instead, it focuses on the ways in which this significance is presented to the public and whether it is done appropriately and in a balanced manner.

This research is concerned with the way that places of significance to Indigenous groups have been presented worldwide. It is important to note that the perspectives of Indigenous groups can vary, both within and between communities, and therefore any generalisation of an Indigenous perspective is inherently flawed. However, regardless of the specific location of Indigenous groups, a number of similar trends appear when discussing appropriate methods of interpretation. It should also be noted that it has not been possible to consult with each of the Indigenous groups with associations to each place being investigated directly.
1 INTRODUCTION

The presentation of Indigenous archaeological places and landscapes to members of the public has been of interest to heritage managers, archaeologists and Indigenous groups ever since they have been open for visitation. However, it has often been the case that those responsible for presenting heritage places fail to acknowledge all values appropriately (Anderson 1997; Donaghey 2001; Frost 2005; Howard 2003; Pocock 2002). There are a number of possibilities for why this is the case, including a potential lack of knowledge, differing ideas on those values which are important or political motivations.

This research examines interpretive materials from three Indigenous archaeological places which are also world heritage sites, in the United States, Canada and Australia. It analyses the way in which scientific and social values are presented to the general public through the application of thematic and content analysis to interpretive brochures and determines if such interpretive programs are both appropriate and inclusive. Thematic analysis will enable the identification of the key themes associated with scientific and social significance, while content analysis will determine whether these themes are emphasised appropriately and effectively.

SIGNIFICANCE UNDER THE BURRA CHARTER

The importance attached to places can take many forms, the level of which can vary within and between groups. In order for heritage managers to understand the importance groups associate with heritage places it is important that this significance is understood. Debate surrounding the concept of significance and the means of measuring and identifying it is complex (Hardesty and Little 2000). The link between the type of significance and the aspirations of associated groups must also be considered when examining interpretive materials. An understanding of this relationship enables an appreciation of the sometimes difficult task facing heritage managers at world heritage sites especially when they produce inclusive and balanced publically available interpretive materials. In Australia, four values have been developed which heritage managers assess, in order to determine the level of significance of heritage places. These values were formalised in
1979 with the publication of the Burra Charter (Australian ICOMOS 1999) as aesthetic, historic, scientific and social. A testament to the success of this framework is that sections of the Burra Charter have been copied and implemented in other countries (Ahmad 2006; Qian 2007; Waterton et al. 2006), including parts of south-east Asia (Muangyai and Lieorunruang 2008; Phuong et al. 2009; Taylor 2004), the United States (Sell 2005), Greece and Turkey (Vacharopoulou 2005).

Despite its popularity and wider application there is ongoing debate about the effectiveness and suitability of the Burra Charter. In their analysis Waterton et al. (2006) identified a number of issues with the charter. Inconsistencies can be found in the language used to describe key elements, in particular, the concept of promoting conflicting interpretations of significant places, without any guidelines as to how this should happen, or if a compromise must be reached. Also, despite the definitions provided for each value, readers have little idea which specific features at a place can be ascribed significant status.

Others have commented on the difficulties of applying the guidelines of the Burra Charter in relation to Indigenous Australian sites (Carter and Grimwade 1997:5). Initially this may have been due to the lack of Indigenous representation on the Australian ICOMOS committee during the charters’ creation. However, even as this aspect has been rectified with the publication of new drafts, the difficulties remain (Sullivan 2004). Sullivan (2004) also provides examples of how difficult it can be to identify all values that can potentially exist at a single place as well as the most suitable methods to ensure their longevity. These themes are repeated in the literature (Byrne et al. 2003; Carter and Grimwade 1997; Gorman 2005; Jones 2007, 2008; Lewis and Rose 1988; McIntyre-Tamwoy 2004; Zancheti et al. 2009).

Despite these known concerns the Burra Charter remains one of the few internationally recognised documents used to specifically address the issues of significance identification and management. In this research concepts developed by the Burra Charter will be used as a baseline from which to identify both scientific and social values.

The methodological approach adopted here will take into consideration and acknowledge these limitations. In particular the potential inappropriateness of
the definitions of significant status in relation to Indigenous sites. Therefore
the specific features of the world heritage sites which have been ascribed
significant status and their reasons why will not be the main focus of study.
Instead, this analysis will focus on the language and themes utilised to inform
members of the public about the values of the sites.

CONFLICTING VIEWPOINTS
The management of heritage places, especially in former settler societies
such as the United States, Canada and Australia, has until recently been the
responsibility of, archaeologists or heritage managers (Johnston and Buckley
2001; Skeates 2000). These professionals are normally trained in Western
methodologies and with Western preconceptions (Petrie 2005). An effect of
this is that sometimes, subconsciously, a predominantly Eurocentric
viewpoint is given prominence in the interpretive materials which are
produced (Blake 2004; Hollowell and Nicholas 2009; Pocock 2002; Prosper
2007; Skeates 2000; Sully 2007; Waitt 2000). This has resulted in the
perspectives of Indigenous communities, particularly those with connections
to significant places, either being misrepresented or ignored in the materials
provided to the public. Visitors may often leave sites without a clear
understanding of the importance that the place holds to Indigenous
communities. As awareness of this issue has grown, many heritage
professionals have begun to actively address such concerns in the materials
they produce (Lydon amd Rivzi 2010).

The acknowledgement of this marginalisation of Indigenous perspectives is
part of a wider socio-political movement known as post-colonialism or
decolonisation (Lydon and Rivzi 2010). This is a school of thought which
seeks to redress the effects the dominance of the Eurocentric perspective
has had on sections of settler societies (Moreton-Robinson 2004).
Decolonisation promotes the empowering of those that were marginalised or
dominated by previous movements, in particular women, Indigenous groups
and ethnic minorities (Briggs and Sharp 2004; Laenui 2000; Loomba 2005).
Achievements vary from greater legal protection, more influential and
important political roles and greater participation and access to education
In relation to cultural heritage management and archaeology, post-colonialism has influenced a number of areas. Greater consideration and prominence is given to research that not only focuses on such groups, but increases their participation in order to encourage their involvement in the interpretation of heritage places and museum displays (Atlay 2006; Eldridge 1996; Gosden 2001; Meesham-Muir 2002; Mithlo 2004; Nicholas and Hollowell 2007; Schwarz and Ray 2000; Smith 1999, 2005; von Dommelen 2002:126-128).

With worldwide improvements in Indigenous rights, particularly those associated with the management of significant places, the perspectives and beliefs of Indigenous groups have been given greater prominence in the strategies and policies associated with interpretation and general management (Butler and Hinch 2007; Mason 2004). The creation of management committees is one approach. However, depending on the type of management arrangement in operation, the effectiveness and influence of minority groups can vary from joint committees where Indigenous people have the majority of votes, such as at the Willandra Lakes World Heritage Area (Department of Environment and Conservation 2006), to representation on pre-existing boards. It has been argued that the ability for Indigenous peoples to influence policy on boards where they have only partial representation is significantly less than at places where such groups hold a majority (Notzke 1995).

This research focuses on three separate geographical locations where the type and level of involvement for Indigenous groups vary. In Australia, Lake Mungo operates under a joint management arrangement where all relevant Indigenous groups are included and involved in all aspects of the parks management and interpretation. At Crow Canyon in the United States, only some Indigenous groups are consulted on interpretive programs, however, the level of influence they have regarding content is not clear. Head-Smashed-In Buffalo Jump in Canada is not managed directly by members of the Indigenous community. Instead, they have affiliations with a number of Indigenous groups that provide comments and aid in the creation of interpretive materials. A comparison of the content of interpretive materials at
each location will determine which method of representation produces the most inclusive products.

**RESEARCH TECHNIQUES**

This research seeks to build on these debates by determining if places recognised through their inscription onto the World Heritage List as being of universal importance have been able to accomplish the difficult task of presenting multiple and traditionally conflicting viewpoints. In particular, this thesis examines the two specific heritage values which have been recognised as the most likely to conflict; scientific and social (Frost 2005). When these two values are successfully combined in the interpretation, they have been shown to provide benefits to all interested parties (Agrawal 2008; Dove 2006; Gray and Morant 2003). This will be achieved by addressing the following question:

Can scientific and social values be appropriately balanced in the interpretive materials produced about Indigenous archaeological landscapes in settler societies?

The terms ‘scientific’ and ‘social’ values used in all parts of this thesis are drawn from the definitions provided by the Burra Charter (Australian ICOMOS 1999). The international recognition of the Burra Charter is especially important when considering the geographic spread of the places under investigation. It would be inappropriate to use any terminology developed for use solely within one country as the way in which different nations identify and understand heritage places will vary, as will the language they use to describe similar aspects. By using internationally recognised definitions, this issue is avoided.

In order to address the primary research question above, six goals were developed:

1) To determine if both the social and scientific values of a place are appropriately balanced in the interpretive materials about each heritage site;

2) To determine if bias exists in interpretive materials produced about world heritage sites;
3) To provide explanations as to why this bias is present;
4) To examine if different countries are more or less effective at presenting differing perspectives;
5) To demonstrate the benefits of using thematic analysis and content analysis in relation to written interpretive heritage materials; and
6) To provide recommendations to aid in the creation of balanced and appropriately informative guides about the significance of world heritage sites.

In order to address these aims three world heritage sites from separate countries were selected and all available interpretive brochures were collected. These brochures are generally small publications produced by each site and are available to the general public. They have a number of functions including providing a general overview of the site, identifying the interpretive programs available at each place and encouraging participation at specific events, which they achieve through a combination of writing and pictures. These brochures will then be subjected to a variety of analytical techniques including content analysis, thematic analysis and Key-Word-In-Context analysis.

The analysis of written sources has a long and varied history. From fairy tales (Baker-Sperry and Grauerholz 2003) to political speeches (Weber 1990:5); social scientists have been examining the ways that written material and the use of language have been used. There are two approaches to analysing written material, quantitative and qualitative. Quantitative analysis focuses on numerical counts and calculations to determine the significance and meaning of texts. Qualitative analysis, on the other hand, examines the meanings and associations of the words used (Ruane 2005:12-13). These two paradigms are normally considered mutually exclusive; however, projects have begun to use both methods in a single study, a process known as triangulation (Punch 2005:241; Thurmond 2001).

Both quantitative and qualitative approaches have been used by archaeologists and cultural heritage practitioners to address a number of post-colonial areas of interest relating to race, gender and politics (Greengrass and Hughes; Heizer and Cook 1960; Rahtz 1988; Roberts 2003;
Shackel et al. 1998; Weiss and Wodak 2003:12). Although studies that use solely qualitative or quantitative analytical processes do produce important and valid results, this investigation seeks to explore the benefits of triangulation through an investigation into the dominance of themes in interpretive heritage literature. By doing so it is expected that the benefits of combining different approaches to the analysis of interpretive materials will become clear and enable heritage managers to develop interpretive materials that are more inclusive and appropriate.

THESIS OUTLINE
This chapter has introduced the concepts that will from the basis of this investigation. The research question and the aims that is intends to address have also been presented.

Chapter 2 summarises the current literature surrounding the concepts of heritage and interpretation. This includes an examination of ways in which heritage can be associated with a place, a discussion of the methods used to determine if a place contains heritage value and finally an examination of who has the right to decide if a place has heritage significance. The important role that interpretation plays in presenting heritage values, the various forms that it can take and who should be involved in its creation is also discussed.

In Chapter 3 the methods used to achieve the aims presented above are outlined. It begins with an explanation as to how the three sites chosen for this investigation were identified and the types of data that have been analysed. Included in this chapter is a discussion of content analysis and the important role that it plays in this research, including an outline of the quantitative and qualitative techniques utilised.

Chapter 4 focuses on the individual characteristics of the three case studies. It discusses the scientific values of each place and which Indigenous groups have connections to the area. An explanation as to how the places are currently managed and what facilities provide interpretive materials to the general public is included. Links between each place and the aims of this research are presented in order to aid readers in understanding each place so that the findings in later chapters are more readily understood.
Chapter 5 details the results of the research. Here I present the results of thematic analysis by showing the different sub-themes interpretive centres use to emphasise scientific and social values. This is followed by a discussion of the trends in the use of each sub-theme identified in the data.

Chapter 6 discusses these trends in relation to each of the sites investigated. The key sub-themes are assessed and any emphasis in the way they are utilised is examined. A determination as to whether there are differences in way language is used in the interpretive materials, as well as potential reasons for this is presented.

Chapter 7 summarises the findings of this research and its implications on the interpretive materials currently being used at each of the places. Ways to redress these biases are also presented. Finally the limitations of the research design and the implications that they might have on the results obtained are presented, along with avenues of further research.
2 DEFINING HERITAGE AND INTERPRETATION

In order to assess the possibility of presenting scientific and social values appropriately at Indigenous places and landscapes a number of important themes need to be developed. This chapter begins with a discussion of the meaning and evolution of the term heritage. Following this the debate surrounding who should be involved in the recognition and determination of significant status is summarised. The often conflicting viewpoints of Indigenous groups and Western heritage practitioners are also presented. It concludes with a discussion of what is meant by interpretation, who should be involved in its dissemination and the many forms that interpretation can take, with particular reference to places with heritage significance.

HERITAGE

Before it is possible to discuss and analyse the effectiveness of any specific interpretive material it is necessary to understand what is meant by heritage. This is because the process of ascribing heritage significance to a place has impacted directly upon the development of professional heritage interpretation and its associated material.

The way in which professionals and members of the public have understood and interacted with the concept of heritage has varied greatly over time. Recently interpretation and heritage have become common terms with specific and widely understood meanings attributed to them (Vecco 2010). This is in part due to the importance museums and interpretive centres have begun to place on the concept of heritage. By presenting the heritage value of their collections, museums have been able to, among other things, inform visitors about artefacts and increase visitation (Pearson and Sullivan 1995).

Defining Heritage

There is no single definition for the word heritage because the term can have various meanings to different people (Schofield 2008:16). Some have even gone so far as to say that heritage can in fact mean anything (Hewison 1989:32). This means that heritage significance can be ascribed to anything so long as someone can demonstrate its importance.
Many people outside of heritage management and related professions find the concept of heritage to be confusing. One reason for this is that the dictionary definitions of heritage and terms such as patrimony are almost identical; although the association people have with the two words are very different (Aplin 2002; Lumley 1994).

Part of the confusion associated with the concept of heritage stems from Hewison’s (1989) idea that ‘anything’ is able to have heritage value. This may be due to the complex definitions that the international community have developed to explain heritage to the wider public. The Convention Concerning the Protection of the World’s Cultural and Natural Heritage (UNESCO 1972) has very specific definitions concerning which tangible items can be considered as having cultural or natural heritage value:

- Monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;
- Groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science; and
- Sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view. (UNESCO 1972)

This definition, however, does not provide a clear or concise meaning of the word heritage but merely specifies what types of artefacts or places can have heritage value. In fact, these definitions of heritage value seem to present it as solely a physical attribute rather than also as a metaphysical or spiritual connection to a place or item. It is this type of connection that many Indigenous groups frequently attribute to places they consider significant. Yet this convention seems unable to accept this form of connection.
For the purposes of this research, heritage will be understood to be those aspects, both tangible and intangible, that groups or individuals consider to be part of their shared or individual history and identity and which they believe should be preserved and passed on to future generations (Davison 1991a:31).

Although I have provided a clear definition of what heritage is, deciding the level of significance for each place or item can be more difficult. Every country, state and region can have a different set of criteria to determine what can be classified as having heritage significance (Lennon 2006). Every individual also has a different set of experiences and beliefs, which will affect what they consider to be part of their individual or collective heritage. This means that two individuals can look at the same item or place and define its heritage value for separate and sometimes equally valid reasons. Numerous factors that can affect an individual’s perspective on heritage include age, religion, ethnicity, class, location as well as other characteristics. All of these alter how we as individuals look at buildings, items and landscapes and therefore consider their value (Aplin 2002; Davison 1991a).

The Various Forms of Heritage

In addition to deciding if a place is part of a group’s heritage, heritage practitioners need to determine the specific values associated with each place. In Australia this process has been aided by the creation of two charters, the Burra Charter (Australian ICOMOS 1999) and the Australian Natural Heritage Charter (Australian Heritage Commission 2002). However, Australia is one of the few countries in the world to have documents with such explicit definitions. Originally intended to be applied solely to sites within Australia, the definitions provided by these two documents allow heritage managers, in any location, to identify and assess the values of places in their sphere of operation. Under the Burra Charter, a place or item has heritage value if aspects have one of the following four values:

1. **Aesthetic**: Includes all aspects of sensory perception such as form, scale, colour, texture and material. This also includes aspects such as the smell and sounds associated with the use and history of the place.
2. **Historic:** Places may be historically significant due to association with important people or events, especially where evidence of this is still visible.

3. **Scientific:** This depends upon the rarity, quality and the uniformity of the site, and it’s potential to provide additional information in the future.

4. **Social:** This depends upon the associations the place has with communities regardless of their size for political, national or other reasons. This category also includes spiritual connections groups may have to a site.

(Australian ICOMOS 1999)

A location with heritage values may be ascribed under more than one of these criteria as they are not mutually exclusive and places with multiple values are often highly valued (Pereira 2007). Kerr (2004:12-17) has pointed out that these categories should be thought of as a starting point not a final set of criteria. They should be developed and expanded as a greater understanding of the heritage place is gained and new areas of interest come to light. One issue arising from these broad definitions is that they do not explicitly say how to determine if a place is important enough to be worth managing, protecting or interpreting. This is because the Burra Charter is a guide for heritage practitioners to use to collate all the appropriate information. Once everything is assembled, heritage managers are then required to make their own informed decision about the level of significance of a place.

In addition to this definition for cultural heritage, the Australian Natural Heritage Charter (Australian Heritage Commission 2002) defines natural heritage as the significance a natural environment or ecosystem has in terms of aesthetic, life support, scientific and social values. Like the Burra Charter, the Australian Natural Heritage Charter provides a framework that heritage managers should follow to determine the level of significance for an identified place. Both of these documents emphasise the concept that significant places, regardless of their type, must have importance not only today but in
the future. They should be protected in order that subsequent generations will be able to appreciate them.

The recognition of intangible heritage has increased the complexity associated with determining the type of heritage a place can have. While the more traditional versions of heritage relate to the attachment groups or individuals have with physical items or places, intangible heritage represents connections without physical form but which people consider important. Examples of intangible heritage include oral traditions, language, folklore, rituals, festivals, songs and belief systems (UNESCO 2010; Vecco 2010). Many of these activities can be associated with specific places and can be considered as forming previously unrecognised aspects of importance for such places.

Formally ascribing significance status to heritage places represents an acknowledgement of the connection groups or individuals have to items and places they consider representative of their histories and ideas. In settler societies this has traditionally been presented in a very Eurocentric manner with a focus on European heritage at the expense of Indigenous cultures. This has occurred in various locations such as Australia, South Africa and the United States (Battiste and Henderson 2000; Byrne and Nugent 2004; Condori 1989; Gullapalli 2008; Moore 1989; Murray 2004; Rubertone 1989; Smith 2004; Smith and Wobst 2005) and was often used by the dominant Europeans as part of the process of disempowering Indigenous populations (McNiven and Russel 2005).

Coinciding with the growing popularity of post-colonialism, archaeologists have become increasingly interested in the ways in which the history and heritage of various groups have been presented both in academia and to the public via museums and heritage places (Atlay 2006; Briggs and Sharp 2004; Eldridge 1996; Gosden 2001; Laenui 2000; Loomba 2005; Meesham-Muir 2002; Mithlo 2004; Nicholas and Hollowell 2007; Schwarz and Ray 2000; Smith 1999, 2005; von Dommelen 2002:126-128). In Australia Indigenous heritage has become separated in terms of its identification, management and preservation from places associated with European colonisation. There have been increasing calls worldwide by members of Indigenous groups to
have more authority and control given to them especially when concerning Indigenous cultural places and material (Canadian Museum of Civilisation 1996; Fournier 1989; Hemming 1994; Sleeper-Smith 2009: Smith et al. 2000). Indigenous groups have also increasingly been demanding the return of significant artefacts and traditional lands (Nicholas et al. 2010; Pilling 1965; Smith 2000), which in Australia has culminated in a number of successful native title claims (Reynolds 1987).

One reason for this separation is the way in which the two groups understand and relate to heritage. Europeans traditionally consider heritage to be in the past, and although it shapes the future it is separate from today. However, in many Indigenous Australian cultures this is not necessarily the case, especially in relation to the natural environment. Where Europeans consider themselves to be separate, many Indigenous groups may believe they are an important component within the natural environment, and that it is not possible to consider one aspect without acknowledging the effects any change might have on each other (Battiste and Henderson 2000; Little Bear 2000; Rose 1996).

Heritage places such as those discussed in this research contain characteristics that are important to Indigenous communities. The connection groups can have to the landscape is not always understood by those outside of the specific community. This is because the very nature of the connection Indigenous groups can have for certain places. The value of a place is often extrinsic (Carter and Bramley 2002). This means that the significance of the site can only be truly appreciated through human interaction. If a place is considered significant for cultural reasons, members of the community will interact with it. Others, who do not share this perception, will find this connection difficult to understand and therefore not value the place to the same degree. This demonstrates one issue surrounding heritage status, that places can be defined and understood only within cultural groups. Although outsiders might be able to understand the connection they will not necessarily share it. Therefore it is important that every cultural group be responsible for identifying their own heritage places rather than having outsiders assign places for them. Such an approach requires members of
these communities to have knowledge and experience concerning the use of their heritage places.

It is critical that the development of interpretation and management strategies at places of importance to both Indigenous and non-Indigenous communities should include representation from the appropriate groups. Such a measure will have a number of positive effects. Firstly it ensures that those characteristics of a place, which are of significance to the Indigenous community, will be appropriately and adequately identified. Secondly, the most suitable methods of interpretation will be utilised at the site ensuring that a more accurate explanation of the importance of the place will be presented to the general public. Not only does the general public benefit from a greater understanding as to the importance of sites to Indigenous groups, but also ensures that such places are controlled and protected by the people who not only understand them the most, but also are the most appropriate people to do so.

The separation of Indigenous and European places in Australian heritage management has resulted in the significance of Indigenous sites often being portrayed with an emphasis on the natural significance as well as cultural (Lennon 2006). This highlights the way many Indigenous groups consider cultural and natural values to be equal components within the landscape, which to Europeans is a difficult concept to accept and understand (Aplin 2002). Although Australia contains a number of important Indigenous heritage sites, all inscriptions of such sites to the World Heritage List have been put forward as ‘mixed sites’, a combination of natural and cultural significance. This requirement is due, in part, to the fact that the list is controlled by an organisation dominated by members with traditionally Western perspectives (Zube and Pitt 1981), who might be unable or unwilling to see such inscriptions based solely on their cultural merits. The World Heritage List is still dominated by sites associated with European built heritage. This suggests that UNESCO is still unwilling to acknowledge that Indigenous heritage is of equal worth to the built heritage that dominates the European landscape (Leask 2006:14). One solution to this is to ensure that interpretive materials associated with such places are able to portray the importance to Indigenous groups more effectively. This will result in more
people understanding the value of these sites and will therefore encourage political elites to acknowledge the importance of Indigenous heritage in its own right. This does not mean that such sites do not contain elements of natural significance, but merely demonstrates that no Indigenous Australian heritage sites have been put forward based solely on their cultural significance.

Indigenous Australian sites have also been managed differently to European and post-contact sites. This may be because people with a European background still do not fully appreciate or understand the complex relationship that many Indigenous groups share with the natural environment. This has been shown in an analysis by Palmer (2007) which focused on the various ways that Kakadu National Park presents both natural and cultural values to the public.

In addition to understanding what is meant by heritage and how to determine what heritage values a place might have it is important to be aware of who has been responsible for their identification. This is of particular importance in settler societies, such as Australia and Canada, where those responsible for such identifications have often trained solely with Western perceptions of heritage and therefore have the potential to misunderstand or ignore places of significance to Indigenous people (Kreps 2003). This in turn can affect the type of places that are identified, and the level and type of significance that is ascribed to them.

This is an issue that arose almost immediately after colonists arrived in new lands. Early settlers could only relate to the type of places that they recognised and that were comparable to those they might see in Europe. This meant sites belonging to the local Indigenous communities were not always recognised as significant (McNiven and Russel 2005). Colonists would have understood the value of places such as antiquated monasteries, castles or other built structures, which were well documented in Europe. They were unable to comprehend the value of the landscape, which Indigenous groups often consider to have great heritage significance.

This is exemplified in Australia where early colonists could not see any evidence of the human interaction which had been occurring for at least the
last 45,000 years (Hiscock 2008:42-45). The British government declared that Australia was *Terra Nullis*. Under this declaration Australia was considered uninhabited, despite the numerous groups found living there (Botch 2001; Reynolds 1987a, 2006). This position was held because the Indigenous population did not build towns or noticeable structures and did not participate in farming. They were classified as a nomadic society and were therefore unable to own the land. This was decided entirely for the benefit of the British Empire which required additional lands and decided to use Australia as a penal colony, culminating in the arrival of the First Fleet in 1788 (Banner 2005; Indyk 1993; Pagden 2003). It took nearly a century of European occupation before buildings constructed at the beginning of the colony, began to be considered as having heritage significance, while Indigenous sites generally continued not to be recognised (Davison 1991b).

**THE INTERPRETATION OF HERITAGE**

Establishing the classification and level of the heritage values associated with a specific place is only the first stage in producing interpretation for the public. In addition to being told that values exist, visitors to museums and interpretive centres expect to be both entertained and educated (Edson and Dean 1994). Therefore, it can be stated that interpretive centres exist in order to provide educational and entertainment opportunities to the general public. This is achieved through the implementation of interpretive programs, which take many forms. It is the purpose of this section to discuss the development of interpretation at heritage places and highlight the various methods and issues surrounding interpretation that heritage managers must be aware of.

Interpretive centres can produce extensive combinations of programs and materials, however, this will not guarantee successful interpretation. The public must be encouraged to interact with the material in order to gain all its benefits. As this interaction is frequently conscious and subconscious, the type of interpretation and the methods used by heritage managers to encourage participation are of paramount importance (Copeland 2006).

**History of Interpretation**

The industry associated with professional heritage interpretation began to develop at the end of the 19th century, primarily in the United States. Many
consider the United States to be the spiritual home of modern interpretation as many of the earliest examples can be found there. Some of the most successful facilities to use re-enactments, a popular method of delivering interpretation, have been Colonial Williamsburg and the Plymouth Plantations. At each of these locations the use of costumed performers has been perfected to such a degree that this idea has now been incorporated into a number of museums and sites in the United Kingdom, where previously such ideas were scorned (Robertshaw 2006). The aforementioned sites were not the first to use such methods, as the open air museums of Artur Hazelius in Scandinavia also used such approaches in 1898. However, some suggest that the North American approach led heritage managers worldwide to seriously consider the use of interpretation at their own facilities (Robertshaw 2006).

In addition to these long-running re-enactment sites, the United States is also home to some of the earliest locations to use formal interpretation. The formation of the first National Park in 1901 at Yellowstone resulted in the beginning of a number of types of tourism including eco tourism and cultural tourism. Cultural tourism is when tourists from outside a cultural group visit a community or facility to learn about some aspect of another cultural identity (Silberberg 1995; Tighe 1985). This idea has since spread across the world (Hughes and Allen 2005; MacDonald and Jolliffe 2003; Ondimu 2002; Richards 1996; Ryan 2002; Spennemann 2007; Taylor and Altenburg 2006; Walle 1996; Wood 1984; Yan and Bramwell 2008).

Many heritage places are in inaccessible locations and the significant features of them are not always obvious and so it has become necessary to highlight them through the use of interpretive materials. This can be seen from the early days at Yellowstone, where soldiers who were meant to be responsible for policing and managing the site, were constantly asked questions by tourists wanting to know more about the park (Merriman and Brochu 2006). As the soldiers began to answer and provide local and previously little known knowledge, they became impromptu interpreters. This occurred despite there being no initial intention by the National Parks Service to provide any interpretation.
The definitions and expectations surrounding the term interpretation have also changed over time. Today interpretation is the method by which the significance or importance of a heritage item, place or landscape is presented to the public, in such a manner that the audience is both entertained and educated (Ham 1992:3; Tilden 1977:3). The preferred method of doing so is through the use of first hand experiences at the site, rather than simply being told the site is significant (Aplin 2002; Copeland 2006; Edson and Dean 1994). It is often believed that the principal location for the use of interpretation is within the museum environment (DeSantis 2003). However, interpretation has been used throughout Australia at all types of cultural and natural heritage sites, as well as around the world in a number of different scenarios.

Why Interpret?

Now we can begin to understand what is meant by interpretation and how it relates to heritage management. It is, however, more difficult to explain the motivations behind wanting to interpret an artefact or location. Interpretation is carried out in order to educate and entertain the general public, but why, and what are the benefits of interpreting sites both for the general public and the sites themselves?

One reason it is beneficial for people to understand the significance of a heritage place is to try and ensure that they want to contribute to the protection of it for future generations. This can be seen in the wording of many heritage legislations around the world. Almost every country has such legislation, and in many cases the most recent versions have been influenced by the World Heritage Convention, which stresses the importance of protecting sites for future generations (UNESCO 1972). Within the guidelines of this convention, site managers are expected to present the story of the monument or site and its material culture in a way visitors can understand, and is also culturally sensitive (Feilden and Jokilehto 1998).

As well as national and regional heritage legislation, there are a number of conventions and obligations at the international level, which require nations to positively promote the cultural identity of minority groups, including Indigenous groups. These obligations include the Charter of Fundamental
Rights of the European Union (European Union 2000) and the United Nations Draft Declaration on the Rights of Indigenous Peoples (Irons 1993). Theoretically these documents demonstrate the importance political leaders place on the rights of minority groups, including Indigenous populations. Signatories, such as Canada and the United States, are required to implement measures that will promote the identification and longevity of the cultural identity associated with ethnic minorities within their territories. One option is to support the protection and continuation of intangible heritage, such as religious beliefs, practices and ceremonies (Eisenberg 2007).

Another method available to those responsible for achieving this is using effective interpretation. When successful, interpretation helps visitors learn to appreciate the importance other groups ascribe to particular places and items. This ensures that members of the public are more inclined and motivated to protect these places and activities in the future.

It is also possible to use places with heritage significance, and the interpretation associated with them, as a means of augmenting or replacing education (McManamon 2008:463-470). It is common for school groups to visit places such as museums, and as a result, museums frequently gear specific programs directly towards them. Museums, however, need to reach numerous groups in order to be truly successful (Moffat and Woollard 1999; Smardz and Smith 2000; Swain 2007).

Interpretation has recently been used as a means of encouraging economic activity. By producing effective and often large scale interpretive centres located around important cultural and archaeological sites, governments and development agencies have shown that economic activity can increase. Such activity is focused around attracting additional people into the area. This in turn results in an increase in the demand for hospitality businesses such as hotels, restaurants and pubs (Buckley 2004; Cegielski et al. 2001; Corsane et al. 2007; Fairclough et al. 2008:106; Howard 2002; Lennon 2006; Silberman 2007; Staiff et al. 2002) and can result in the regeneration of entire regions.

Who Should Interpret the Past?
The role of cultural interpreter within specific communities is given different prominence and importance around the world. Such roles are frequently seen...
in Indigenous groups, where there is usually a specific person or people who remember important cultural information, such as the significance of a place or ritual (Garner 1902; Kan 1991; Mathur 2008; Mbito and Malia 2009:41). It is not always their responsibility to ensure a place is protected or a ritual continued, but rather to ensure that the community understands that it should be protected or continued. In many cases they also advise as to how this should be undertaken and by whom. In many cultures it is expected that the wisest people within the community take on such a role and pass their knowledge and experiences onto the younger generation to ensure that the cultural and natural world is maintained (Best 2001; Kulchyski et al. 1999; Merriman and Brochu 2006; Stiegelbauer 1996).

Traditionally Indigenous Australian groups keep certain parts of their knowledge within the community as such knowledge is often relevant only to the local landscape and people (Rose 1996). In addition to this, knowledge can often be considered secret, and the publication of such material can be considered inappropriate (Smith and Burke 2003). Museums, however, operate with a very different rationale, as they are designed to present information to as wide an audience as possible (Merriman 1991). This variation in target audience means that the methods used by the two groups will be different.

There have been numerous studies that have looked into which sections of society are most likely to visit museums, primarily in Western Europe and North America (McManamon 1994; Merriman 1991; Stone 1994; Swain 2007:195-209). These have shown that, although there are definitive groups which are more likely to visit museums, such as well educated parents with children (Hooper-Greenhill 1994:60-68), museums still desire to reach as broad a spectrum of visitors as possible.

It is also important to look at which individuals within organisations are responsible for the creation of interpretive displays. Historically it has been unusual for members of Indigenous communities to be responsible for presenting information to the public; instead it is often those of European descent who are the main designers (Lennon 2006; Richardson 1989). This
can lead to the continuing dominance of Eurocentric perspectives in interpretive programs in museums.

One reason for the historic marginalisation of Indigenous communities in relation to heritage interpretation and management, especially materials associated with their own culture, was colonial ideology (Barringer and Flynn 1998:1). From the United States to Australia, newly arrived European settlers had very fixed preconceptions about the social development and overall abilities of Indigenous populations. To the majority, Indigenous people were considered uncivilised and in many cases to be of a lower form of human evolution, which would inevitably die out (Blackburn 2002; Harrison and Williamson 2004; Jennings 1975; Kehoe 1981a; Nash 1974; Richardson 1989; Rubertone 1989; Russell 1997:231; Shaw 1986, 1992:15-17; Sheehan 1973, 1980; Smith 2004:175; Swain 1991; Tangri 1989; Williamson 2004:179; Wolf 1982). These groups were believed to be incapable of creating the important and large scale archaeological sites, such as the large burial mounds in the United States. Instead colonists were convinced they were remnants of the “high” civilisations of Mexico or South America not the Native American tribes currently inhabiting the lands (Holland 1990; Nash 1974; Trigger 1980; Watkins 2000a, 2000b; Willey and Sabloff 1980).

Even as these views were proved false over time the political and social makeup of settler societies often maintained this marginalisation of Indigenous people. This was frequently done so that those of European descent could retain power, both politically and through land ownership (Denoon et al. 1997:185-216; Morris 1992; Torrence and Clarke 2000). Settlers used various methods to achieve this, including denying educational opportunities and political freedoms, actively destroying traditional cultural activities, forced relocations and the removal of children from their Indigenous parents (Barlow 1990; Bretherton and Mellor 2006; Foster 1998:20-38; Human Rights and Equal Opportunity Commission 1997; Jennings 1975; McNiven and Russell 2005:3; Meesham-Muir 2002; Nash 1974; Read 1998:8-19; Rubertone 1989; Shaw 1995:99, 1992, 1986; van Krieken 1999; Watson 1990). A consequence of these actions has been that many sections in these societies still suffer from an inherent lack of opportunities, especially in education (Shaw 1992). There are only a few
members of Indigenous communities who have the Western training to achieve positions of power within museums and heritage sites (Butts 2006; Despain 2003; Harth 1999; Hoobler 2006; Levy 2006).

Indigenous perspectives of archaeologists and heritage practitioners are often unfavourable, especially due to the actions of past archaeologists (for examples see: Allen 1983; Bell and Napoleon 2008; Deloria 1992, 2003; Ferguson 1996; Harrison 2008; Hibbert 1998; Higginbotham 1982; Langford 1983; Layton 2008; Pardoe 1992; Roberts 2003; Roberts et al. 2005; Russell 1997; Sampson 1997; Smith and Burke 2003; Swidler et al. 1997; Watkins 2005). Although many archaeologists have argued against this negative stereotype (Anawak 1989; Biolsi and Zimmerman 1997; Davidson et al. 1995; Field et al. 2000; Layton 2008; Lilley 2008; Pardoe 1990; Pope 1989), many Indigenous groups feel disassociated with archaeology. Part of the reason why stereotyping exists is because both sides have rarely been involved in mutually respectful communication, meaning only negative perceptions of each are established (Biolsi and Zimmerman 1997; Lattas 1992; Roberts 2003; Russell 1997:240 Smith and Waterton 2009). Although stereotypes exist for both groups, it is often those from Indigenous communities that suffer the most bias. By acknowledging that these negative stereotypes often originate from a historic environment that is steeped in colonial ideology, it becomes clear that such perceptions should have no place in current research and interactions between archaeologists and Indigenous groups.

Although members of Indigenous communities are often involved in collecting or producing data, they have rarely been given the opportunity to participate in the analysis or interpretation of results (Clarke 2000:147-150; Cowlishaw 1992; Fourmile 1989; Nicholas and Andrews 1997; Nicholas and Hollowell 2007; Roberts 2003; Swidler et al. 1997). There has also been an inclination amongst many archaeologists to consider Indigenous knowledge and oral traditions to be less valid than scientific data (Goodall 1992:105). This has meant that many Indigenous groups no longer wish to associate with archaeologists and consider many of the results they produce to be biased against their beliefs (McNiven and Russell 2005:232-260; Nicholas and Hollowell 2004, 2007).
In more recent times, individuals from different Indigenous communities around the world have now become professional archaeologists, attempting to combine their individual and cultural beliefs, with the ‘science’ of archaeology. Despite their unique perspectives, these archaeologists can often become marginalised, as they become excluded from both due to their connections with the other. However, as they share ideas from both perspectives, these archaeologists are in fact able to see both sides of the argument. For example, Nicholas (2010) presents a volume of life histories of various Indigenous archaeologists who discuss their professional careers and how being a member of an Indigenous group was a mixed blessing. One of the common themes presented is the difficulty Indigenous archaeologist’s face getting opportunity and funding to study. This highlights how difficult it can be for members of Indigenous communities to get access to the educational opportunities which are required for senior roles associated with interpretation and heritage management.

Another common theme presented by Nicholas (2010) is how the views of Indigenous archaeologists differed to their academic and professional colleagues. All the authors within this volume (Nicholas 2010) stress the idea that no one perspective is right or wrong, they simply acknowledge how difficult it can be for non-Indigenous archaeologists to understand Indigenous cultural perspectives. This can result in accidental cultural blunders which further disassociate communities and archaeology. This has been taken further by Deloria (1970:26, 1997) who states that white people, in general, refuse to think that different perspectives can be equal to their own beliefs. Although now slightly dated, this is an on-going concern amongst Indigenous groups.

As can be seen, the process of interpretation has a number of potential pitfalls and to successfully manage them, numerous individuals should be associated with the creation of any material. Ideally, interpretation should include input from all interested groups including archaeologists and Indigenous groups. Where this may not be feasible, interpretation should be carried out by those able and willing to consider all views, even if such views have not been provided.
How to Interpret?
From the above sections it is now clear what interpretation means, who should be involved in its creation and which places can and should contain some form of interpretation. The following section will discuss the various forms that interpretation can take and some of the most common types of interpretation including signs, presentations, posters, re-enactments and displays (Pearson and Sullivan 1995).

There is no rule that states an interpretive centre should only contain a single type of interpretation such as signs. By mixing different types of interpretation a wider range of visitors will be reached and the message will be better received. Locations can use any combination of these techniques to present different aspects of a site to the public, but the overall message has to be the same (Pearson and Sullivan 1995). It is this take home message that is the most important part of any interpretation (Ham 1992).

There are many methods available to assist interpreters in accomplishing their goals; one of the most common techniques is the use of signs, often using both pictures and words which can often take the place of some of the more labour intensive techniques, such as guides or presentations (Pearson and Sullivan 1995). Signs are not always the most effective means of presenting information to the public, as many visitors prefer interactive activities such as guides. Other methods that have been successfully used for interpretation include brochures, talks, trail signs, reconstructions, artefact clusters, websites, computer terminals and audio tours (Ambrose and Paine 1993; Bath 2006; Edson and Dean 1994; Jameson and Hunt 1999; Robertshaw 2006; Silberman 2007; Smith 1999; Watrall 2002).

Since individuals visiting a site will interpret the material they are presented in different ways there is no definitive guide to creating effective interpretation. However the information is presented, the beliefs of the interpreter will not be the same as every member of the target audience and therefore might be misunderstood. All they can do is present information in a way that as many people as possible will be able to relate to and understand (Ambrose and Paine 1993; Aplin 2002; Pearson and Sullivan 1995; Uzzell and Ballantyne 2008).
SUMMARY
From the information presented in this chapter it can be seen that identifying the type of heritage values that a place can have is a complex process. Although there are clear definitions regarding what heritage means, debate continues about whether specific places or artefacts meet these requirements. Individuals have different ways of interpreting specific places and determining the level of significance. This is particularly clear when looking at the alternate ways that European and Indigenous groups interact with and experience landscapes. These varying interactions also mean that the values of a place can change over time, as different groups and individuals interact with a place and develop new and sometimes different connections.

The various ways that people can relate to a place also affects how they can be interpreted. As everyone has a different way of interpreting the information given to them, there can be no right or wrong way to present a place. All an interpreter can do is create material in such a way that as many people as possible can relate to the information shown. In order to do this, there will have to be a compromise between the various ways of doing such work. The following chapters outline one possible avenue through which balanced interpretations of scientific and social significance of a place can be achieved by analysing the way in which they are presented to the general public.
3 Methodology

This chapter outlines the methods utilised for the research phase of this thesis. The initial section provides an explanation as to the selection of sites and the justification for the three different geographic locations. The latter section includes an account of the acquisition of the data sources and their adaptation for analysis. The final section focuses on an explanation of the analytical techniques used, content analysis, and the qualitative and quantitative analysis tools that were employed.

Site Identification

The first requirement was to identify suitable world heritage sites for use in this research. World heritage sites were chosen as these locations often receive significant funding and are therefore able to produce a large array of interpretive materials which can then be analysed. This list however, contains a significant limitation, that only places governments deem important, and which meet a series of criteria can be inscribed. This means that places of importance to minority groups, such as Indigenous groups, can be overlooked or underrepresented.

A necessity for each site was significance to Indigenous communities which could be easily identified during the selection process. Sites were required to contain scientific and social values and have interpretive programs available for analysis. In order to compare management approaches to interpretive materials, it was decided that sites would be from different geographic locations. This allows an examination into how the goals and priorities of each location affect the creation of interpretive materials and ensure that the most effective techniques were recognised. Sites were also required to be similar in type, such as landscapes or standing buildings, although not necessarily in age, so that interpretive programs could be compared successfully and, where appropriate, elements of the results could be used to draw conclusions for other locations.

An examination of the World Heritage List identified a number of potential site types. Rather than focus on the attachment that groups might have to a
physical entity, landscapes were selected as the most appropriate for this investigation, for several reasons:

- They generally encompass large areas, and as such contain a number of interpretive programs, which are often focused in their delivery techniques;
- Cultural landscapes, especially those in settler societies, can have specific ties to a number of readily identifiable cultural communities and often contain various elements with natural and cultural values (Rossler 2006). These increase the potential number of social and scientific values available for identification. These values are also likely to be of different levels, allowing an assessment of the appropriateness of the interpretive techniques associated with them; and
- Cultural landscapes have a greater potential than standing buildings to provide new information with further investigation.

This research will focus on the interpretive materials produced by each site for the general public. Only sites where materials were produced in English could be selected as the project required a comparison of terminology and it was not possible to translate data. The sites chosen were, the Willandra Lakes World Heritage Area in Australia, Head-Smashed-In Buffalo Jump site in Canada and the Mesa Verde National Park in the United States, all shown in Figure 1. This analysis was limited to three heritage places as this would provide enough material to be analysed effectively and enable a fuller analysis than would be possible with a larger number of interpretive centres. At each location the interpretive centre producing material for the public was identified. In two cases these facilities were located on-site and managed by the relevant governmental agency. At the third location, Mesa Verde, previous studies by Keller and Turek (1998:38-42) have shown that the interpretive materials produced by the National Parks Service (NPS) contains inherent bias. In particular they noted that the Ute Tribe, despite having significant cultural links to the area, were not mentioned. It seemed inappropriate therefore to use the interpretive materials produced by this organisation. A second facility was identified in the region which also focused on the interpretation of the Mesa Verde region, the Crow Canyon
Archaeological Center and the materials produced there are subject to the following analysis.

![Figure 1: Map Showing the Location of the Three Sites Case Studies.](image)

The first site chosen was the Willandra Lakes World Heritage Area (hereafter WLWHA). Although a world heritage site, the interpretive facilities located on-site have been highlighted for improvement on several occasions (Ashley et al. 2003; Department of Environment and Conservation 2006). The traditional owners and the National Parks and Wildlife Service have begun the process of improving the interpretation at Lake Mungo and it is hoped that the recommendations outlined at the conclusion this research will aide them in this process.

As well as being an effective alternative to the NPS, the Crow Canyon Archaeological Center has a reputation for providing excellent educational opportunities to the public and a hands-on approach when providing interpretation to the general public. The centre has also been visited by a number of Elders from the Lake Mungo region (Michael Westaway pers. comm. 2010), suggesting that any techniques identified as successful would likely be recognised and therefore are more likely to be considered for implementation in the WLWHA.
The creation of the Head-Smashed-In Buffalo Jump interpretive centre site (hereafter HSI) represented a new approach to museum design and location selection. The placement of the museum and interpretive centre within the landscape whilst not adversely affecting it (Davis 1995:21-25) is something that offers great potential and could be very successful at Lake Mungo. As part of the new developments of Lake Mungo, the management hopes to construct a new interpretive centre. However, any large scale constructions have the potential to disrupt the aesthetic significance of the Willandra Lakes landscape, utilising a similar design approach to that constructed at HSI could solve this dilemma. It is also anticipated that heritage managers at HSI may have utilised other approaches while creating interpretive materials that might also be appropriate at other sites.

**DATA COLLECTION**

**Assessing Significance**

Rather than focusing on all four values highlighted in the Burra Charter, this research looks specifically at two forms. This was done so that instead of a brief understanding of several qualities, a more thorough analysis could be carried out for all three sites. The historic value of a place can often overlap with the other classifications and as this research is interested in providing an in-depth analysis of significance, this theme was inappropriate. Although all of the sites contain elements of aesthetic value, comparing a lake system such as the WLWHA, to a rugged mountain region such as HSI is not appropriate. The scientific value of world heritage sites can be compared, as all three sites have equal potential to provide new information, dependent upon further investigation.

The social values of these places could also be compared efficiently. Although groups, especially those from various countries, can have alternate perceptions of a place and relate to them in different manners, the methods used to present associations should be similar enough to allow for comparisons. It was decided that an analysis of interpretive materials could be carried out to determine whether social and scientific values are appropriately presented in the interpretive materials.
The definitions of social and scientific values were identified using the definitions outlined in the Burra Charter. Although designed for use solely within the Australian context, the lack of similar documents in the other target regions and the successful implementation of the Burra Charter overseas enables this source to be appropriately applies across all three sites.

**Dataset Acquisition**

To ensure all available material was included in the research, multiple requests were sent to the interpretive centres outside of Australia, requesting all information regarding their interpretive programs. Successful communications with HSI confirmed that all material had been identified (Quinton Crow Show pers. comm. 2010). Despite repeated attempts to communicate with the Crow Canyon Archaeological Center it was not possible to confirm whether all material had been identified for use within this analysis. Based on the information provided on their website on the 1st of June 2010 (Crow Canyon Archaeological Center n.d.a), as many programs as possible were identified for inclusion within this research.

An extensive search of material in the public arena was also carried out. This involved an online search through the websites associated with each interpretive centre. Where materials such as pamphlets or booklets were found, they were collected for use in the analysis (copies of these can be found in Appendices One, Two and Three).

To ensure that only materials created by the interpretive places were included in the analysis, materials produced by and for the academic community were discounted; this resulted in the exclusion of all journal articles and published books. Materials produced by third parties, such as tour guides and previous visitors were also excluded. As this research is interested in the way in which the specific heritage places present scientific and social values to the public, examining externally produced materials would not be worthwhile. Given the location of the WLWHA, it was possible to conduct a site visit in April 2010 to identify, first-hand, the programmes and measures currently in operation, and to physically collect hard copies of all available brochures in order to identify if any were excluded from the online
sites. This ensured that all possible brochures were identified and included in this research.

To summarise, all portable written material that included elements of interpretation produced by the places in question, were collected and subject to the following analytical process.

**DATA ANALYSIS**

Both qualitative and quantitative analytical techniques were used in this research, as this triangulation allows researchers to answer a broader range of questions therefore providing greater quantities of proven and reliable results (Jick 1979; Van Maanen 1979). Such a procedure has occurred in the United Kingdom where Heyes and MacLeod (2006) analysed heritage trail brochures and used content analysis, incorporating both qualitative and quantitative techniques, to show how the language used in the brochures affected the way the trail was perceived by readers.

Prior to the implementation of either qualitative or quantitative techniques it was necessary to distinguish the key themes that would form the basis of this investigation. These themes were identified using the *a priori* concept (Ryan and Bernard 2003:88) which meant that the key themes and their meanings were defined based on the wording of the Burra Charter, these themes were identified during the creation of the research question. One of the aims of this thesis is to examine the way in which world heritage sites present scientific and social values to the public, therefore, the manner and frequency at which these concepts appeared in the interpretive materials was to form the basis of investigation.

**Qualitative Analysis**

The first stage was the identification of how scientific and social values presented in the literature. The technique used to achieve this was thematic analysis. Thematic analysis is the process by which themes are identified by recognising the expressions that exemplify them (Braun and Clarke 2006; Joffe and Yardley 2004; Opler 1945; Ryan and Bernard 2003). This approach would identify the ways in which scientific and social significance are
presented to the public. This process would also provide an indication as to the existence of bias if certain these are represented in greater detail.

It was anticipated that although trying to present the same themes, literature originating from three separate countries would use different terms and expressions to do so. Any coding based solely on the language used in Australian heritage literature would be likely to miss similar phrases or words used in North America. To minimise the effects the process known as open coding was utilised to determine the categories that each interpretive centre associated with scientific and social values.

Open coding is the process whereby researchers read through a small selection of the data without any preconceptions and identify possible keywords or categories that relate to each theme. This enables the literature being analysed to assist the researcher in identifying the most appropriate coding choices (Neuman 2006:461). Repeating this process for multiple datasets allows common terminology and ideas to be identified while minimising any bias or influence from the researcher (Babbie 2007:385). Traditionally this process is used when researchers are unsure of any potential themes. However, for this research, two specific themes were already identified i.e. social and scientific value. Open coding was instead used to identify the categories that were associated with each theme, specifically, the terms and phrases used by each centre to present either social or scientific values.

To identify the ways in which the interpretive centres acknowledge and represent both values, a manual process of investigation was carried out, rather than using computer based analysis. Using the sub-themes identified during the open coding process as a starting point, each piece of data was read thoroughly and the expressions associated with scientific and social values were recorded. When previously unnoticed sub-themes were located, earlier datasets were re-examined to determine if these unexpected themes occurred.

Quantitative Content Analysis
To quantitatively analyse these themes, a technique known as content analysis was used. This is a process whereby the content of written sources
is analysed to determine human behaviour (Berg 1998:223-250; Carney 1972; Gray et al. 2007:283-299; Holsti 1969; Neuman 2006:324). This method of analysis was selected as it provides a clear framework to determine the frequency at which themes occur. One of the limitations of content analysis is that only material included in the data can be analysed and themes and words deemed irrelevant or unnecessary by the writers, but possibly important to stakeholders, would be excluded (Mitchell 1957:235). Given that the focus of this research was to assess how the interpretive centres present the values of their site to the public, this was seen as a positive influence as opposed to a limitation.

To identify any potential dominance of scientific or social values, a number of keywords were identified and quantitatively analysed. Social scientists have debated the process by which keywords are selected (such as Babbie 2007:325-330; Neuman 2006:460) but it was decided to identify these keywords during the open coding process described above. In practice this meant that at each occurrence of one of the categories identified using thematic analysis, the specific word or words used to demonstrate the theme, were recorded.

During the initial coding process it was not possible to identify all keywords associated with some of the more variable themes. Indigenous words such as *kiva* and *tipi*, which were not identified immediately, were, when found, incorporated into the identification process. Previous searches were then repeated in order to incorporate these new discoveries.

In addition to determining the frequency at which keywords appeared in the text, a secondary quantitative process was carried out. The level of emphasis each keyword had in-text was established. To achieve this, each time a keyword was identified, the sentence in which it occurred was also analysed, a process known as key-word in context (KWIC) (Weber 1990:44-49). Unlike the standard KWIC process, the meanings of the keywords was not being examined, instead the level of emphasis was determined. This was ascertained by the specific position of the word, both in the sentence as a whole, and where multiple keywords were identified in the same sentence, their position relative to each other. Keywords that were placed before...
others were ascribed a higher level of importance than those later in the sentence; this was particularly important where lists containing keywords were used.

To ensure effective analysis of these determinations, keywords were given nominal values; high, medium and low importance. High importance meant that a keyword was positioned within a title, had been altered from the standard text font, had been placed in a dominant position within a sentence, or where a list was being used, positioned ahead of other keywords. Keywords with medium importance were those used in conjunction with positive (or negative) emphasis, such as great, important or high. Keywords designated with low importance were those that did not receive any additional grammatical or visual emphasis. These determinations were based on the context of each sentence.

As the amount of interpretive materials were not anticipated to be high, human, rather than computer based analysis was used. Human analysis involved the identification and frequency monitoring of each of the keywords described above. These were then entered onto a spreadsheet to enable the creation of graphs and charts. Keywords and their nominal value were also recorded.

**SUMMARY**
After an examination of the World Heritage List, three Indigenous archaeological landscapes and the groups associated with each site were identified. Each place was then contacted and the portable interpretive materials were collected. Brochures were then subjected to thematic analysis to identify the sub-themes used to represent both social and scientific significance. Open coding was applied to assign keywords to each sub-theme that could then be quantified within the data. Results from both were then examined to determine whether emphasis exists in the manner in which values are presented to the public.
4 BACKGROUND TO THE STUDY AREAS

To demonstrate how the sites selected in Chapter 3 relate to the concepts of heritage and interpretation as discussed in Chapter 2, it is necessary to explain their physical characteristics, historic background, the value of the places to scientific disciplines and identify the specific Indigenous groups that consider the places to be important.

WILLANDRA LAKES WORLD HERITAGE AREA, AUSTRALIA
The Willandra Lakes World Heritage Area is located in the south west of New South Wales (NSW) in Australia (Figure 2). The site consists of approximately 240,000 hectares of land, which includes pastoral leases and the Lake Mungo National Park (Department of Environment and Conservation 2006). According to the NSW Department of Environment and Conservation (2006) there are three Aboriginal groups with acknowledged links to the area. These are the Barkindji (Parrintji), the Nguyampaa, and the Mutthi Mutthi groups (Gostin 1993). Much of the area is controlled by the NSW government who have direct ownership of many of the pastoral leases although they are run by private individuals.

Figure 2: Location of the Willandra Lakes World Heritage Area in Australia.
The Lake Mungo National Park, although owned by the state government, is no longer directly controlled by them. A joint committee made up of representatives from the National Parks and Wildlife Service (NPWS) and the three acknowledged Indigenous groups who have the majority of members, are responsible for its management (Environment Australia 2002).

Since its formation, the boundaries of the National Park have increased, as former pastoral lands have been merged into the National Park. This means that large areas of culturally and naturally significant land are now under the control of the joint committee ensuring that these important characteristics are preserved in the appropriate manner (Department of Environment and Conservation 2006).

The WLWHA was inscribed onto the World Heritage List in 1981 based upon two selection criteria: cultural criteria (iii) and natural criteria (viii). These specify that the site must:

- Bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared; and

- Be outstanding examples representing major stages of Earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features.

(United Nations 2010)

The WLWHA contains a number of dried lakes that date back nearly two million years, Figure 3. Since the lakes were formed they have experienced various phases of drying and wetting, which has resulted in a series of geological formations and sequences (Bowler 1976).
This process has meant that the lakes are able to provide a number of important scientific insights into sand dune formation, lake formation and large scale chronologies of environmental history. Archaeological work in the region has confirmed human occupation of the lakes well into the Pleistocene, with a number of important discoveries in and around Lake Mungo, including a number of human skeletal remains which have been dated to approximately 40,000 BP, although there has been much debate on their accuracy (Allen 1998; Barbetti and Allen 1972; Bowler 1971, 1976, 1998; Bowler and Magee 2000; Bowler et al. 1979; Finkel 1998; Gillespie and Roberts 2000; Grun et al. 2000; Huxtable and Aitken 1976; O’Connell and Allen 1998; Oyston 1996; Roberts et al. 1990, 1994; Smith and Burke 2003; Webb 1989, 2007; Webb et al. 2006; Westaway 2006). The earliest occupation of the WLWHA is now thought to be 50,000 BP (Bowler et al. 2003). A wealth of other archaeological and geomorphological studies has supported the Pleistocene chronology of the WLWHA (Bowler 1976, 1998; Bowler et al. 1972; Bowler and Price 1998; Gillespie 1997, 1998; Johnston and Clarke 1998; Shawcross 1998; Tidermann 1988; Webb 2007).

During human occupation, the lakes experienced a series of drying phases, which ceased approximately 15,000 years ago when all of the lakes dried out (Tidermann 1988). Since then the land has been used extensively for grazing, by both native species, such as kangaroos, and imported animals,
such as rabbits and sheep. These changes in environmental conditions and land use have created the landscape we see today (Fatchen and Fatchen 1989; Johnston and Clarke 1998).

Lake Mungo National Park

The Lake Mungo National Park is located within the confines of the WLWHA and covers a large area, shown in Figure 4. This portion of the world heritage site is one of the principal locations for the scientific investigations and archaeological excavations that have occurred in the region.

![Figure 4: Extent of Mungo National Park within the Willandra Lakes System (Europa Technologies 2010).](image)

Most of the archaeological work has been undertaken by the Australian National University (ANU). Academics from a number of different disciplines, including archaeology, anthropology, geology, palaeontology and geography have been involved. Initial research began at the end of the 1960s and continued into the 1970s with the studies by Jim Bowler, who looked at the geomorphology of the park (Bowler 1971). After his initial investigation, a number of archaeological excavations took place under the direction of John Mulvaney and Wilfred Shawcross (Shawcross 1998).
Although the joint management committee is meant to control activities only within the confines of the National Park, they also have significant influence on the wider area, as the important values extend beyond the confines of the National Park and therefore require similar management practices (Ashley et al. 2003; Department of Environment and Conservation 2006). In addition to the three Indigenous groups mentioned above, there are a number of parties who have an interest in the site. The NSW government, through its association with the NPWS, have been involved in the management of both Lake Mungo and the wider area, since the creation of the National Park in 1979. Additionally, members of the scientific community, such as the teams from ANU who have worked at the site, consider Lake Mungo to be particularly valuable for the information that can potentially be gained by further scientific work within both the WLWHA and Lake Mungo (Environment Australia 2002).

**MESA VERDE, UNITED STATES OF AMERICA**

The Mesa Verde National Park (hereafter Mesa Verde) is located in the Mid-West of the United States situated in south west Colorado (Figure 5). The park covers approximately 250,000 hectares of land, and contains one of the largest collections of Pueblo sites in the United States. The park was the first to be gazetted as a National Park solely for to its cultural values in 1906 (Uhler 2007). In 1978 the park was inscribed onto the World Heritage List under cultural criteria (iii) which states that a site must:

> Bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared.

(United Nations 2010)
The first survey of the park in 1951 identified over 900 sites associated with Indigenous groups from the Mesa Verde region (Uhler 2007). Members of these groups have been termed Anasazi, and are believed to have occupied the lands for over 1000 years, beginning in approximately 100AD, and ending approximately 1300AD (Grant 1992:25; Kehoe 1981b:112-117). Today, the term Anazasi has become unacceptable especially within the confines of the National Park. This is because one of the many translations of this Navajo word is ‘ancient enemy’ and the Hopi Tribe considers it inappropriate. The more politically correct terms ‘Ancient Pueblo People’ or ‘Ancestral Puebloans’ have been adopted within the park (Riggs 2007). The academic community still uses the term Anasazi because it refers to the occupants of a specific time period, 200 AD to 1600 AD, rather than a specific group of people (Thomas and Kelly 2006:66). In accordance with the wishes of the descendants of these people the term ‘Ancestral Puebloans’ will be used when discussing the occupation of the region.

The numerous sites within Mesa Verde combine to form the largest and most well preserved collection of traditional occupation sites in the United States. These date from the Basketmaker period, approximately 1650 BP, to the Great Pueblo period, around 700 BP (Grant 1992:24-69; Reid and Whittlesey 1997:183-201). The associated materials provide researchers with valuable
information to learn about the changing environmental conditions that historically occurred. These changes resulted in a constant re-occupation of the region by various cultural groups, culminating with the eventual relocation of the Ancestral Puebloan groups away from Mesa Verde (Uhler 2007).

Figure 6: Cliff Palace located in Mesa Verde National Park (Smith 2009:14).

Current archaeological interpretation states that the inhabitants of Mesa Verde abandoned dwellings such as Cliff Palace, the single largest Pueblo structure in the National Park (Figure 4), during the 1200s AD. They began to merge with the various tribes and communities in the surrounding lands, although the reasons for this are not clear (Grant 1992:69-75; Reid and Whittlesey 1997:198-201). This diaspora means that the National Park Service must recognise 24 separate Native American groups who have spiritual and historic connections to Mesa Verde. These groups are:

- From New Mexico: the Taos, Picuris, Sandia, Isleta, Ohkay Owingeh, Santa Clara, San Ildefonso, Nambe, Tesuque, Jemez, Cochiti, Pojoaque, Santo Domingo, San Felipe, Santa Ana, Laguna, Acoma and Zuni Tribes and the Navajo Nation;
- From Arizona: the Hopi Tribe and Navajo Nation;
- From Texas: the Ysleta del Sur Pueblo; and
- From Colorado: the Ute Mountain Tribe, Southern Ute and Navajo Nation.
  (National Parks Service 2009b)

There are also a number of organisations which have an interest in the management and the interpretation that is provided to the public. Mesa Verde is currently managed by the National Parks Service, which is responsible for most aspects of its governance. The Mesa Verde Foundation is an organisation that works with the National Park Service and is responsible for receiving the funding for converting the Far View Visitor Centre into a new facility called the Tribal Cultures Centre (Mesa Verde Foundation n.d.). The Mesa Verde Museum Association Inc. is another group that is heavily involved in the creation of interpretive materials for the park. The Grand Circle Association is a group of businesses and associations that are also involved in generating tourism and educational opportunities for a large number of locations, including Mesa Verde (National Parks Service 2009a).

The National Park contains two interpretive centres which provide visitors with different experiences. The only museum available is the Chapin Mesa Museum (Figure 7) located to the far south, approximately 30 km from the southern entrance. Interpretation includes dioramas of ancient Pueblo life, exhibits containing archaeological and cultural material about the Ancestral Puebloans and a chronology of occupation and activity in the park. The museum also offers a short film showing an overview of the park and its history. There are tours operating out of this location to two specific sites in the nearby area (National Parks Service 2006a).
The Far View Visitor Centre (Figure 8) is open during the summer season, April to October and is the starting point for a number of tours to archaeological sites. It provides visitors with the chance to see collections of Native American jewellery, pottery and basket displays. Other facilities include a gift shop and restaurant (National Parks Service 2006b). However, the effectiveness of this interpretation has been questioned, as only certain tribes have been represented in the interpretive materials at the expense of other groups. In particular the Ute Tribe have been neglected (Keller and Turek 1998:38-42).
Several archaeological investigations have occurred in the National Park due to the high number of sites. These have included analysis of human and animal bone remains to determine social activities, in particular the reasons for the migrations of the Ancient Puebloans (Bernardini 2005; Hargrave 1965a, 1965b; Hegmon et al. 2008; Kent 1992; Kuckelman et al. 2002; Rohn 1965). Studies have also examined the material used in the construction of the Pueblos (Fewkes 1910; Nichols 1965; Smiley 1949), the environment (Kaplan 1965; Martin and Byers 1965) and tool use (Wheeler 1965).

Crow Canyon Archaeological Center
The Crow Canyon Archaeological Center is an interpretive facility located outside the Mesa Verde National Park, close to the city of Cortez, in Colorado (Figure 9). The centre is an educational and interpretive facility run independently to the National Park. It is designed to augment the information visitors to the park receive, rather than act as an alternative interpretive centre. It also runs its own set of archaeological investigations, as well as other scientific endeavours relating to the wider region and attempts to present this new knowledge to the public in an appropriate manner.

![Map of the Crow Canyon Archaeological Center](Europa_Technologies_2010)

Although not run by the National Parks Service, the centre has been set up as a joint venture between professional archaeologists and Indigenous groups, to present information to a range of visitors. The mission statement for the centre is “to advance knowledge of the human experience through archaeological research, education programs, and collaboration with
American Indians” (Crow Canyon Archaeological Center n.d.a). To help achieve this the centre created a Native American Advisory Group made up of six individuals, with one representative from the following tribes: Zuni, Cochiti, Taos, Hopi, Afognak and Ute Mountain. (Crow Canyon Archaeological Center n.d.a). Five of the six are representatives from tribes associated with the Mesa Verde region, which suggests that the group will be aware of local issues. There are a number of tribes who do not have representation on the board and it is unclear if any are affiliated with the centre in other ways. It is important to be aware of this as each tribe might have different approaches to presenting their cultural heritage to the public and certain tribes may have chosen to disassociate themselves with the centre due to such concerns.

The centre began in 1974 when a high school teacher from Denver Colorado, bought a 30 hectare plot of land to serve as the Crow Canyon School. This school was designed to be an outdoor educational centre where professional archaeologists would be able to work with students on archaeological and educational projects. In 1983 this facility was acquired by the Centre for American Archaeology, formally based in Illinois. These owners organised the arrival of a new group of archaeologists and improved the facilities on-site so the centre could pursue its own archaeological research programme. In 1985 this improved centre became independent and was renamed the Crow Canyon Archaeological Center. It operated as a not-for-profit organisation that carried out research and educational activities (Crow Canyon Archaeological Center n.d.b).

Further improvements were initiated in 1987 with the construction of additional facilities, including new laboratories, classrooms and management blocks. Throughout this period, research was carried out and published (for examples see Lipe 1992; Lipe and Hegmon 1989). Educational activities focus on teaching visitors about the diverse cultures of Indigenous groups, although primarily looking at the American south-west. By 1995 this program had expanded to include historic preservation and scholarship funding by the co-operation with a new organisation, the Native American Advisory Group, which increased interaction with the Native American community and is still in operation today (Crow Canyon Archaeological Center n.d.c).
Crow Canyon has also been involved in a number of archaeological studies in and around the Mesa Verde region. In 1983 the centre began a long term archaeological program including surveys and excavations in and around Sand Canyon, a 200km² area of land that includes two Pueblo communities, the Sand Canyon and Goodman Point Pueblos (Connolly 1992). This project was completed in 2010 and the results are currently awaiting publication. The centre has also been involved in studies of lithics from within the Mesa Verde National Park (Arakawa and Miskell-Gerhardt 2009).

**HEAD-SMASHED-IN BUFFALO JUMP, CANADA**

The final location investigated is Head-Smashed-In Buffalo Jump Site, located in the province of Alberta in southeast Canada (Figure 10). The main focus of the site is an 11m high sandstone cliff over which Indigenous people used to drive herds of buffalo for meat procurement (Figure 11). There are also a number of other sites that were used in conjunction with this activity, such as butchery and processing sites (Figure 12). All of these combine to form an important archaeological landscape which has been recognised by UNESCO, with the site being inscribed onto the World Heritage List in 1981 under cultural criterion (vi) which states that a site must:

> Be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance.

(United Nations 2010)
The site is located in lands that are acknowledged by the Canadian authorities as belonging to the Blackfoot People. This term refers to a number of affiliated tribal groups who share a common language and similar cultural roots and whose ancestors are believed to have occupied most of what is now Alberta (Grinell 1892). Blackfoot history has been well documented with ethnographic studies in the 19th century, as well as more recently (Contay 1995; Grinnell 1962, 1966; Kehoe 1958; Malouf 1961; Mclean 1890, 1893; Nugent 1993; Ray 1974; Schultz 1962, 1973; Verbicky-Todd 1954; Wishart 1979, 2007:40-42). These accounts have been able to provide archaeologists, anthropologists and other interested groups with a
great deal of information regarding the beliefs and practices of these Indigenous groups.

![Figure 12: Location of Sites Associated with HSI.](image)

There have been a number of archaeological investigations looking at the occupation and associated activities which occurred on-site. Studies have examined the social organisation of the early Plains Indians (Walde 2006), stone tool function and use (Kooymann et al. 1992) and animal bone analysis (Newman et al. 2002). There have also been general archaeological investigations carried out in the 1980s (Brink 1992; Brink and Dawe 1989).

The only facility available to the general public concerning HSI is the interpretive centre located at the world heritage site. The entire complex is run by Parks Canada, a government organisation that controls all of the National Parks in Canada, and operates on behalf of the people of Canada. The state of Alberta is also a partner in the interpretation and development of HSI through two bodies, Alberta Environment and Alberta Community Development.

This facility was designed around a number of geographical and cultural limitations. During the construction of an interpretive centre it was decided to devise a centre that was both modern and effective but that did not compromise any of the physical, cultural or spiritual attributes of the landscape. To achieve this, architects created a complex that was partially buried within the cliff face. This meant that the overall visual effect of the cliffs and the spiritual connections to a number of sites were not diminished by the placing of a modern museum on the cliff top. This facility allowed the
designers of the interpretive material to create a unique journey, which would end with the visitors arriving at the edge of the cliff, in much the same way as early hunters may have done (Davis 1995:21-25; Julig 1999).

**SUMMARY**

The purpose of this chapter was to introduce the three places that are central to the research carried out in the remainder of this thesis. By presenting the scientific values of these places it is believed that their importance to the scientific community will be clear. Unfortunately written material recording the specific reasons why Indigenous groups consider these places significant could not be located. It is probable that these groups will have a range of connections to these places, based on cultural beliefs and traditional links to the landscape. It was not meant to investigate either the nature of these attachments, or explain in detail the reasons behind them, but simply to acknowledge that such attachments exist. The remainder of this thesis will present an analysis of the interpretive materials available to the general public and will assess the way in which they inform readers about both the scientific and social values of each place.
This chapter presents the results of the previously described analytical processes. The findings of thematic analysis are presented first, in the form of the keywords identified as representing either scientific or social significance. These sub-themes will be examined and discussed in greater details in the following sections. Each brochure was then subject to KWIC analysis and a summary of these findings is also presented. The final section of this chapter presents a detailed account of each sub-theme and identifies any trends associated with them.

DATASET ACQUISITION
Following somewhat successful communications with the interpretive centres, 21 brochures were obtained. The distribution of these brochures, as well as their titles and the number of words they contain are shown in Table 1, while copies of each brochure are found in Appendices One, Two and Three.
<table>
<thead>
<tr>
<th>Program Name</th>
<th>Number of Words</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crow Canyon Archaeological Center</strong></td>
<td></td>
</tr>
<tr>
<td>School Group Program</td>
<td>2764</td>
</tr>
<tr>
<td>Archaeology Day Tour</td>
<td>663</td>
</tr>
<tr>
<td>Middle School Archaeology Camp</td>
<td>1244</td>
</tr>
<tr>
<td>High School Archaeology Camp</td>
<td>1161</td>
</tr>
<tr>
<td>High School Field School</td>
<td>1162</td>
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<td>Archaeology Research Program</td>
<td>1778</td>
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<td>Family Archaeology Week</td>
<td>806</td>
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<tr>
<td>Archaeology Lab Program</td>
<td>842</td>
</tr>
<tr>
<td>Zuni Communities Through Time</td>
<td>1781</td>
</tr>
<tr>
<td>Hopi Silver Workshops</td>
<td>1562</td>
</tr>
<tr>
<td>Keresan Pueblo World</td>
<td>1746</td>
</tr>
<tr>
<td>Backcountry Archaeology</td>
<td>1820</td>
</tr>
<tr>
<td>Traders, Trading Posts and the Development of Southwest Indian Art</td>
<td>1625</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td><strong>Head-Smashed-In Buffalo Jump Site</strong></td>
<td></td>
</tr>
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</tr>
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<td>2010 Special Events</td>
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<td>2009 Special Events</td>
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<td>Buffalo Tracks</td>
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<td>Educational Sleepover Program</td>
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<td>Education Program 2010</td>
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<td><strong>Willandra Lakes World Heritage Area</strong></td>
<td></td>
</tr>
<tr>
<td>Willandra Lakes Region</td>
<td>958</td>
</tr>
</tbody>
</table>

Table 1: Brochure Names and Word Counts.

Crow Canyon provided the largest number of publications (13), compared to HSI (7) and WLWHA (1). Any analysis of frequency would likely show domination by Crow Canyon purely as a function of the large dataset, rather than the inclusion of identified sub-themes. Although this investigation was not examining visual components of the data, it should be noted that all of the brochures contained photographs or pictures relating to each interpretive program. A further complication to the analysis is the unequal sizes of the brochures. Total word counts range from 186 to 7393 words making direct comparison between them very difficult. Despite these limitations, certain procedures, outlined in Chapter 3, were still able to be carried out which revealed a number of interesting trends within the data.
Thematic analysis identified a total of four sub-themes for scientific and social significance as shown in Table 2.

<table>
<thead>
<tr>
<th>Social Significance</th>
<th>Scientific Significance</th>
</tr>
</thead>
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<tr>
<td>Traditional Activities</td>
<td>Archaeology</td>
</tr>
<tr>
<td>Indigenous Groups</td>
<td>Dissemination</td>
</tr>
<tr>
<td>Indigenous Words</td>
<td>Research</td>
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<tr>
<td>Culture</td>
<td>Value</td>
</tr>
</tbody>
</table>

Table 2: Sub-themes Identified Using Thematic Analysis.

The frequency of the themes associated with social and scientific values in each brochure are shown in Table 3 along with an initial determination of emphasis. Given the variation in word count for each brochure it is not possible to determine trends between them based solely on the data. The results simply show a possible emphasis within each brochure as a stand-alone document.
<table>
<thead>
<tr>
<th>Brochure Name</th>
<th>Number of Words</th>
<th>Total Number of Occurrences of Social Sub-Themes</th>
<th>Total Number of Occurrences of Scientific Sub-Themes</th>
<th>Potential Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Crow Canyon Archaeological Center</em></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Groups Program</td>
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<td>77</td>
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<td>Scientific</td>
</tr>
<tr>
<td>Archaeology Day Tour</td>
<td>663</td>
<td>9</td>
<td>29</td>
<td>Scientific</td>
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Table 3: Frequency of Occurrence of Themes in all Brochures.

Keywords were identified by carrying out content analysis on the brochures. During this process phrases and words that were believed to discuss or
promote either scientific or social significance were recorded. Words with similar meanings and associations were them combined into groups with appropriate titles. The result of this can be seen on Table 4. The distribution of these keywords within all the brochures being analysed can be found in Tables 8 and 9.

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<td>Culture; Cultural; Heritage</td>
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<td>Archaeology; Archaeologist; Archaeological; Science; Scientific</td>
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<tr>
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<td>Education; Educate; Student; Teach; Teacher</td>
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<tr>
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<td>Investigation; Research</td>
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<td>Value</td>
<td>Important; Importance; Significant; Significance; Value</td>
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Table 4: Sub-Themes and Associated Keywords.

As well as frequency of use, KWIC analysis was carried out to determine how each keyword was used. This determined the level of emphasis associated with each occurrence. The results show the ways in which each keywords is used and how it varies both within brochures and between interpretive centres (Tables 5, 6 and 7).

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Table 5: Emphasis of Keywords in School Groups Program Brochure.
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Table 6: Emphasis of Keywords in Buffalo Tracks Brochure.

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Table 7: Emphasis of Keywords in Willandra Lakes Region Brochure.
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## Head-Smashed-in Buffalo Jump

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## Willandra Lakes Region

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### Willandra Lakes Region

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<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
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<th>Frequency</th>
<th>Percent</th>
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</thead>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 9: Distribution of Scientific Values.
Each sub-theme identified using thematic analysis and classified as representing either social or scientific values is now presented individually. The trends found using a combination of qualitative and quantitative processes will be outlined, prior to discussion in the following chapter. Reference to sub-themes can be identified in the following text through the use of capitalisation and italicisation.

**SOCIAL VALUE**

**Traditional Activities**

*Traditional Activities* was the first sub-theme associated with social values to be identified. While scientific value frequently focuses on physical attributes contained within a site, the significance that social groups can ascribe to a location can be both tangible and intangible. In particular, activities that groups carry out at specific places or times can form part of the importance of significant places. Any mention of dancing, singing, traditional stories, activities or lifestyles were recorded as a use of this sub-theme.

Within the Crow Canyon data *Traditional Activities* are primarily in the form of opportunities for visitors to perform specific activities. They are encouraged to try using an atlatl and start a fire without matches, techniques used traditionally by some Native Americans. The *Traditional Activities* are not used to acknowledge the links between specific Indigenous groups and the area. This is further supported by a quantitative analysis which shows that *Traditional Activities* are only used in a handful of brochures, with only one making repeated use of the keywords.

HSI uses this sub-theme very differently. The specific times and places that members of the Blackfoot community engage in *Traditional Activities* is clearly defined, where visitors are encouraged to watch, not participate. This importance is further supported in that all of the brochures reference *Traditional Activities*, in a form that highlights the connection between the Blackfoot community, the activities as well as the landscape.
The WLWHA also uses *Traditional Activities* in its brochure in two ways. References are made to the traditional lifestyles of the early inhabitants of the region. Additionally, it occurs in the use of the Australian phrase „traditional owners‟, which, rather than referring to a specific connection or quality, is used to describe the Indigenous groups with acknowledged links to the land.

**Indigenous Groups**

The second social sub-theme was one that referenced the various groups with connections to each landscape. This was considered to be an important social value as without an acknowledgement as to who considers the place to be important, its context is lost. It is understandable that the more groups who have a link to a place the greater its level of significance. For the purposes of this investigation the use of either tribal or group names were considered use of this sub-theme. In addition to using specific group names, each country has terms they use to refer to their Indigenous population (i.e. First Nation, Indigenous or Native American). Occurrences of such phrases are considered a use of the *Indigenous Groups* sub-theme.

*Indigenous Groups* is an important sub-theme at Crow Canyon. As can be seen in Figure 13, at least 50% of the references concerning social significance are made using *Indigenous Groups* and in many cases reach 70%. Use of this sub-theme was in the form of both specific tribal affiliations, (Navajo or Zuni) and umbrella terms such Anasazi and Native Americans.
Figure 13: *Indigenous Groups* as a Percent of Total Social Significance at Crow Canyon.

At HSI, the use of *Indigenous Groups* is also an important method used to represent social values. The terms Blackfoot, referring to the specific community and First Nations, an umbrella term for all Indigenous Canadians, were used interchangeably to acknowledge the importance of the area to Indigenous people. Figure 14 shows that although not quite as dominant as at Crow Canyon, the use of *Indigenous Groups* is still an important method used by the heritage managers to present the social value of an area to the general public.

Figure 14: *Indigenous Groups* as a Percent of Total Social Significance at HSI.
A different approach is used by the WLWHA when considering the use of this sub-theme. Rather than referring to each group individually by name, only the umbrella term traditional owners is used, and only a handful of times.

**Indigenous Words**

The use of traditional language and words is one of the ways that social values can be demonstrated. This allows groups to utilise their own phrases and cultural terms to present the place to the public. Such methods are generally only practiced when Indigenous groups are directly involved in the creation of the interpretive materials. All occurrence of Indigenous language were recorded as a use of *Indigenous Words*.

*Indigenous Words* at Crow Canyon were restricted to three, *atlatl*, *kiva* and *hogan*. The first is a traditional spear thrower visitors can use as part of the *Traditional Activities* taught at the centre. The other two words relate to buildings associated with the centre. *Hogans* are Navajo cabins that visitors can stay in, while *kivas* are the structures built by the Ancestral Puebloans historically and which can be visited or excavated depending upon the program. These words can be found in almost all of the brochures, but are not an important method of presenting social values.

HSI also uses the term *atlatl* in addition to the word *tipi*, meaning tent. Both of these are, for the most part, used sparingly within the brochures. The exception to this is the „Educational Sleepover Program” which has the highest percentage use of *Indigenous Words*.

The WLWHA does not use any *Indigenous Words* in their brochure.

**Culture**

The previous sub-themes covered groups which have links to a site and some of the methods heritage managers use to acknowledge this connection. The final sub-theme identified as representing social values were references to *Culture*. This sub-theme allows visitors to better understand the specific connection that
groups have to the landscape and what they consider to be important qualities. Therefore any mention of culture or heritage was considered a reference to this.

At Crow Canyon use of *Culture* is relatively low. It can be found primarily in sections that are outside the control of the centre, such as curriculum titles included in the brochures. When used outside of this context, it is done so in association with *Indigenous Groups*. This allows the heritage managers to specify which of the numerous communities with connections to the area they are specifically referring to at any point.

The use of *Culture* at HSI is much more varied. Figure 15 shows that *Culture* is frequently use in the two brochures sponsored by UNESCO. In „Buffalo Tracks‘ and „UNESCO Information Guide‘ *Culture* is treated just as importantly as *Indigenous Groups* while for those produced by the site itself this is not the case.

![Use of Culture as a percentage of all Social Significance at HSI](Image)

**Figure 15: Culture as a Percent of Total Social Significance at HSI.**

The WLWHA also makes greater use of *Culture*, which is the single most used sub-theme of all.
**Scientific Significance**

**Archaeology**
The first sub-theme associated with scientific values to be identified was *Archaeology*. The archaeological process is the means by which scientific data is collected at each place. As all of these sites are archaeological landscapes, it is unsurprising that all brochures make reference to this sub-theme. However, "Educational Sleepover" from HSI, did not. This is possibly because, as the name suggests, the brochures focus is on a different aspect of scientific value. Despite occurring in nearly all of the brochures Figure 16 shows that as a percentage of scientific value, the use of *Archaeology* varies. In some it is the dominant sub-theme, while in others it is much less important.

![Figure 16: Archaeology as a Percent of Total Scientific Significance at all Locations.](image)

**Dissemination**
The second scientific sub-theme identified was *Dissemination*. One of the purposes of the scientific process is to produce new knowledge and present it to other scientists and the wider community. In this context, *Dissemination* does not simply refer to written materials being produced in journals or similar places,
but is the process whereby knowledge gained through scientific endeavours is presented to the public. Any mention of educating, teaching or students was considered to be a use of this sub-theme.

Figure 17 shows that at Crow Canyon *Dissemination* is common without ever being dominant. The centre frequently emphasises the opportunity for visitors to learn from both the scientific and archaeological investigations and directly from members of the associated Indigenous communities.

![Use of Dissemination as a Percentage of Scientific Significance at Cow Canyon](attachment:image.png)

*Figure 17: Dissemination as a Percent of Total Scientific Significance at Crow Canyon.*

At HSI, the use of *Dissemination* is more sporadic. Figure 18 shows that it dominates scientific sub-themes for two of the brochures, both of which emphasise the importance of education, one method of giving knowledge to the general public.
The WLWHA does not make reference to this aspect of scientific significance.

Research
The third sub-theme for scientific value was *Research*. Within the scientific community, the creation of new knowledge is achieved by undertaking various activities. As a sub-theme this could be identified through references to research projects or investigations.

*Research* is used primarily in association with one of the other scientific sub-themes, principally *Archaeology*, through the use of phrases such as ‘archaeological investigations’ or ‘present to students’. As a result of this, *Research* is constantly used in most of the brochures at Crow Canyon although the dominance of this sub-theme is significantly less than the previous two.

HSI uses this sub-theme in only two brochures and in both cases *Research* is only a minor sub-theme. WLWHA fails to mention this sub-theme.

Value
The final scientific sub-theme was the concept of *Value*. In the scientific process this is where the justification and reasons for research are provided. Within
these brochures, such references were identified by the use of terms such as significance, importance or value.

As can be seen in Figure 19, Value as a sub-theme is used very poorly within the majority of the brochures. Only the brochure from the WLWHA uses Value to emphasise scientific values.

![Figure 19: Value as a Percent of Scientific Significance at all Locations.](image)

**SUMMARY**

The results presented here indicate that there are significant differences in the ways in which social and scientific values are presented to the public. At Crow Canyon analysis showed that all of the brochures promote either social or scientific values. In the instances where both are presented, it is never balanced. Scientific values are focused around Dissemination and promote the centre as a forum for scientists to present their research, rather than as a place where important scientific work is being carried out. Social values are biased in the way that certain groups are emphasised while others are omitted.

The interpretive materials utilised at HSI also contain bias. Brochures created in association with UNESCO emphasise a Eurocentric perspective with dominance on Culture. The brochures developed locally are able to avoid this, by emphasising social values to the almost exclusion of scientific.
It is difficult to identify any true emphasis in the brochure associated with the WLWHA due to the lack of data however there may be a slight emphasis towards social values.
6 DISCUSSION

This chapter provides an explanation of the trends identified in the data associated with each interpretive centre. The interpretive materials associated with Crow Canyon emphasise both values in separate brochures. By doing so heritage managers ensure that each aspect is presented appropriately although not necessarily balanced. HSI emphasises the social value of the site at the expense of the scientific. With only one brochure available for the WLWHA, identifying emphasis is a more difficult process.

CROW CANYON ARCHAEOLOGICAL CENTER

The interpretive materials associated with this centre show a number of inconsistencies in the way in which both social and scientific values are presented. Brochures generally focus on only one theme, and on the occasions where both are mentioned, only one is ever emphasised.

Social Values

Social values are presented to members of the public in an interesting manner. Figure 20 shows the dominance of these sub-themes in each brochure.

![Dominance of individual social sub-themes as a percentage of social values at Crow Canyon](image)

*Figure 20: Dominance of Individual Social Sub-Themes as a Percentage of Social Values at Crow Canyon.*
The first discrepancy with social values is associated with the use of *Indigenous Groups* and specifically the word Anasazi. Members of the Hopi Tribe, a group with acknowledged connections to the area, have officially objected to the use of this name when describing their ancestors which provides an interesting issue. Their objection is due one translation as „ancient enemy‘ (Riggs 2007), which although not offensive in its own right, is sufficient that it should have been excluded from the material. The use of this term is even more surprising given that a representative of the Hopi Tribe is a member of the Native American Advisory Group (Crow Canyon Archaeological Center n.d.a) and should therefore have objected to the inclusion of the term in the literature. Given that Anasazi appears in the majority of the brochures it suggests that the influence of the advisory group, on the production of interpretive materials, might be less than anticipated.

The manner in which the word has been used is also interesting. Anasazi in parentheses is used to explain what is meant by the term Ancestral Peubloans. This suggests that the target audience is unaware of the concerns surrounding the use of Anasazi and that it is still the common phrase used when speaking about these early inhabitants. This has been raised by Walters and Rogers (2001) who discuss in detail the reasons why the term Anasazi is still being used by the scientific community and general public despite these political issues. It is not clear if, by using parentheses, the interpretive material is attempting to inform visitors of the new definition for these people, or, if they are relating the more politically correct term, Ancestral Puebloans, with Anasazi to connect to readers’ prior knowledge.

Another discussion point surrounding social values at Crow Canyon is linked to the use of *Indigenous Groups* and the fact that only certain tribes have brochures which use their tribal name. By illustrating the importance of the region to certain groups while excluding others introduces bias. This disparity might be indicative of the fact that the Zuni and Hopi Tribes both have representation on the Native American Advisory Group, whereas other tribes do not. It is possible that these tribes consider the area around Crow Canyon to be especially important to their communities. They may have made a specific
decision to associate themselves with Crow Canyon to ensure their perspectives were appropriately portrayed. It should also be considered that as a result of their greater involvement at the centre their perspectives are given greater consideration in comparison to others.

One difficulty facing Crow Canyon is that 24 tribes assert connections with the region. It is probable that tribes differ in their opinions regarding the qualities that are important and the delivery techniques to present them (Ferguson 1996:2). One group in particular, the Navajo Nation, is currently asserting greater levels of importance of the sites to their community, despite being a cultural group that inhabited the area relatively late in its occupation history (Nicholas pers comm. 2010). As can be seen on Table 4, only 9 current Native American Tribes have been mentioned specifically by name despite the fact that ethically, the centre should present a variety of perspectives to avoid false impressions concerning the importance of the area to Indigenous communities. It is unlikely that the centre has the capacity to present 24 interpretations and as a result they have selected specific perspectives to portray. This approach is acceptable as it is not possible to include everyone. However, it has been shown that it is important to ensure that the perspectives being presented accurately represent the views of the community and not merely certain sections of it (Hollowell and Nicholas 2007:68; Marshall 2002). It is unclear whether the tribes included in the interpretive materials are those that have the strongest links to the area, or merely have positions of power at the centre. Other tribes are likely to have words for the same or similar items and the decision by the heritage managers to limit their materials to include solely Navajo words. This hints at the influence the Navajo Nation has in the area, in particular with hogan, which is simply a type of building. The managers specifically chose that building and the Navajo name that goes with it. Alternative structures built by the Zuni, or Ute Tribes, for example, have not been used, resulting in the social significance being limited to just the Navajo Nation rather than either the Ancestral Puebloans or any other tribe with connections to the area being presented.

*Traditional Activities* at Crow Canyon also illustrates an interesting consideration. The primary use of the sub-theme was in the form of
opportunities for visitors to try their hand at a number of Indigenous activities (games or practicing traditional hunting techniques). There is no mention, in association with this sub-theme, of the importance of the landscape to Indigenous groups. This is exemplified by material discussing the way that the atlatl (a traditional spear-thrower) was used for hunting, without mentioning which animals were hunted and how. The techniques that are being presented, although Indigenous in nature, seem to have no direct association with the Mesa Verde region and could be used anywhere in America. The social value being presented at Crow Canyon is not that these techniques were used primarily by the Ancestral Puebloans, but that more recent Indigenous groups have used these techniques and that some of these groups happen to have connections to Mesa Verde. Crow Canyon is simply a convenient location for visitors to experience these activities rather than containing any specific social value.

Scientific Values

The use of scientific sub-themes at Crow Canyon also shows a number of interesting trends. Figure 21 shows the dominance of sub-themes in each brochure.

![Dominance of individual scientific sub-themes as a percentage of scientific value at Crow Canyon.](image)

Figure 21: Dominance of Individual Scientific Sub- Themes as a Percentage of Scientific Value at Crow Canyon.
Figure 21 shows that the dominance of scientific values is more evenly distributed between sub-themes than for social. The use of *Archaeology* dominates however it is within the less dominant sub-themes that interesting trends can be seen.

*Value* is used inefficiently implying the importance of Crow Canyon does not lie in the work being carried out there. It should present reasons from the scientific community, in the form of results unobtainable elsewhere, as to why Crow Canyon and Mesa Verde are important. The failure to do so further suggests that Crow Canyon is simply a convenient location for scientists to work, rather than having significant scientific contributions. When *Value* is mentioned, it is done so in association with archaeological investigations, suggesting that heritage managers are aware of how this sub-theme could be used more appropriately. Their failure to do so suggests that the scientific value of Crow Canyon is not a result of the work being carried out there, but rather the work occurring in which visitors can choose to participate.

*Dissemination* is presented in the form of opportunities for members of the public to hear guest speakers discuss their own research projects and is used to encourage school visits. This suggests that it is not the scientific activities occurring on-site that are considered important, but rather the fact that people associated with the site participate in other projects, which they choose to present at the centre.

This is further complicated by the way that *Research* is presented. All investigations and projects emphasised are associated with either the archaeological excavations the centre offers, or a chance to hear about projects the archaeologists are involved in. The first of these clearly demonstrates the connection between the centre and scientific value, in the form of onsite projects. The second simply portrays the centre as an arena where archaeologists can go to present on any subject matter to interested parties.
HEAD-SMASHED-IN BUFFALO JUMP SITE
As with the previous case study, materials associated with the Head-Smashed-In Buffalo Jump Site show clear bias. In this instance it is towards the importance of the site and the wider area for social rather than scientific values.

Social Values
There is consistency within two distinct types of brochures associated with HSI when examining how social values are presented. The two types are those associated with UNESCO and those that are not.

„Buffalo Tracks’ and „UNESCO Information Guide’, the two brochures associated with UNESCO, both emphasise different sub-themes to the other brochures. Figure 22 shows how the dominance of sub-themes varies between brochures. With significantly more occurrences of Culture, the UNESCO brochures demonstrate the importance they place on the type of connection that groups have to HSI. In comparison those brochures produced by local heritage managers focus less on Culture and more on Indigenous Groups and how they demonstrate their connection. This is a clear example of how UNESCO is still adversely motivated by the Eurocentric perspective (Zube and Pitt 1981), a viewpoint that appears to be less common in Canada.

![Dominance of individual social sub-themes as a percentage of social value at HSI](image)

**Figure 22: Dominance of Individual Social Sub-Themes as a Percentage of Social Value at HSI.**
Heritage managers at HSI also differ in their use of the other sub-themes. The use of *Indigenous Groups* suggests that it is an important means of presenting the social value of the area. Each brochure contains reference to both the Blackfoot community specifically and Indigenous communities in general, when discussing important characteristics of the site. This is a reversal of traditional Eurocentric bias which focuses on the benefits of a place to science and „white‟ communities while failing to look at Indigenous perspectives. This is developed further by the use of *Traditional Activities* which, rather than being offered as a way for visitors to try out elements of native culture, is a chance for Indigenous communities to continue the associations they have to the landscape, and present this to the general public.

*Indigenous Words* are frequently used in the two brochures where there is an educational focus, but are largely absent in the remainder. This suggests that the use of the word *tipi* is considered an effective means of promoting the social value of HSI to schools and other educational facilities. This may also suggest that *Indigenous Words* are not considered an effective means of attracting members of the general public. This clear division indicates that heritage managers are aware which themes are most likely to influence visitation to HSI and gear their brochures towards encouraging as many visitors as possible.

**Scientific Values**

The presentation of scientific values at HSI is much more limited and as a result only focuses on certain qualities. Figure 23 shows that *Archaeology* and *Dissemination* appear to dominate the way in which scientific value is presented. However, for the majority of these brochures, scientific sub-themes are rarely mentioned resulting in the graph being somewhat misleading. Although they dominate, the frequency of use suggests that they are not seen as important methods of presenting information to the general public.
The only brochures to make consistent use of these sub-themes are those associated with UNESCO. Table 10 shows the frequency at which scientific sub-themes occur in each brochure at HSI. As a result of the various sizes of the brochures, direct comparison is not possible. It is clear, however, that only „Buffalo Tracks' and „UNESCO Information Guide' use Archaeology, while „Buffalo Tracks’, „Educational Sleepover Program’ and Educational Programme 2010’ use Dissemination. This demonstrates the fact that scientific sub-themes are not used extensively at HSI.

<table>
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<th>Archaeology</th>
<th>Dissemination</th>
<th>Research</th>
<th>Value</th>
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</table>

Table 10: Frequency of Use of Scientific Sub-Themes at HSI.
It is also clear, from both Figure 23 and Table 10 that Research is only found in brochures sponsored by UNESCO. This suggests heritage managers at HSI do not consider the potential for the site to produce new knowledge through investigations or excavations to be an important aspect for promotion. There is no opportunity for visitors to assist or view archaeological procedures, despite Archaeology being an important component of the scientific value of HSI. Only via UNESCO can visitors understand the scientific value of the site.

**Willandra Lakes World Heritage Area**

As the WLWHA has only a single interpretive brochure, the determination of trends in emphasis is difficult and statistically less conclusive. Where the previous sections have outlined trends in the presentation of social and scientific values separately, this section will combine these elements.

The first issue found at the WLWHA is that a significant number of sub-themes identified in North America are not present in Australia. This is likely due to the difference in the language and values of heritage managers in each country. The perceptions of communities and their relationship to heritage is dependent upon their upbringing, education and lifestyle (Aplin 2002; Davison 1991a). The language used by different people to highlight characteristics with respect to the description of heritage sites will therefore vary. Based on the results of this research, it is clear that the concept of Value has developed more in Australia than North America. One reason for this is that Value is a concept heavily associated with the Burra Charter. Although the charter has been applied internationally (Ahmad 2006; Muangyai and Lieorungruang 2008; Phuong et al. 2009; Qian 2007; Sell 2005; Taylor 2004; Vacharopoulou 2005; Waterton et al. 2006) this framework is applied most commonly and frequently within Australia. This means that phrases and concepts developed within the charter have a greater likelihood of occurring in interpretive materials produced in Australia.

The fact that the WLWHA has been inscribed as a "mixed" heritage site for cultural and natural reasons also affects the results of the analysis carried out. The brochure covers certain aspects of significance that are unnecessary for the sites in North America. There is considerably less opportunity for heritage
managers to develop themes associated with social and scientific value within the brochures.

There are no instances of *Indigenous Words* being used at the WLWHA. One reason for this may be that the three groups are unlikely to share a common language. It has been demonstrated that places can often be considered significant across language groups (Sutton 1995:106) and so it may not be possible to use one language name without using all names for the site. The heritage managers may have opted for the safest option simply using common terms and names in the interpretive materials.

The use of *Research* is also an interesting sub-theme. Although there are references to the findings associated with research projects, such as the uncovering of Mungo Man and Woman and the fossilised footprints, there is no mention of the academic debate surrounding these important features. A number of archaeological and paleontological investigations planned or currently occurring at Lake Mungo and the wider area (Michael Westaway pers. comm. 2010) are not mentioned within the literature. Heritage managers may want to limit interference in these scientific enterprises and so avoid publicising these often sensitive projects. Secondly, heritage managers may not believe that the value the scientific community places on these investigations is an important component of the significance of the area and therefore the general public does not require the information.

**Summary**

When results of the triangulation of thematic and content analysis are analysed it is clear that interpretive materials can contain different forms of emphasis. Despite the majority of the brochures at Crow Canyon emphasising the value of the centre for scientific reasons, it appears that this is generally superficial. The principal importance of the centre is its use as a forum for scientists presenting their findings to the wider community, rather than for the potential information and knowledge that could be gained from the work carried out on-site. When considering social values bias also exists. The material presents the importance that the area has for the Hopi, Zuni and Navajo tribes significantly more than for
the other 20 tribes with affiliations to the area. The reason for this disparity appears to be political power and influence within the Native American Advisory Group. However, the overall influence of the group is unclear owing to the continued use of the term Anasazi. Overall it would appear that the centre is important as a place where visitors can experience the archaeological process and learn about a limited number of traditional cultures.

At HSI there are also differences in the way heritage values are emphasised. Social values, in particular the importance of the landscape to the Blackfoot community, is extensively recorded and presented to the public. The importance of the landscape to the scientific community, however, is largely ignored. Although there are references to some of the work carried out by archaeologists, the importance of this work has not been presented. This trend goes against the traditional Eurocentric bias which promotes scientific values at the expense of local and Indigenous beliefs. Instead the brochures highlight the importance of HSI to Indigenous communities and ensure that readers understand exactly which communities consider the area important and why.

It is difficult to determine whether the interpretive materials at the WLWHA contain any inherent bias due to the small sample size and the fact that many of the identified sub-themes do not occur in this brochure. Based on the limited resources it appears that there is a focus on the social value of the area, although this may be owing to the fact that opportunities to include scientific values have been constrained by the inclusion of natural significance.
This examination of Indigenous archaeological landscapes has shown that the inclusion of social and scientific values in interpretive materials is a complex process. An understanding is required not only of the nature of various forms of heritage and interpretation (Aplin 2002; DeSantis 2003; 2002; Ham 1992; Hewison 1989; Kerr 2004; Lennon 2006; Pieria 2007; Schofield 2008), but also an awareness of the differing perspectives groups can have regarding a place (Marshall 2002; Hollowell and Nicholas 2007; Nicholas 2010; Roberts 2003; Roberts et al. 2005). The facilities being investigated here, Crow Canyon Archaeological Center, Head-Smashed-In Buffalo Jump Site and Willandra Lakes World Heritage Area, all use different approaches when presenting their heritage values to the public. This variation is a result of many factors including, diverse understandings of the term heritage and its association with places, varying management arrangements and goals and variations in the terminology used to represent each value.

The Presence of Emphasis
Careful examination of the interpretive materials demonstrated that an emphasis or bias exists in almost every brochure. However, the level and form of this varies both within and between interpretive centres.

With the largest selection of interpretive materials, the Crow Canyon Archaeological Center is able to present the broadest set of perspectives and uses emphasis in an interesting manner. Certain brochures, such as the „Archaeology Research Program’, concentrate on specific scientific values, in particular Dissemination and Archaeology. While other materials such as „Hopi Silver Workshops’ and „Zuni Communities Through Time‘ focus on social values by emphasising Indigenous Groups and Culture. By ensuring that brochures focus on a specific theme, Crow Canon emphasises both social and scientific values effectively and appropriately, although rarely at the same time. Unlike the other case studies where emphasis is generally a choice between social or
scientific values, Crow Canyon also contains different emphases within these themes.

In the case of emphasising scientific values Crow Canyon has a very specific approach. Rather than presenting the importance of the centre to the scientific community for a number of reasons, it is portrayed as a location that scientists only consider important for presenting their academic messages to the public. The centre also emphasises the affiliations of certain social groups more dominantly than others. By emphasising the perspectives of tribes with representation on the Native American Advisory Group, such as the Navajo, Zuni and Hopi, more prominently than those without, has resulted in the interpretive materials being unbalanced. This discrepancy is mirrored in the interpretative materials produced by the National Parks Service at Mesa Verde which also fails to include certain tribes (Keller and Turek 1998).

The fact that both facilities contain this bias implies that the concept of presenting conflicting interpretations of a place has not fully developed in the United States (Blake 2004; Nicholas and Andrews 1997; Nicholas and Hollowell 2007; Watkins 2000a, 2000b, 2005). If both centres focussed on tribes which consider Mesa Verde most significant, the content of the interpretative materials would have been similar. Instead both focus on different tribes, which suggest that political reasons such as those discussed by Riggs (2007) and Keller and Turek (1998) may have affected the creation of interpretive materials at both facilities.

The interpretive centre at Head-Smashed-In Buffalo Jump takes a different approach. Although there are a number of brochures, they serve two different purposes. One is to provide an overview of the site to the public. This is best achieved in the publications co-sponsored by UNESCO, which seems to have a great deal of influence in their content. 'Buffalo Tracks' and 'UNESCO Information Guide' are the largest brochures available and consequentially have the greatest concentration of sub-themes within them. Their use however, is biased in favour of a Eurocentric perspective, with a pre-occupation on defining significance in terms that relate to the built heritage found in Western Europe.
They fail to effectively present the value of the landscape to the Indigenous community.

Those brochures not sponsored by UNESCO avoid this issue. „Aboriginal Day‟ and „2010 Special Events‟ are much smaller and only provide a limited amount of information. In most cases they focus almost exclusively on social values and the importance of the landscape to the Blackfoot community. HSI has avoided traditional issues surrounding the interpretation of Indigenous places by focussing extensively on social values and avoids emphasising the importance of the area to those of European descent.

It is difficult to define the approach adopted by the Willandra Lakes World Heritage Area, due to the availability of only a single brochure for analysis. Sub-themes that are commonly used in North America are, for the most part, absent in the document. This suggests that the idea of including certain sub-themes in interpretive materials appears to be more developed and widespread in North America than at WLWHA. In particular, sub-themes such as Research and Dissemination are lacking, despite both covering important scientific values.

As noted in Chapter 2 heritage managers around the world understand and relate to heritage differently, therefore, sub-themes used solely by Australian heritage managers at WLWHA may not have been identified in this analysis. These sub-themes are likely to relate to the „mixed‟ heritage status of the site. This requires that heritage managers not only present social and scientific values, but also the various natural values. As the brochure is of a similar size to many of those produced by the other sites, the need to discuss such a broad amount of information is perhaps one reason why the use of certain sub-themes is much lower than those from North America.

LIMITATIONS AND FUTURE WORK
It is important when looking at the results of this analysis to take into consideration the limitations of the research approach and the scope for further studies which could provide supportive or comparative data.
As world heritage sites from only three nations have been investigated, an expansion of the work to include additional nations, where different trends may be observed would be beneficial. Each of the nations investigated here, the United States, Canada and Australia are all former British territories which have been heavily influenced by British colonial ideologies. The introduction of sites with Spanish or Soviet colonial links would likely establish different trends and provide additional examples of approaches that interpretive centres can use when presenting heritage values to the public. In order to carry out a study of this kind fluency in other languages would be required, which was not possible for this research.

An analysis that examines heritage places inscribed at levels other than world heritage status would provide an important contrast to the data produced in this thesis. World heritage sites often have unique circumstances associated with them which can affect the form and level of interpretation. Such sites often receive greater levels of funding and management and are therefore able to produce large quantities of interpretation. An examination of Indigenous archaeological landscapes which have been recorded at local or state level would provide an interesting comparison to these larger sites and determine whether the form and agenda of management committees affect the content of interpretive materials.

A limitation of this study was the inability to consult directly with Indigenous communities. Doing so would ensure that their perspectives regarding the most appropriate methods for presenting social values would be identified and compared to the approaches being utilised. Consultation with Indigenous communities would also aid in the identification of those aspects of significance which have not been included within the interpretive materials, adding a further dimension to the study. Since the majority of Indigenous communities are located in North America it was not possible to organise any direct communication with them without local assistance. As this thesis has been focussed on presenting all views of significance appropriately and without bias, it was determined that if consultation was not possible with at least the majority of communities then any material which highlighted only certain perspectives
would be inherently biased, and work against the main principals of this research. Further work could be carried out whereby Indigenous communities were included particularly for their perspectives on the appropriateness of the interpretive materials being analysed.

OUTCOMES
Based on the information analysed here it has been shown that producing balanced and inclusive interpretive material is possible. The triangulation of thematic and content analysis has shown that social and scientific values can be emphasised using a number of different sub-themes and with varying frequencies. Certain brochures are able to combine these approaches and present social and scientific values to the public with a balanced level of emphasis. However, it is clear that the interpretive centres analysed here do not achieve this in the majority of their materials. Each centre has reasons for choosing to emphasise different qualities, at Crow Canyon it is due to the desire of the centre to be a forum for scientists to present their research to the public. Internal HSI brochures emphasises social values, although the reason why the material is so non-Eurocentric is not clear. As the WLWHA only has a single brochure it is difficult to identify the existence of bias in the material.

In order to interpret heritage sites successfully, centres should present all perspectives and values appropriately. When presenting Indigenous archaeological landscapes, such as the ones analysed in this research, it has been suggested that Indigenous perspectives should be emphasised (Clarke 2000; Fourmile 1989; Swidler et al. 1997). However, for interpretation to be balanced, as many perspectives as possible should be presented to allow visitors to make their own informed decisions. One approach would be the production of interpretive materials for each viewpoint. Where there are several perspectives, such as at Crow Canyon which has 24 tribes with associations to the area, it may not be practical to include all views. Where this is the case, the perspectives of groups with the strongest links to an area should be identified and presented.
A second approach, which could assist at heritage sites with several values which might require conflicting interpretations, is the production of interpretive materials for each value. This method has great potential at heritage sites like WLWHA which needs to present both cultural and natural values due to its inscription as a ‘mixed’ heritage site. By producing brochures which emphasise social, scientific and natural values separately the conflict between Eurocentric and Indigenous perspectives could be avoided. Such brochures would have to be complementary and ensure that readers are aware of the other classifications, but would focus on their specific topic.

RECOMMENDATIONS
To ensure that interpretive materials are both balanced and inclusive it becomes advisable to break up information into a series of brochures, similar to the approach at Crow Canyon. By focusing brochures on different qualities, such as natural, scientific and social values, heritage managers would be able to provide much greater levels of information to the public and ensure that all features with importance are given the appropriate level of attention.

Producing a variety of brochures would also allow heritage managers to reach a wider audience. If each brochure was designed with a specific focus, visitation to heritage places would increase as previously uninformed groups were made aware of the relevance of places to their specific interests. This approach would be effective by emphasising each value separately, or by creating new brochures for specific audiences.

If heritage managers do not wish to develop a series of brochures, the size of the single brochure must be increased. In the case of WLWHA, the brochure is of average length yet must cover a large number of themes. If the brochure was longer, each theme could receive more attention and ensure that a more balanced and appropriate brochure was created.

This research has demonstrated that through consultation with the appropriate stakeholders it is possible to produce balanced interpretative material and avoid the Eurocentric bias, which often adversely affects interpretation in settler
societies. The triangulation of thematic analysis, content analysis and KWIC analysis in this research has highlighted how different countries present both scientific and social significance. Although there are similarities in the terminology and approaches adopted by heritage places in Australia, Canada and the United States the messages within interpretive materials varies at each location. It is also clear that bias exists in the vast majority of the interpretive materials analysed, although the form a reasons for this bias is not necessarily the same. In order to achieve truly balanced and appropriate interpretation, heritage managers should take into consideration the recommendations outlined in this research. By doing so it will become possible to present differing viewpoints and ensure that future interpretation at heritage places is able to provide visitors with an understanding of the many forms of value a single heritage place can have.


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Archaeology of Colonialism, pp.121-150. Los Angeles: Getty Publications.


Appendix One Interpretive Materials from the Crow Canyon Archaeological Centre
**Dates**
Open to Novices and Alumni:
May 30–June 5
June 6–12
June 13–19
July 18–24,
August 15–21
August 22–29
Open to Alumni (see page 3)
October 3–9

**Tuition per Person**

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<td>Super Senior Alumni (age 55+ and 10+ programs)</td>
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*Minimum $100 donation

A $300 deposit holds your spot!

Tuition covers accommodations, meals, entry fees and permits, and local transportation after your arrival in Cortez until your departure from Cortez. Transportation to and from Cortez is your responsibility.

**What to Expect**

Archaeological fieldwork requires hiking at least 1/2 mile to reach the site, lifting buckets of dirt, kneeling on the ground, and working at an elevation of 6700 feet. You will work at your own pace, but the experience will be more enjoyable if you are in good physical condition. Call us if you have questions about your ability to participate in this program. Variables such as weather conditions or group size may require some adjustments in your schedule.

---

Your Discoveries Add to Our Understanding of an Important Ancient Community!

In 2010, as part of the Goodman Point Archaeological Project, Crow Canyon researchers will continue excavations at several Pueblo sites in the Goodman Point Unit of Hovenweep National Monument, located in the canyon-and-mesa country of southwestern Colorado. In 1889, the archaeological sites contained within the Goodman Point Unit were the first in the United States to be set aside for protection by the federal government. As a result of this early intervention and the continued protection of the sites by our partner, the Southeast Utah Group of the National Park Service, the 142-acre unit comprises one of the best-preserved archaeological landscapes in the Southwest.

We invite you to join us in our research, which will include test excavations in a great kiva, several single- and multifamily stone-and-adobe dwellings, and areas that were probably ancient agricultural fields. All were likely part of an extensive community that eventually coalesced at Goodman Point Pueblo, a large village excavated by Crow Canyon from 2005 to 2008.

2010 will be our sixth and final field season at the Goodman Point Unit—and your last opportunity to excavate at this unique group of sites that is contributing so much to our collective understanding of the history and rich cultural heritage of the Pueblo people. We look forward to seeing you in 2010 as we begin the exciting “final chapter” of the Goodman Point Project!

Grant Coffey
Supervisory Archaeologist,
Director of Goodman Point Archaeological Project Phase II
Is This Your First Adult Research Week?
Program for Novices

As a first-time participant in the Archaeology Research Program, you’ll start with an “Introduction to Crow Canyon” the evening of your arrival. The following day, you’ll learn about the history of the Mesa Verde region through a hands-on activity called “Inquiries into the Past,” before visiting sites in the Goodman Point Unit to get a preview of where you will excavate later in the week. The evening program will be an introduction to Crow Canyon’s long-term research, presented by a member of the research staff.

The remainder of your week will be spent analyzing artifacts in the lab, excavating in the field, and enjoying evening lectures devoted to topics of current interest in Southwestern archaeology. A guided tour of nearby Mesa Verde National Park, a World Heritage site, rounds out the week.

Have You Been Here Before?
Program for Alumni

Individuals who have already participated in an Archaeology Research Program do not repeat the introductory sessions or tour, and they spend additional time contributing directly to our research. As an alumnus or alumna, you will spend more time excavating at the site in addition to analyzing artifacts in the lab and assisting with other research projects. Evening presentations will be offered by staff archaeologists or visiting scholars.

The final session of Archaeology Research Program, October 3-9, is reserved for alumni only. During this week, alumni will help us wrap up our excavations at the Goodman Point Unit, as the field phase of Crow Canyon’s investigation of this important ancient community draws to a close. Lab analysis and evening programs are also included. Of course, alumni are also welcome to attend other sessions throughout the season.

Continuing Education Units

Two Continuing Education Units (CEUs) from Adams State College are available for an additional fee. Please call Crow Canyon for details.

Accommodations

Our 170-acre campus provides space for relaxing, watching wildlife, walking through the pinyon and juniper woods, and enjoying panoramic mountain views from the rocking chairs on the porch. We provide comfortable, Navajo-style log cabins (hogans). Private rooms are not available and, depending on enrollment, couples might not be housed together. Shared, modern shower and toilet facilities are located in a separate building adjacent to the hogan. You will need to provide your own bedding and towels.

If you’re thinking about joining us for back-to-back sessions, you can stay over on a Saturday night for an additional $30 per person. Saturday lunch and dinner, as well as Sunday breakfast and lunch, will be on your own.

Sharing the Campus

The Crow Canyon campus is a center of learning for children, teens, and adults! During an Archaeology Research Program, including the session reserved for alumni, you may be sharing the campus with others, including children in school group programs.

Meals

Three delicious meals are served each day. You’ll be treated to delectable, healthy meals that feature hearty entrees and fresh fruits and vegetables. A salad bar and vegetable dishes are available for those who favor vegetarian meals.
VISIT CROW CANYON’S WEB SITE
FOR:

More about Crow Canyon:
www.crowcanyon.org/aboutus

Field news from 2005 to today:
www.crowcanyon.org/fieldnews

Lab news—activities and artifacts:
www.crowcanyon.org/labnews

More travel adventures
in the Southwest and beyond:
www.crowcanyon.org/travel

How to Register
Phone: Call 800.422.8975, ext. 160 or 146, Mon–Fri, 8 a.m. to 5 p.m. (Mountain Time).

Online: Use the secure reservation form
at www.crowcanyon.org/arp. You will be
contacted within two working days
to complete your reservation.

Please Note: Online requests are subject
to availability. Your credit card will
not be charged until your registration
is fully processed and confirmed by Crow Canyon.

Cancellation: Cancellation at any time:
$150 handling fee. Cancellation within
40 days of program start date: Forfeiture
of all payments. All cancellations must be
in writing to Crow Canyon Registrar, 23390
Road K, Cortez, CO 81321-9408, or
e-mailed to travel@crowcanyon.org.

Getting to
Crow Canyon
In driving time, Cortez is about five
hours from Albuquerque, six
hours from Salt Lake City, and eight hours from Denver.
If you fly into Cortez, we can pick you up at the airport. If you
choose to fly to Durango or Farmington (both about an
hour and a half from Cortez), you will need to rent a car
to drive to Cortez.

The Crow Canyon Archaeological Center’s programs and
admission practices are open to applicants of any race, color, nationality, ethnic origin, gender, or sexual orientation.
Crow Canyon is a 501(c)(3) not-for-profit organization whose mission is to advance knowledge of the human experience through archaeological research, education programs, and
cooperation with American Indians. Crow Canyon is nationally recognized for the quality of its archaeological research and education programs.

Crow Canyon reserves the right to withdraw, without penalty, any announced program (in which case a full refund of the purchase price will be made) or to make necessary changes to a
program or program schedule. Crow Canyon is not responsible, in the event of cancellation or changes to a program, for any airline or other commercial transportation cancellation penalty
incurred by purchase of a nonrefundable or restricted ticket. Please contact us about program changes prior to making your travel arrangements. We strongly recommend that you purchase
travel insurance; information about travel insurance will be sent to you as a service. Terms and conditions will be sent as part of your registration package. This information is also available
online at www.crowcanyon.org/legal.

Registration as a seller of travel does not constitute approval by the State of California – CST 1285847-700.

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800.422.8975, ext. 160 or 146 • www.crowcanyon.org/arp
2010 ARCHAEOLOGY ADVENTURES

ARCHAEOLOGY DAY TOUR

A perfect complement to your Four Corners archaeological experience!

This one-day archaeological experience will whet your appetite for more! Our Archaeology Day Tour is easy to fit into your schedule, and it’s perfect for individuals or families. In a fun and relaxed atmosphere, you will be introduced to the history of the ancestral Pueblo Indians (the Anasazi) who inhabited the spectacular Four Corners area hundreds of years ago.

The Archaeology Day Tour is a perfect complement to excursions to nearby archaeological attractions, including Mesa Verde National Park, the Anasazi Heritage Center, Canyons of the Ancients National Monument, Hovenweep National Monument, and Aztec Ruins National Monument. Crow Canyon’s one-day archaeology adventure gives you a basic understanding of ancestral Pueblo history, making your visits to local museums and archaeological sites more enjoyable and meaningful, and it provides a rare opportunity to visit an ongoing archaeological excavation.

Dates
Every Wednesday and Thursday,
May–September 2010

Educational Focus
An overview of Southwestern archaeology, including a site tour and curation room tour.

Activities
- Meet our educator at 8:45 a.m. in the lobby of the Gates Archaeology Laboratory at our beautiful campus just northwest of the town of Cortez.
- Examine artifacts in a hands-on activity designed to help you understand the basics of Southwestern archaeology and ancestral Pueblo Indian history.
- Tour our archaeology laboratory and learn how discoveries are made through careful analysis of artifacts.
- Eat a delicious hot lunch on campus, then relax in the rocking chairs on the lodge deck and admire the mountain views or stroll along our nature trail.
- Tour the Goodman Point Unit of Hovenweep National Monument, where we are currently excavating, and see for yourself what an excavation in progress looks like.
- Learn about the important contributions Crow Canyon’s research has made to the understanding of the ancient peoples and communities of the Mesa Verde region.
- Return to campus at 4:30 p.m. and visit the campus Gift Shop, where you may purchase T-shirts, books, and souvenirs.
Tuition per Person

Adults (ages 18+) $50
Children (ages 10 to 17) $25
Includes lunch.

We regret we cannot accommodate children younger than 10 years of age.

How to Register
Phone: Please call Crow Canyon at 800.422.8975, ext. 146 or 160, Mon–Fri, 8 a.m. to 5 p.m. (Mountain Time).

E-mail: daytour@crowcanyon.org

Cancellation: No cancellation penalty is incurred if you cancel more than 24 hours prior to your tour. The full amount will be charged to your credit card for a cancellation made less than 24 hours in advance or if you do not attend. Please call 1.800.422.8975, ext. 146 or 160, to cancel.

[Image of a map of the Crow Canyon Campus]

Please bring a water bottle, and wear comfortable clothes and walking shoes. Sunscreen, hats, and sunglasses are highly recommended. Space is limited, so please call for a reservation.
ARCHAEOLOGY LAB PROGRAM

Join us for analysis and discovery at the end of our 2010 field season!

Did you know that for every day an archaeologist spends in the field, at least four days are required in the laboratory? During a typical field season, more than 75,000 artifacts and samples come into the Crow Canyon Lab. The story of the past begins to come together only when these artifacts and samples are carefully processed and studied. In Crow Canyon’s Archaeology Lab Program, you’ll work with our friendly and knowledgeable lab staff to collect the information we use to write new chapters in the history of the Pueblo Indians of the American Southwest. You’ll assist with a variety of tasks and work with materials from sites excavated by Crow Canyon and from museum collections throughout the Southwest.

As a participant in the Archaeology Lab Program, you’ll provide essential support at the end of a busy field season and see a far greater variety of artifacts than one person could possibly uncover while excavating in the field. Working alongside some of the most talented researchers in the Southwest, you’ll also greatly expand your knowledge of artifacts and what archaeologists can learn from them.

Date
October 3–9, 2010

Educational Focus
Archaeological laboratory procedures, and what the results of artifact analyses reveal about the lives of the ancestral Pueblo Indians (the Anasazi) of the Mesa Verde region.

Typical Activities*
• Washing and cataloging artifacts from Crow Canyon’s excavations
• Cataloging and analysis of artifacts from museum collections
• Analysis of pottery and stone artifacts
• Preparing artifacts for permanent curation
• Assisting with experimental garden research
• Assisting with a variety of special analyses
• Evening programs by Crow Canyon researchers or guest lecturers on their current research

*The specific activities in which you will participate will depend on current lab needs. Activities and schedules are subject to change.

800.422.8975, ext. 160 or 146 • www.crowcanyon.org/lab
Tuition per Person

Donor: $1,275  Nondonor: $1,400
Tuition covers accommodations, meals, entry fees and permits, and local transportation after your arrival in Cortez until your departure from Cortez. Transportation to and from Cortez is your responsibility.

*Minimum $100 donation
Deposit: $300

Accommodations and Meals

Our 170-acre campus provides space for relaxing, watching wildlife, walking through the pinyon and juniper woods, and enjoying panoramic mountain views from the rocking chairs on the lodge deck.
We provide shared accommodations in comfortable, Navajo-style hogans. Private rooms are not available and, depending on enrollment, couples might not be housed together. Shared, modern shower and toilet facilities are located in a separate building adjacent to the hogans. You will need to provide your own bedding and towels.
Three delicious meals are served each day. You’ll be treated to delectable, healthy meals that feature hearty entrées and fresh fruits and vegetables. A salad bar and vegetable dishes are available for those who favor vegetarian meals.

Sharing the Campus

The Crow Canyon campus is a center of learning for children, teens, and adults! During the Archaeology Lab Program, you may be sharing the campus with others, including children in school group programs.

How to Register

Phone: Call 800.422.8975, ext. 160 or 146, Mon–Fri, 8 a.m. to 5 p.m.
(Mountain Time).

Online: Use the secure reservation form at www.crowcanyon.org/lab. You will be contacted within two working days to complete registration.

Please Note: Online requests are subject to availability. Your credit card will not be charged until your registration is fully processed and confirmed by Crow Canyon.

Cancellation: Cancellation at any time: $150 handling fee. Cancellation within 40 days of program start date: Forfeiture of all payments. All cancellations must be in writing to Crow Canyon Registrar;
23390 Road K, Cortez, CO 81321-9408, or e-mailed to travel@crowcanyon.org.
Backcountry Archaeology
Ancient World of the Grand Gulch Region

September 26–October 2, 2010

Description
Carved into the sheer rock of Cedar Mesa in southeastern Utah, Grand Gulch is a natural and cultural wonder that offers hikers spectacular scenery and an exquisitely preserved record of human history dating back thousands of years. Your guides on this hiking tour will be four archaeologists who between them have more than 90 years’ experience in the archaeology of the northern Southwest. Together, you’ll explore rarely visited archaeological sites, including Archaic rock art panels, Basketmaker habitation sites, ancestral Pueblo (Anasazi) cliff dwellings, and cowboy camps. This hiking adventure includes two day-long hikes in Grand Gulch, one day-long hike on Cedar Mesa, and a half-day hike in Natural Bridges National Monument.

Scholars

Winston Hurst is a prominent archaeologist and native son of southeastern Utah who has conducted research in the Four Corners area since the early 1970s. Currently field director for the Comb Ridge Survey Project, Winston is an expert on ancestral Pueblo pottery and on Chaco influence in the Grand Gulch region.

Jonathan Till, formerly a laboratory archaeologist at Crow Canyon, has conducted research in the Four Corners area for more than 20 years and is currently a project director for Abajo Archaeology in Bluff, Utah. His specialty is the Chaco-era monumental architecture and landscape archaeology of the ancestral Pueblo Indians.

Benjamin Bellorado has conducted archaeological research in the Four Corners area for more than a decade, with a particular focus on rock art, agriculture, and climatic, ecological, and social changes in the northern Southwest. He is currently conducting fieldwork at early ancestral Pueblo sites in southeastern Utah.

Joe Pachak is an archaeologist and artist in Bluff, Utah, who for several decades has recorded and interpreted ancient rock art using contextual analyses and Pueblo ethnography. Joe’s original artwork is widely exhibited, including at the Edge of the Cedars Museum in Blanding, Utah.

800.422.8975, ext. 160 or 146 • www.crowcanyon.org/travel
Educational Focus

- The history of human occupation of the Grand Gulch region, from Archaic times through the Pueblo III period
- A comparison of rock art styles and designs through time
- The repeated emigrations from the Grand Gulch region, including the Pueblo exodus at the end of the thirteenth century
- The economic, political, or ritual factors that contributed to the success of the “Chaco phenomenon” during the Pueblo II period
- The role of eighteenth- and early-nineteenth-century explorers, like the Wetherills, in the history of Southwestern archaeology

Dates: Sunday, September 26–Saturday, October 2, 2010
Tuition: Donor: $7,995  Non-donor: $3,120
Deposit: $400 • Balance due: July 26, 2010
*Minimum $100 donation

Tour Details

Tuition: Tuition is per person and based on shared accommodations. Tuition includes accommodations, meals listed, entry fees and permits, most gratuities, and transportation from arrival in Cortez, Colorado, on September 26, 2010, until departure from Cortez on October 2, 2010. Transportation to and from Cortez is your responsibility.

Accommodations: Two nights are spent in a comfortable motel, and four nights are spent camping in an outfitted camp with a backcountry kitchen, water supply, and port-a-potties, but no running water or showers. You may bring your own camping equipment or we will rent equipment for you at an additional cost. Motel accommodations are double-occupancy; single accommodations are available for an additional fee of $225.

What to Expect: All travel is by Crow Canyon vans; expect drives on rough back roads. This program involves moderately strenuous hikes over rough canyon terrain, as well as nontechnical climbing on narrow ledges, steep slickrock slopes, and boulder scree. The entire trip takes place at elevations between 5000 and 7000 feet; the vertical distance from canyon rim to canyon bottom is approximately 600 feet. Participants must be in excellent physical condition, with no fear of heights, and with the agility to maneuver over boulders and through tight spaces. Please read the description of each hike carefully.

To satisfy permit regulations, participants will hike in two small groups, alternating group leaders each day.

Detailed Itinerary

Sunday, September 26:
Arrival in Cortez, Colorado • Introduction

Arrive in Cortez by 4 p.m. in time to check into the Holiday Inn Express and meet for dinner and introductions on Crow Canyon’s beautiful campus. (D)

Monday, September 27: Edge of the Cedars State Park Museum and Pueblo

We travel west from Cortez to Blanding, Utah, where Debbie Westfall, archaeologist and head curator of the Edge of the Cedars State Park Museum, leads a behind-the-scenes tour of the collections. The museum is renowned for its remarkable examples of ancestral Pueblo basketry, pottery, and woven fabrics, as well as a number of rare or one-of-a-kind objects, including a macaw feather sash, turkey feather blankets, a beaver tail rattle, and even an iridescent necklace made from beetle legs! Next, Winston guides us through Edge of the Cedars Pueblo, one of the few great houses in the area to have been excavated and interpreted. At the end of the day, we drive west through a pinyon-, juniper-, and sage-studded landscape to our base camp. (B, L, D)
Tuesday, September 28: Grand Gulch • Rock Art • Turkey Pen Ruin • Stilpner Arch

Following a hearty camp breakfast, we split into two groups to explore the magnificent canyons of Grand Gulch. One group will hike into Grand Gulch via Collins Spring Canyon. The primary focus of this hike is rock art, with visits to Red Figures Pictograph, Family Panel, and Rincon Panel. Along the way, we tour small Pueblo cliff dwellings and an old cowboy camp located in a cave by the trail. The second group will hike into Grand Gulch via the Kane Gulch trailhead. In a large alcove at the intersection of the two canyons is a cliff dwelling aptly named Junction Ruin. As we continue down-canyon, we stop to view Turkey Pen Ruin and Stilpner Arch. An after-dinner campfire gives us a chance to review the day’s discoveries and discuss how the ancient Puebloan Indians lived in this harsh land. (B, L, D)

Both trails are relatively easy, because we hike along the bottom of the Gulch, but getting to individual sites requires ledge scrambling and bushwhacking. Roundtrip, the Collins Spring hike is 7 miles long; the Kane Gulch hike, 10 miles (elevation change of 500 vertical feet).

Wednesday, September 29: Cedar Mesa • Chaco-Era Great House • Great Kiva • Ancient “Fortress”

After breakfast, we set out on a day hike that follows remnants of an amazing prehistoric road on Cedar Mesa. Hiking through a pinejuniper forest, we explore a variety of sites along this ancient corridor: a Chaco-era great house, an isolated great kiva, and a “fortress” perched atop a small butte. The day’s hike is the starting point for a lively discussion about how an ancient cosmology structured the human-built, monumental landscapes of the Chaco era. We camp under the stars. (B, L, D)

Today’s hike is less difficult than yesterday’s hikes because it traverses the mesa top. Roundtrip, it is 6 to 7 miles long.

Thursday, September 30: Grand Gulch • Rock Art • Turkey Pen Ruin • Stilpner Arch

Today, the two hiking groups from Tuesday “switch” hikes. Final night of camping. (B, L, D)

Friday, October 1: Natural Bridges National Monument • Sipapu Natural Bridge • Horsecollar Ruin • Cortez

Following breakfast, we break camp and depart for a morning hike through Natural Bridges National Monument. After descending into White Canyon, we view 200-foot-high Sipapu Natural Bridge, purportedly the second-largest natural bridge in the world. At the bottom of the canyon, we explore well-preserved archaeological sites, including Horsecollar Ruin, a mud-walled Basketmaker granary. Then we head back to the vans and continue our drive to Cortez, where we gather for a farewell dinner and reflect on our experiences of the week. (B, L, D)

White Canyon is 600 feet deep. The trail is excellent, but the climb out is challenging. Walking along the canyon floor is relatively easy; reaching the ruins requires some minor scrambling. The roundtrip length of the hike is approximately 3 miles.

Saturday, October 2: Departures from Cortez

Departure may be scheduled for any time after breakfast. (B)

Itinerary subject to change.
Tour Reservations

Phone: Call 800.422.8975, ext. 160 or 146, Mon-Fri, 8 a.m. to 5 p.m. (Mountain Time).

Online: Use the secure reservation form at www.crowcanyon.org/travel.

Please Note: Online requests are subject to availability. Your credit card will not be charged until your registration is fully processed and confirmed by Crow Canyon.

Late Reservations: To secure reservations on a trip for which the final payment deadline has passed, full payment by credit card is required at the time of your reservation. Last-minute reservations are subject to space availability and may require the payment of late fees.

Cancellation: All cancellation requests must be made in writing to Crow Canyon Registrar, 23390 Road K, Cortez, CO 81321-9408, or e-mailed to travel@crowcanyon.org. Cancellations become effective on the date received. The following penalty schedule applies: On or before July 26, 2010: $200 handling fee; after July 26, 2010: forfeiture of all payments.

Group Size: Our programs are designed for small groups. A minimum number of participants is required for each trip. If this minimum is not reached by the final payment date, you may be offered several options: pay a slightly higher program price, select another program, or receive a full refund. Please contact us to check program status prior to making your travel arrangements.
2010 Travel Adventures

Chaco Canyon and the Keresan Pueblo World
Ancient Connections, Contemporary Culture

May 16–22, 2010

Description
Sometime during the mid-twelfth century A.D., the once-vibrant great houses of Chaco Canyon fell silent as the inhabitants left their high-desert home in what today is northwestern New Mexico. Where did they go? To explore this question, our journey focuses on both the archaeology of Chaco Canyon and the culture of Keresan-speaking Pueblo people who today live in more than half a dozen villages in or near the Rio Grande valley—and whose migration stories suggest Chaco ancestral connections.

With preeminent archaeologist Gwinn Vivian and Keres Pueblo elder Joseph Suina, we will investigate the ancient sites of Chaco, visit contemporary Keres pueblos, and discuss possible connections between the two. Gwinn and Joseph’s lively discourse reveals how different, but mutually respectful, perspectives can lead to a deeper understanding of the rich history of the Pueblo people.

Scholars
Dr. Gwinn Vivian, curator emeritus at the Arizona State Museum, grew up in Chaco Canyon from the late 1930s to the early 1950s, where he developed an intimate understanding of Chaco archaeology that shaped his professional theories. Gwinn has conducted extensive research at Pueblo sites throughout the Chaco world, publishing the results in numerous books and journals.

Dr. Joseph Suina is professor emeritus at the University of New Mexico’s College of Education, former governor of the Keres pueblo of Cochiti, and a current member of Crow Canyon’s Native American Advisory Group. Joseph has devoted much of his career to assessing and improving American Indian education. In his publications and public-speaking engagements, he examines current issues in education and shares his personal experiences as an American Indian living in a multicultural society.

800.422.8975, ext. 160 or 146 - www.crowcanyon.org/travel
Educational Focus
• Ancestral Pueblo (Anasazi) life in Chaco Canyon, with a focus on how agricultural people thrived in such an arid land
• The oral history of the Keresan-speaking Pueblo people, including migration stories that describe Chaco Canyon as one of their ancestors' many stops
• How archaeological and Pueblo perspectives provide complementary ways of understanding the past
• How Keres Pueblo people live today in villages in New Mexico, with a focus on cultural change and continuity over the centuries

Dates: Sunday, May 16 - Saturday, May 22, 2010
Tuition: Donor $2,495, Non-donor $2,620
Deposit: $400, Balance due: March 16, 2010
*Minimum $100 donation

Tour Details
Tuition: Tuition is per person and based on shared accommodations. Tuition includes accommodations, meals listed, entry fees and permits, most gratuities, and transportation from arrival in Albuquerque on May 16, 2010, until departure from Albuquerque on May 22, 2010. Transportation to and from Albuquerque is your responsibility.

Accommodations: Four nights are spent in comfortable motels, and two nights are spent camping near Chaco Culture National Historical Park in an outfitted camp with a port-a-potty, fresh water supply, and backcountry kitchen, but no showers. You may bring your own camping equipment, or we will rent equipment for you at an additional cost. Motel accommodations are double-occupancy; single accommodations are available for an additional fee of $270.

What to Expect: All travel is by Crow Canyon vans. The entire trip takes place at elevations between 5000 and 6200 feet. Access to one site will require a hike of about 1 mile roundtrip over uneven terrain and a short scramble up a gravelly slope. Another hike will be about 3 miles roundtrip over flat ground on a dirt road. Most site visits require standing for 30 minutes or more at a time. Our pace is leisurely and assistance is given, but you must be in reasonably good physical condition. Expect drives on rough back roads.

Detailed Itinerary

Sunday, May 16: Arrival in Albuquerque = Introduction
Arrive in Albuquerque, New Mexico, by 4:00 p.m. for refreshments, dinner, and introductions by Gwin and Joseph. (D)

Monday, May 17: Acoma Pueblo Tour = Pottery Demonstration
West of Albuquerque is the Keres pueblo of Acoma. Known as Sky City, Acoma is perched on the edge of an imposing mesa and is constructed of sandstone masonry similar to the masonry found in buildings in Chaco Canyon. We are guests of Acoma elder and tribal councilman Ernest Vallo, Sr., who will accompany us through the pueblo, including the historic Spanish colonial church. Local potters demonstrate their techniques for making the intricately painted white pottery for which Acoma is famous—and which sometimes is decorated with designs inspired by the pottery of ancient Chaco. Tonight’s lodgings are in the town of Grants. (B, L, D)
**Tuesday, May 18:** Chaco Canyon • Hungo Pavi • Pueblo Bonito • Kin Kletso • Casa Rinconada
Entering Chaco Culture National Historical Park from the south, we stop at the visitor’s center before beginning our tour of “downtown” Chaco. The Hungo Pavi great house, with architecture remarkably similar to that at Acoma, is our first stop. We also explore Pueblo Bonito, an enormous D-shaped complex that contained more than 600 rooms and 40 kivas and in places stood four stories high. Then it’s on to the nearby great house of Kin Kletso and the spectacular great kiva Casa Rinconada. Tonight we camp under the open sky, observing the glittering display of stars and listening to Joseph’s stories of his ancestors’ connections to this ancient place. (B, L, D)

**Wednesday, May 19:** Chaco Outliers • Kin Klizhin • Kin Bineola
Remote back roads take us to two Chacoan outliers—Kin Klizhin and Kin Bineola. Both sites are within the Chaco core, a zone surrounding Chaco Canyon that contains several great houses established in the late A.D. 1000s when the people of Chaco sought additional farmland. We explore not only the great houses but also the remnants of water-control systems used by Chacoan farmers to collect floodwater and divert it to their fields. Later, we take a special tour of an eighteenth-century Navajo site just outside the park that has evidence of Keres pottery, which may suggest trade between the two peoples. After a delicious camp dinner, we enjoy stories around a cozy campfire. (B, L, D)

**Thursday, May 20:** Chaco • Pueblo Pintado • Small House Sites
In the cool of the morning, we visit Pueblo Pintado, an unexcavated outlying great house located on a high ridge visible from miles away, and discuss its possible role in the broader Chaco regional system. Later, we tour several “small house” sites, whose size and distinctive construction have led to considerable archaeological debate over their function. As we leave Chaco, we drive through Fajada Butte and along the southern edge of Chacra Mesa. Tonight we enjoy a hot shower and soft bed in Albuquerque. (B, L, D)

**Friday, May 21:** Old Kotsiri • Cochiti Pueblo
Today, Joseph shares the history and culture of his people. First, he guides us up the rugged trail to Old Kotsiri, a center of Pueblo resistance during the Pueblo Revolt of 1680 and a site that remains vitally important to the people of Cochiti Pueblo today. For those who choose not to hike this trail, there will be an optional visit to Kasha-Katuwe Tent Rocks National Monument, offering an outstanding geologic landscape and panoramic views of the Rio Grande valley and the Sandia, Jemez, and Sangre de Cristo mountains. Then we gather at Cochiti Pueblo, where we enjoy a traditional Pueblo lunch and visit the mission church, San Buenaventura de Cochiti, a visible reminder of Spanish-era occupation. We return to Albuquerque for a final dinner and reflections on the adventures of the week. (B, L, D)

**Saturday, May 22:** Departures from Albuquerque
Departure may be scheduled for any time after breakfast. (B)

*Itinerary subject to change.*
Tour Reservations

Phone: Call 800.422.8975, ext. 160 or 146, Mon–Fri, 8 a.m. to 5 p.m. (Mountain Time).

Online: Use the secure reservation form at www.crowcanyon.org/travel.

Please Note: Online requests are subject to availability. Your credit card will not be charged until your registration is fully processed and confirmed by Crow Canyon.

Late Reservations: To secure reservations on a trip for which the final payment deadline has passed, full payment by credit card is required at the time of your reservation. Last-minute reservations are subject to space availability and may require the payment of late fees.

Cancellation: All cancellation requests must be made in writing to Crow Canyon Registrars, 23390 Road K, Cortez, CO 81321-9048, or e-mailed to travel@crowcanyon.org. Cancellations become effective on the date received. The following penalty schedule applies: On or before March 16, 2010: $200 handling fee; after March 16, 2010: forfeiture of all payments.

Group Size: Our programs are designed for small groups. A minimum number of participants is required for each trip. If this minimum is not reached by the final payment date, you may be offered several options: pay a slightly higher program price, select another program, or receive a full refund. Please contact us to check program status prior to making your travel arrangements.
2010 ARCHAEOLOGY ADVENTURES

FAMILY ARCHAEOLOGY WEEK
A one-week adventure for the whole family!

Make your next family vacation an archaeology adventure! Your family will love learning together in a program that is as exciting for adults as it is for kids. Family Archaeology Week focuses on fun, hands-on activities that introduce children, parents, and grandparents to archaeology and the ancestral Pueblo Indians (the Anasazi) of the Mesa Verde region.

No experience is necessary—just bring your hat, sunscreen, lots of water, and enthusiasm. We’ll provide the rest: fantastic scenery, a peaceful yet stimulating learning environment, great teachers, and world-class archaeology!

Two Sessions
Session I: July 18–24, 2010
Session II: August 15–21, 2010

Hands-On History
Family Archaeology Week includes several hands-on activities to acquaint the entire family with ancestral Pueblo Indian culture and history. Together, you will compare artifacts from different time periods, try your hand at ancient technologies (like starting a fire without matches, making cordage from plant fibers, and throwing spears with atlatls), play traditional Pueblo games, visit a re-created pueblo and pithouse, and get a special guided tour of Mesa Verde National Park, a World Heritage site.

Science Made Simple
Family Archaeology Week also introduces your family to the modern science of archaeology in a fun and engaging way. You will experience firsthand how scientific research is conducted; learn how to identify pottery, stone, and animal bone artifacts; and practice proper excavation techniques in a simulated excavation.

Real Research in Field and Lab
The capstone of Family Archaeology Week is the opportunity for you and your family to experience world-class archaeology. Working alongside our team of archaeologists, you will analyze artifacts in the lab and excavate at our current site in the Goodman Point Unit of Hovenweep National Monument, making discoveries that will help us reconstruct the history of the ancestral Pueblo people.

Activities subject to change.

800.422.8975, ext. 160 or 146 • www.crowcanyon.org/family
Tuition per Person

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<th>Type</th>
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Tuition covers accommodations, meals, entry fees and permits, and local transportation after your arrival in Cortez until your departure from Cortez. Transportation to and from Cortez is your responsibility.

Minimum $100 donation

Note: Children under 12 must be paired with an adult when excavating.

Deposit: $300

Accommodations and Meals

Our 170-acre campus provides space for relaxing, watching wildlife, walking through the pinyon and juniper woods, and enjoying panoramic mountain views from the rocking chairs on the lodge deck.

Your family will be housed together in comfortable, Navajo-style log cabins (hogans). Shared, modern shower and toilet facilities are located in a separate building adjacent to the hogans. You will need to provide your own bedding and towels.

Three delicious meals are served each day. You'll be treated to delectable, healthy meals that feature hearty entrees and fresh fruits and vegetables. A salad bar and vegetable dishes are available for those who favor vegetarian meals.

How to Register

Phone: Call 800.422.8975, ext. 160 or 146, Mon-Fri, 8 a.m. to 5 p.m. (Mountain Time).

Online: Use the secure reservation form at www.crowcanyon.org/family. You will be contacted within two working days to complete registration.

Please Note: Online requests are subject to availability. Your credit card will not be charged until your registration is fully processed and confirmed by Crow Canyon.

Cancellation: Cancellation at any time: $150 handling fee. Cancellation within 40 days of program start date: forfeiture of all payments. All cancellations must be in writing to Crow Canyon Registrar, 23390 Road K, Cortez, CO 81321-9408, or e-mailed to travel@crowcanyon.org.

The Crow Canyon Archaeological Center's programs and admission practices are open to applicants of any race, color, national origin, sex, age, gender, or sexual orientation.

Crow Canyon is a 501(c)(3) not-for-profit organization whose mission is to advance knowledge of the human experience through archaeological research, education programs, and collaboration with American Indians. Crow Canyon is nationally recognized for the quality of its archaeological research and education programs.

Crow Canyon reserves the right to withdraw, without penalty, any on- or off-site program to which a participant is assigned. In the event of the withdrawal of a program, the refund of the purchase price will be made, or to make necessary changes to a program or program schedule. Crow Canyon is not responsible for the cost of previously incurred travel or any other commercial transportation costs.

Registration as a participant does not constitute approval by the State of California — CST 205241-03.
High School Archaeology Camp

Wanted: Enthusiastic high school students to work side-by-side with professional archaeologists!

Join Crow Canyon for an incredible week of archaeological exploration. In this exclusive hands-on introduction to archaeology, you’ll help our team of professional archaeologists at a working excavation site and learn to sort and identify artifacts in our research laboratory. You’ll learn about the different periods of occupation in the Mesa Verde region of the American Southwest and gain a new appreciation for the culture and lifestyles of the ancestral Pueblo (Anasazi) peoples who inhabited this land for thousands of years.

At Crow Canyon’s pithouse and pueblos, learning comes alive. You can try your hand at spear-throwing with an atlatl, making fire without matches, and playing traditional American Indian games. The week is topped off with a special all-day tour of nearby Mesa Verde National Park, a World Heritage site.

Date
July 25–31, 2010

Educational Focus
Introduction to Pueblo Indian history, archaeology, and the scientific process.

Daily Activities
Schedule and activities subject to change.

Sunday: Participants arrive at the Crow Canyon campus between 2 and 3 p.m. After settling into their rooms, they meet their educators, counselors, and fellow students, and then enjoy dinner and take part in an introductory program.

Monday: The adventure in archaeology begins with a lively hands-on introduction to the cultural periods of the ancestral Pueblo Indians. After lunch, a tour at the Goodman Point Unit of Hovenweep National Monument, the location of our current excavations, sets the stage for the week. Introduction to Research, an evening program that explains Crow Canyon’s research in greater detail, is held after dinner.

Tuesday: Students work in the archaeology laboratory, contributing to an important part of Crow Canyon’s work by washing, sorting, identifying, and cataloging previously excavated artifacts. They will learn to recognize different types of artifacts, including pottery, stone tools, and animal bone. After lunch, students participate in a simulated excavation, where they will learn the techniques archaeologists use in the field. The counselors will conduct a program in the evening.

800.422.8975, ext. 146 – www.crowcanyon.org/summercamps.
Daily Activities (continued)

**Wednesday:** This morning, students become active partners in Crow Canyon's research. They begin fieldwork at the Goodman Point Unit, spending half of their day practicing the techniques they learned and using the analytical skills they developed in the first few days of the week. The afternoon is spent learning about the lifestyles of the ancestral Pueblo Indians. Some activities take place in the Pithouse Learning Center and the Pueblo Learning Center, two structures that are replicas of ancient dwellings. Participants will throw spears with atlatls, try to start a fire with a fireboard and spindle stick, and play traditional American Indian games.

**Thursday:** Students return to the field for an additional half-day excavation experience in the morning and continue learning about the lifestyles of the ancestral Pueblo Indians in the afternoon.

**Friday:** A full-day guided tour of Mesa Verde National Park tops off the week's activities. The spectacular cliff dwellings and mesa-top sites provide a memorable backdrop for final lessons on the Pueblo people who lived in this area of mesas, mountains, and canyons. A wrap-up evening program and a graduation party give the staff a chance to thank everyone for their participation and answer any remaining questions about archaeology or becoming an archaeologist.

**Saturday:** Departures follow a self-serve breakfast.

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**Program Details**

**Tuition per Person:**

- **Donor** $1,175
- **Non-Donor** $1,300

Tuition covers accommodations, meals, entry fees and permits, and local transportation after your arrival in Cortez until your departure from Crow Canyon and back to Cortez is your responsibility. For information on scholarships, see www.crowcanyon.org/scholarships or call 800-422-8975, ext. 146.

**Deposit** $300

**Special Notes:**

- After registering for the program and paying your deposit, an application packet will be mailed to you. All forms must be completed and returned to Crow Canyon by June 15, 2018. In addition to filling out the forms in the packet, you will need to provide the following:
  - an essay written by you that explains why you want to participate in this program
  - a recommendation from your parent or guardian.
  - a recommendation from a teacher
  - a comprehensive medical form and certificate of immunization (both signed by your physician)

**Accommodations:**

- You'll stay in our lodge, sharing your room with other students in the program. The accommodations stay in the lodge and provide supervision. The rooms have bunk beds—you'll need to bring your own bedding and towels. Showers and restrooms are down the hall.
- Our 170-acre campus provides space for relaxing, watching wildlife, walking through the prairie and jungle woods, and enjoying panoramic mountain views from the rocking chairs on the lodge deck.
- Three delicious meals are served each day. You'll be treated to delicious, healthy meals that feature hearty entrees and fresh fruits and vegetables. A salad bar and vegetable dishes are available for those who favor vegetarian meals.
2010 ARCHAEOLOGY ADVENTURES

High School Field School

Wanted: Enthusiastic teens to explore the science of the human past!

Become one of approximately 30 teens from around the country who take advantage of the unequalled opportunity to explore the exciting field of archaeology at Crow Canyon’s High School Field School. During three extraordinary weeks, you’ll learn about archaeology in an intensive, hands-on program, while contributing to Crow Canyon’s ongoing research into ancestral Pueblo (Anasazi) culture.

In the middle of the richest archaeological region in the United States, excavate beside archaeologists, analyze real artifacts, and record data in the field and the laboratory. In the pithouse and pueblo learning centers, buildings that replicate ancient Pueblo Indian dwellings, you can try your hand at fire-starting (without matches!) and throwing a spear with an atlatl. You’ll also have the opportunity to learn from local American Indians, who will provide their own perspectives on the history of the region.

The program is filled with field trips to archaeological sites in the area, study and discussion, time for reflection, and opportunities to make new friends. Weekends include hiking and camping trips.

Date
June 27–July 17, 2010

Educational Focus
Introduction to Pueblo Indian history, archaeology, and the scientific process.

Activities
Schedule and activities subject to change.

Sunday: Students arrive at the Crow Canyon campus between 2 and 3 p.m. After settling into their rooms, they meet their educators, counselors, and fellow students, and then enjoy dinner and take part in an introductory program.

Week One: The week begins with an introduction to the history of the ancestral Pueblo Indians and a visit at the Goodman Point Unit of Hovenweep National Monument, the location of our current excavations. Students practice excavation and recording techniques in a simulated excavation, and in the laboratory, students learn how artifacts are processed, catalogued, analyzed, and prepared for curation. Within days, they will begin using their new skills, excavating in the field and working in the laboratory alongside professional archaeologists. During the first two weeks, students will engage in ancient Pueblo lifestyle activities such as spear-throwing with an atlatl, games, and fire-starting. The first week culminates with a visit to spectacular Mesa Verde National Park, a World Heritage site. River rafting and field trips are planned for the weekend.

800.422.8975, ext. 146 • www.crowcanyon.org/summercamps
Activities (continued)

Week Two: This week, archaeological methods, dendrochronology (tree-ring dating), and pottery typology (identifying changes in pottery styles over time) will be explored, and students learn about the processes that create an archaeological site's deposits. The weekend will be spent camping in the canyons and mesas of the Four Corners country.

Week Three: This week, while continuing work in the field and lab, students examine the relevance of archaeology in the modern world. They meet local American Indians, some of whom are members of Crow Canyon’s Native American Advisory Group, and learn about modern cultural perspectives. Discussions of trends in archaeology today, current research, career opportunities, and how advances in technology have changed archaeological methodology will take place during the week. A graduation celebration gives Crow Canyon's staff a chance to thank students for their contributions and say goodbye.

Saturday: Participants depart after a self-serve breakfast.

How to Register

Phone: Call 800.422.8975, ext. 146, Mon.–Fri., 8 a.m. to 5 p.m. (Mountain Time).

Online: Go to www.crowcanyon.org/summacamps and click on the “Sign Up Now!” button for this program, or e-mail summercamp@crowcanyon.org. You will be contacted within two working days to complete your registration.

Please Note: Online requests are subject to availability. Your credit card will not be charged until your registration is fully processed and confirmed by the Crow Canyon registrar.

Cancellation: Cancellation at any time: $150 handling fee. Cancellation within 40 days of program start date: forfeiture of all payments. All cancellations must be in writing to Crow Canyon Registrar, 23390 Road K, Cortez, CO 81321-9408, or e-mailed to summercamp@crowcanyon.org.

Program Details

Tuition per Person:

Donor: $3,950
Non-Donor: $4,075

Tuition covers accommodations, meals, entry, fees and permits, and local transportation after your arrival in Cortez until your departure from Cortez. Transportation to and from Cortez is your responsibility.

For information on scholarships, see www.crowcanyon.org/scholarships or call 800.422.8975, ext. 146.

Incoming high school sophomores through graduated seniors may attend; participants must be 15 years old by program date. Participants are fully supervised by Crow Canyon staff and counselors during their stay. Transferable high school credit available through Montezuma-Cortez High School. Graduated high school seniors may apply for two continuing education units from Adams State College for an additional fee.

Minimum $100 donation

Deposit: $300

Special Notes

After registering for the program and paying your deposit, an application packet will be mailed to you. All forms must be completed and returned to Crow Canyon by May 1, 2010. In addition to filling out the forms in the packet, you will need to provide the following:

- An essay written by you that explains why you want to participate in this program
- A recommendation from your parent or guardian
- A recommendation from a teacher
- A comprehensive medical form and certificate of immunization (both signed by your physician)

Accommodations:

You'll stay in our lodge, sharing your room with other students in the program; counselors stay in the lodge and provide supervision. The rooms have bunk beds—you'll need to bring your own bedding and towels. Showers and restrooms are down the hall.

Our 170-acre campus provides space for relaxing, watching wildlife, walking through the pinyon and juniper woodlands, and enjoying panoramic mountain views from the rockin' chair on the lodge deck.

Three delicious meals are served each day. You'll be invited to deductible, healthy meals that feature hearty entrées and fresh fruits and vegetables. A salad bar and vegetable dishes are available for those who favor vegetarian meals.
2010 TRAVEL ADVENTURES

HOPI SILVER WORKSHOP
July 25–31, 2010

Hopi silversmith, painter, and poet Michael Kabotie was a much-admired scholar and long-time friend of Crow Canyon who, over the years, led a number of programs for the Center, including the Hopi Silver Workshop. When Michael passed away in October 2006, his son Ed, his clan brother Lawrence Saukie, and Lawrence’s wife, Griselda, agreed to take his place in our 2010 workshop, to honor his memory.

Description
Hopi silversmiths use the overlay technique to create beautiful pieces of jewelry that reflect not only their rich Hopi heritage but also their own distinctive, contemporary styles. As you learn how to make your own jewelry using this technique, the small-group setting allows you to explore your creative impulses and engage in thought-provoking discussions on Hopi life and art. At the end of the week, you’ll come away with your own pieces of silver jewelry, as well as a deeper appreciation for how the creative process is inextricably linked to culture and personal experience.

Scholars
Ed Kabotie is of both Hopi and Tewa heritage, for his father’s family is Hopi and his mother’s home is Santa Clara Pueblo. A gifted writer, painter, and musician, his vision is to “creatively express the virtues of Native America through music and art.” In recent years, under his father’s tutelage, he learned the Hopi overlay technique and has proven himself an accomplished silversmith.

Lawrence Saukie has been a Hopi silversmith for more than 60 years, having learned the overlay technique in the 1930s. Lawrence was recognized by the American Museum of Natural History for his contributions to this art form, is a recipient of the Southwestern Association for Indian Arts Lifetime Achievement Award, and has been named an Arizona Living Treasure.

Griselda Saukie, acclaimed Hopi basket weaver and jeweler, is generally acknowledged to be the first female silversmith on the Hopi mesas. Like her husband, she has received the Southwestern Association for Indian Arts Lifetime Achievement Award and is an Arizona Living Treasure.
Educational Focus
- Hopi jewelry and the techniques and designs of Hopi overlay silversmithing
- Hopi culture and artistic tradition
- How individual creativity and cross-cultural influences shape artistic development
- The connections between art and human spirituality, philosophy, and world view.

Tour Details
Tuition: Tuition is per person and based on shared accommodations. Tuition includes accommodations, meals listed, use of jewelry-making tools, a fixed quantity of materials (more materials may be purchased at additional cost), and transportation from arrival in Cortez, Colorado, on July 25, 2010, until departure from Cortez on July 31, 2010. Transportation to and from Cortez is your responsibility.

Accommodations: Shared accommodations are provided in comfortable, Navajo-style log cabins (“hogans”) at the Crow Canyon campus. Private rooms are not available and, depending on enrollment, couples might not be housed together. Shared, modern shower and restroom facilities are located in a separate building adjacent to the hogans.

Meals: Meals as listed in the itinerary are provided in the lodge dining hall. You’ll be treated to delectable, healthy meals that feature hearty entrees and fresh fruits and vegetables. A salad bar and vegetable dishes are available for those who favor vegetarian cuisine.

What to Expect: The workshop takes place on Crow Canyon’s beautiful 170-acre campus (elevation 6200 feet). Most of your time will be spent creating one or more pieces of jewelry. Everyone will work at his or her own pace; previous experience is not required. Most evenings are free for you to work on your pieces, stroll the nature trail, or enjoy panoramic mountain views while relaxing in a rocking chair on the lodge deck.

Please note: The Crow Canyon campus is a center of learning for children, teens, and adults. During this week, you will be sharing the campus with participants in other programs, including students enrolled in Crow Canyon’s High School Archaeology Camp.

Dates: Sunday, July 25–Saturday, July 31, 2010
Tuition: Donor: $1,995  Nondonor: $2,120
Deposit: $400 • Balance due: May 25, 2010
*Minimum $100 donation

Detailed Itinerary

Sunday, July 25: Arrival in Cortez • Introduction
Arrive in Cortez and transfer to the Crow Canyon campus by 4:00 p.m. for dinner and introductions. (D)

Monday, July 26: Hopi Overlay Technique • Project Design • Evening Program
Lawrence, Ed, and Griselda introduce us to the Hopi overlay technique of jewelry making and help everyone design their first piece—ring, bracelet, or pendant. Inspiration for the design may come from Hopi or ancient Pueblo motifs, but you are also encouraged to draw on your own personal inspiration and ideas. This evening, Scott Ortman, Crow Canyon’s director of research and education, will discuss his research on Pueblo imagery, in which he examines the ideas expressed by ancient Pueblo designs. (B, L, D)

Tuesday, July 27: Sheet Silver Cutting • Goodman Point Field Trip
This morning, use delicate saws to cut designs from sheet silver as the group discusses technique, design, and the artistic expression of ideas. In the afternoon, you will have the option of continuing to work on your piece or taking a field trip to the Goodman Point Unit of Hovenweep National Monument, where Crow Canyon is currently conducting excavations. A member of Crow Canyon’s research and
Wednesday, July 28: Soldering + Finishing Steps
Learn how to solder the cutout design layer you created yesterday to a base layer of silver (hence the term “overlay technique”). Lawrence, Ed, and Griselda then guide the group through the finishing steps of filing, sanding, and meticulous buffing. The evening is free to spend as you choose. (B, L, D)

Thursday, July 29: New Project +
Stone Setting + Notah Dineh Field Trip
Begin a new project! Learn how to set a stone in a bezel. After lunch, enjoy an optional field trip to Notah Dineh, a local trading post and museum that features rugs, pottery, baskets, sculpture, and jewelry representing many American Indian artistic traditions and styles. Free evening. (B, L, D)

Friday, July 30: Finish Projects +
Farewell Dinner
Focus on completing your projects and arranging them as part of a group “exhibit.” This evening, reflect on the highlights of the week as the group savors a farewell dinner. (B, L, D)

Saturday, July 31: Departures from Cortez
Departure may be scheduled for any time after breakfast. (B)

Itinerary subject to change.
Tour Reservations

Phone: Call 800.422.8975, ext. 160 or 146, Mon-Fri, 8 a.m. to 5 p.m. (Mountain Time).

Online: Use the secure reservation form at www.crowcanyon.org/travel.

Please Note: Online requests are subject to availability. Your credit card will not be charged until your registration is fully processed and confirmed by Crow Canyon.

Late Reservations: To secure reservations on a trip for which the final payment deadline has passed, full payment by credit card is required at the time of your reservation. Last-minute reservations are subject to space availability and may require the payment of late fees.

Cancellation: All cancellation requests must be made in writing to Crow Canyon Registrar, 23390 Road K, Cortez, CO 81321-9408, or e-mailed to travel@crowcanyon.org. Cancellations become effective on the date received. The following penalty schedule applies: On or before May 25, 2010: $200 handling fee; after May 25, 2010: forfeiture of all payments.

Group Size: Our programs are designed for small groups. A minimum number of participants is required for each program. If this minimum is not reached by the final payment date, you may be offered several options: pay a slightly higher program price, select another program, or receive a full refund. Please contact us to check program status prior to making your travel arrangements.
Middle School Archaeology Camp

Wanted: Enthusiastic middle school students to explore the archaeology of the Mesa Verde region!

Think you're too young for archaeology? Think again! This popular, week-long introduction to the study of the human past is filled with exciting opportunities for middle school students to discover the cultural history, geography, and archaeology of the Four Corners area of the American Southwest.

During your week at Crow Canyon, you will study the fascinating history of the ancient Pueblo Indians (the Ancestral) who lived in the Mesa Verde region. You'll help our team of professional archaeologists at a working excavation site, learn to sort and identify artifacts in our research laboratory, and have plenty of time to make new friends.

At Crow Canyon's pithouse and pueblo learning centers, you can try your hand at spear-throwing with an atlatl, making a fire without matches, and playing traditional American Indian games. You'll gain an appreciation for the amazing skills and lifeways of the people who inhabited the Mesa Verde region 800 to 1,500 years ago. The week is capped off with a special all-day tour of nearby Mesa Verde National Park, a World Heritage site.

Educational Focus
Introduction to Pueblo Indian history, archaeology, and the scientific process.

Daily Activities
Schedule and activities subject to change.

Sunday: Participants arrive at the Crow Canyon campus between 2 and 5 p.m. After settling into their rooms, they meet their educators, counselors, and fellow students, and then enjoy dinner and take part in an introductory program.

Monday: The adventure in archaeology begins with a lively hands-on introduction to the history of the ancestral Pueblo Indians. Then, in the afternoon, students will excavate and interpret three simulated sites and will learn the techniques professional field archaeologists use to excavate a site. They will also learn about the scientific method and how archaeologists formulate research questions. In the evening, students will enjoy an intriguing program on a topic such as rock art.

Tuesday: Today, students take a special field trip just for Middle School Archaeology Camp students—a visit to an archaeological site located in the beautiful San Juan Mountains. This site dates to the Ancestral period, and our visit here helps students imagine what life was like for the Ancestral Indians living in the region so long ago. After a picnic lunch, the group hikes to a rock art panel few have the opportunity to see. In the evening, David Nighswager,
Daily Activities (continued)

Wednesday: This day’s activities are held at the Pithouse Learning Center and the Pueblo Learning Center, structures that are replicas of ancient dwellings. Students try their hand at space-throwing with an atlatl and making fire with a bow and spindle—skills ancient people needed to survive. Students also play traditional American Indian games. The day ends with an evening outing to the Cortez Cultural Center to watch a performance by American Indian dancers.

Thursday: The morning is spent excavating at the Goodman Point Unit of Havasupai National Monument, helping Crow Canyon’s archaeologists do their research. The afternoon will be spent in the archaeology laboratory, where students will learn how to recognize various types of artifacts, including pottery, stone tools, and animal bones. The activities include washing, identifying, and analyzing artifacts previously recovered from excavation sites. A counselor-led activity concludes the day.

Friday: A special full-day tour of Mesa Verde National Park rounds out the week at Crow Canyon. Surrounded by the park’s incredible natural beauty and remarkable archaeological treasures, students review and discuss what they have learned. A graduation party wraps up the day, and everyone has a chance to chat with the new friends they’ve made.

Saturday: Departures follow a self-serve breakfast.

How to Register

Phone: Call 800.422.8975, ext. 146, Mon-Fri, 8 a.m. to 5 p.m. (Mountain Time).

Online: Go to www.crowcanyon.org/summercamps and click on the “Sign Up Now!” button for this program, or e-mail summercamps@crowcanyon.org. You will be contacted within two working days to complete your registration.

Please Notes: Online requests are subject to availability. Your credit card will not be charged until your registration is fully processed and confirmed by the Crow Canyon registrar.

Cancellation: Cancellation at any time: $150 handling fee. Cancellation within 40 days of program start date. Forfeiture of all payments. All cancellations must be in writing to Crow Canyon Registrar, 23390 Road K, Cortez, CO 81321-9408, or e-mailed to summercamps@crowcanyon.org.

Program Details

Tuition per Person:

Donor* $1,175
Non-donor $1,300

Tuition covers accommodations, meals, entry fees, and permits, and all transportation to and from the Crow Canyon campus. Transportation to and from Cortez is the responsibility of the participant. For information on scholarships, see www.crowcanyon.org/scholarship or call 800.422.8975, ext. 146.

Participants must be 12 years old by program date and must have completed sixth, seventh, or eighth grade. Participants are fully supervised by Crow Canyon staff and counselors during their stay.

Minimum $100 donation

Deposit $300

Special Notes:

After registering for the program and paying your deposit, an application packet will be mailed to you. All forms must be completed and returned to Crow Canyon by May 6, 2010. In addition to filling out the forms in the packet, you will need to provide the following:

• a letter written by you explaining why you want to participate in this program
• a recommendation from your parent or guardian
• a recommendation from a teacher
• a comprehensive medical form and certificate of immunization (both signed by your physician)

Accommodations:

You’ll stay in our lodge, sharing your room with other students in the program; counselors will stay in the lodge and provide supervision. The rooms have bunk beds—you’ll need to bring your own bedding and towels. Showers and restrooms are down the hall.

Our 170-acre campus provides space for relaxing, watching wildlife, walking through the pines and juniper woods, and enjoying panoramic mountain views from the rocking chairs on the lodge deck.

Three delicious meals are served each day.

You’ll be treated to delectable, healthy meals that feature hearty entrees and fresh fruits and vegetables. A salad bar and vegetable dishes are available for those who favor vegetarian meals.

The Crow Canyon Archaeological Center’s programs and admission practices are open to applicants of any race, color, national origin, sexual orientation, gender, or disability. Crow Canyon is a 501(c)(3) not-for-profit organization whose mission is to advance knowledge of the human experience through archaeological research, education programs, and collaboration with American Indians. Crow Canyon is designed to provide opportunities for the public and to provide educational programs.

Crow Canyon reserves the right to withdraw, without penalty, any announced program in which case, a full refund of the purchase price will be made or to make necessary changes to a program in program schedule. Crow Canyon is not responsible, in the event of cancellation or alteration of a program, for any airline or other transportation reservations cancellation penalty incurred by participant. A nonrefundable deposit is required to hold a seat in any program. Additional program costs will be assessed to make your travel arrangements. We strongly recommend that you purchase travel insurance. Terms and conditions will be sent as part of your registration package.

Registration as a seller of travel does not constitute approval by the State of California - CST 2038534-50.
SCHOOL GROUP PROGRAMS
Experiential Learning for School Groups, Grades 4–12

At the Crow Canyon Archaeological Center, we believe that the goal of education is to give students the intellectual tools they need to explore the world and think critically. We also believe that the optimal educational environment encourages students to actively participate in the learning process through hands-on activities and group discussion.

Crow Canyon’s programs for school groups are designed for students in grades 4 through 12. Program modules vary depending on grade level, program length, and group size, but core activities teach students about archaeology, ancestral Pueblo Indian (Anasazi) history, the scientific process, and the complex interactions between people and their environments.

The Crow Canyon curriculum...

• is based on the belief that everyone’s history matters
• articulates with National Education Standards in social science, history, science, geography, and math
• allows students to “experience the past” through hands-on activities at our pithouse and pueblo learning centers, which replicate Pueblo settlements during the seventh and twelfth centuries A.D.
• was developed in consultation with Pueblo Indians and other indigenous peoples to ensure that what we teach is accurate, respectful, and mindful of the connections between past and present.
DESCRIPTION OF ACTIVITIES

Windows (or Inquiries) Into the Past
Students explore the concept of cultural continuity and change by examining artifact replicas and other archaeological evidence representing different periods in Pueblo history. Through group discussion of their observations and inferences, students construct a chronology spanning thousands of years. (Windows: elementary students; Inquiries: middle and high school students)

Basketmaker Lifestyles
At the Pithouse Learning Center, students explore a replica of a seventh-century Basketmaker pithouse and engage in a variety of hands-on activities, including fire-starting (with a fire bow), making fiber cordage, and “hunting” with spears and atlatls.

Pueblo Lifestyles
At the Pueblo Learning Center, students investigate a replica of a masonry pueblos, including rooms and a two-story tower. They discuss natural resources and farming practices, learn Pueblo games, and weave on an upright loom, to get a feel for Pueblo life in the twelfth century.

Simulated Excavation
Students get “hands-on” with the practical skills of field archaeology as they excavate and map site replicas representing different Pueblo time periods. Using the scientific method, students develop their own research questions and draw conclusions on the basis of their observations.

Field Excavation
Under the careful supervision of staff archaeologists and educators, students excavate at Crow Canyon’s current site, contributing to the Center’s ongoing research into ancient Pueblo culture. (Note: in accordance with Crow Canyon policy, we do not seek human remains as objects of study.)

Site Tour
Emphasizing proper site etiquette, the educator leads students on a tour of a current or recent Crow Canyon excavation site. Students learn about ongoing fieldwork and the results of previous excavations at other sites in the area. (Required for students who will excavate in the field.)

Lab
Students wash, analyze, and catalog real artifacts from recent excavations. They also visit the curation room to see and discuss artifacts recovered from earlier excavations.

Pottery
Students discuss the importance of pottery to archaeologists as well as to the ancient Pueblo people, and they use ancient techniques to make their own pottery vessels.

Anasazi Heritage Center Tour
Interactive exhibits on artifacts, analyses, and modern Pueblo perspectives enhance students’ understanding of local archaeology. A short hike behind the museum to Escalante Pueblo affords a panoramic view of the landscape that was home to the ancient Pueblo people.

Mesa Verde National Park Tour
Students typically visit this World Heritage site at the culmination of their program. They tour several excavated sites (including the famous cliff dwellings), visit the museum, and review the concepts they learned throughout the week.

Activities can be modified to accommodate the cultural concerns of American Indian students.

Registrar: 970.564.4346 or 800.422.8975, ext. 146   www.crowcanyon.org/schools
**Program Schedules**

March–November

School group programs vary in length from one to five days. The **Field Archaeology** program includes excavating at a real archaeological site. The **Archaeology** programs include excavating at a simulated site only. Overnight programs include evening activities, such as Stories, Rock Art, Sunset Silhouettes, Astronomy, Ethics, and Migration. Please call the registrar for assistance in developing your program.

Activities and schedules are subject to change depending on group size, weather conditions, camper capacity, and other factors.

### Five-Day Field Archaeology Program
**For Middle & High School Students**

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inquiries Into the Past</td>
</tr>
<tr>
<td></td>
<td>Simulated Excavation</td>
</tr>
<tr>
<td>2</td>
<td>Lab</td>
</tr>
<tr>
<td></td>
<td>Site Tour</td>
</tr>
<tr>
<td>3</td>
<td>Field Excavulation*</td>
</tr>
<tr>
<td></td>
<td>Basketmaker Lifestyles</td>
</tr>
<tr>
<td>4</td>
<td>Field Excavulation</td>
</tr>
<tr>
<td></td>
<td>Pueblo Lifestyles</td>
</tr>
<tr>
<td>5</td>
<td>Mesa Verde National Park Tour</td>
</tr>
</tbody>
</table>

*High school students spend the entire day in the field.*

Five-day programs begin with arrival Sunday evening and end with departure Saturday morning (total of six nights on campus).

### Five-Day Archaeology Program
**For Middle & High School Students**

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Inquiries Into the Past</td>
</tr>
<tr>
<td></td>
<td>Simulated Excavation</td>
</tr>
<tr>
<td>2</td>
<td>Site Tour</td>
</tr>
<tr>
<td></td>
<td>Basketmaker Lifestyles</td>
</tr>
<tr>
<td>3</td>
<td>Lab</td>
</tr>
<tr>
<td></td>
<td>Pottery</td>
</tr>
<tr>
<td>4</td>
<td>Pueblo Lifestyles</td>
</tr>
<tr>
<td></td>
<td>Anasazi Heritage Center Tour</td>
</tr>
<tr>
<td>5</td>
<td>Mesa Verde National Park Tour</td>
</tr>
</tbody>
</table>

*Program can be modified for elementary school students.*

### Four-Day Archaeology Program
**Grades 4–12**

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Windows or Inquiries Into the Past</td>
</tr>
<tr>
<td></td>
<td>Basketmaker Lifestyles</td>
</tr>
<tr>
<td>2</td>
<td>Simulated Excavation</td>
</tr>
<tr>
<td></td>
<td>Pueblo Lifestyles</td>
</tr>
<tr>
<td>3</td>
<td>Anasazi Heritage Center Tour</td>
</tr>
<tr>
<td></td>
<td>Lab, Site Tour, or Pottery</td>
</tr>
<tr>
<td>4</td>
<td>Mesa Verde National Park Tour</td>
</tr>
</tbody>
</table>

Four-day programs begin with arrival Sunday or Monday evening and end with departure Friday or Saturday morning (total of five nights on campus).

### Three-Day Archaeology Program
**Grades 4–12**

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Windows or Inquiries Into the Past</td>
</tr>
<tr>
<td></td>
<td>Basketmaker Lifestyles</td>
</tr>
<tr>
<td>2</td>
<td>Simulated Excavation</td>
</tr>
<tr>
<td></td>
<td>Pueblo Lifestyles</td>
</tr>
<tr>
<td>3</td>
<td>Mesa Verde National Park Tour</td>
</tr>
</tbody>
</table>

A typical three-day program begins with arrival Monday evening and ends with departure Friday morning (total of four nights on campus).

### Two-Day Archaeology Program
**Grades 4–12**

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Windows or Inquiries Into the Past</td>
</tr>
<tr>
<td></td>
<td>Basketmaker Lifestyles</td>
</tr>
<tr>
<td>2</td>
<td>Simulated Excavation</td>
</tr>
<tr>
<td></td>
<td>Pueblo Lifestyles</td>
</tr>
</tbody>
</table>

Two-day programs require at least one overnight at Crow Canyon; depending on your group’s travel schedule, you may also spend up to two additional nights on campus, before and/or after your program.

### Student Day Program
**Grades 4–12**

<table>
<thead>
<tr>
<th>AM</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Windows or Inquiries Into the Past</td>
</tr>
<tr>
<td></td>
<td>Basketmaker and/or Pueblo Lifestyles</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PM</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plan to arrive on campus between 8:30 and 9:00 a.m. Students and chaperones should bring sack lunches.</td>
</tr>
</tbody>
</table>

"Children discover much about the power of observation, respect, inference, teamwork, and a bit about themselves. I view this program as a rite of passage for Vail Mountain School students. We have made this trip a priority for the last eight years and will continue to do so—the experience just keeps getting better, year after year."

— Dale Dinswell, Director of Lower School, Vail Mountain School, Vail, Colorado

Registrar: 970.564.4346 or 800.422.8975, ext. 146  [www.crowcanyon.org/schools](http://www.crowcanyon.org/schools)
Accommodations

Students and chaperons stay in dormitory-style rooms in the lodge (with showers and restrooms down the hall) or in several Navajo-style cabins called “hogan” (with showers and restrooms in a nearby building). Accommodations are assigned on the basis of availability. All the rooms have bunk beds, and everyone needs to bring his or her own towel and bedding.

Three delicious meals are served each day. You and your students will be treated to delectable, healthy meals that feature hearty entrees and fresh fruits and vegetables. A salad bar and vegetable dishes are available for those who favor vegetarian cuisine.

Our 170 acre rural campus offers many opportunities to relax, watch wildlife, walk through the pinyon and juniper woods, and enjoy panoramic mountain views from the rocking chairs on the lodge deck. Yet we are located just minutes from the town of Cortez, where services, including medical care at a modern hospital, are readily accessible.

How to Register

Phone: Call 970.564.4346 (toll-free 800.422.8975, ext. 146), Monday–Friday, 8 a.m. to 5 p.m. Mountain Time. Crow Canyon’s registrar will walk you step-by-step through the registration process and answer any questions you may have.

E-mail: E-mail us at schoolgroups@crowcanyon.org, and our registrar will give you a call (be sure to include your telephone number and the best time to call in your e-mail).

Reservations are subject to availability.

Other Programs

Crow Canyon also offers a three-week high school field school, two one-week teen camps, and a special course for educators every summer. Visit the education area of our Web site (www.crowcanyon.org/education), or call 970.564.4346 (toll-free 800.422.8975, ext. 146), Monday–Friday, 8 a.m. to 5 p.m. Mountain Time, for more information.

About Crow Canyon

Founded in 1983, the Crow Canyon Archaeological Center is dedicated to advancing knowledge of the human experience through archaeological research, education programs, and collaboration with American Indians.
# School Group Programs

**Tuition and Fees**

Student tuition and chaperon fees vary, depending on program type, program length, number of nights spent on campus, and number of students and chaperons.* The following price ranges are provided as general information; please call the registrar (970.564.4346 or toll-free 800.422.8975, ext. 146) for details.

<table>
<thead>
<tr>
<th>Program</th>
<th>Five-Day Field Archaeology Program</th>
<th>Five-Day Archaeology Program</th>
<th>Four-Day Archaeology Program</th>
<th>Three-Day Archaeology Program</th>
<th>Two-Day Archaeology Program</th>
<th>Student Day Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost (per student)</td>
<td>$625-$750</td>
<td>$575-$632</td>
<td>$464-$578</td>
<td>$336-$391</td>
<td>$117-$161</td>
<td>$32-$39</td>
</tr>
<tr>
<td>Chaperon (per required chaperon)</td>
<td>$250 per required chaperon</td>
<td>$250 per required chaperon</td>
<td>$200 per required chaperon</td>
<td>$150 per required chaperon</td>
<td>$45-$100 per required chaperon</td>
<td>No charge for chaperon</td>
</tr>
</tbody>
</table>

*Schools are required to provide their own chaperons, which may include teachers and parents. Please note that Crow Canyon is a licensed child-care camp (license number 46348) governed by State of Colorado regulations. We are required by state law to adhere to the following chaperon-to-student ratios:

- **Children 6-10 years of age (grades 1-5)**: 1 adult chaperon to every 8 children
- **Children 11-13 years of age (grades 6-7)**: 1 adult chaperon to every 10 children
- **Children 14-18 years of age (grades 8-12)**: 1 adult chaperon to every 12 children

Schools may bring more than the required number of chaperons, contingent upon available space; additional chaperons pay the student rate.

Tuition and fees cover lodging based on shared accommodations, meals as agreed upon in the final contract, entry fees, and permits. Transportation to and from Cortez, Colorado, is the school’s responsibility.

**Deposit**

A nonrefundable deposit of $100 to $500 (depending on program length) is required to secure your group’s reservation and can be made by check or credit card (MasterCard, VISA, or American Express).

**Cancellations**

All requests for program cancellations must be made in writing.

**Send to:** Crow Canyon Registrar  
Crow Canyon Archaeological Center  
23390 Road K, Cortez, CO 81321-9408

**E-mail:** schoolgroups@crowcanyon.org

Cancellations become effective on the date received and will result in the forfeiture of the deposit and possibly the assessment of additional penalties and fees. Complete details provided at registration and in the program contract.

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**CROW CANYON**  
ARCHAEOLOGICAL CENTER  
Registrar: 970.564.4346 or 800.422.8975, ext. 146  
www.crowcanyon.org/schools
## Articulation of Selected Crow Canyon Activities with National Education Standards

<table>
<thead>
<tr>
<th>Crow Canyon Activity</th>
<th>Social Science</th>
<th>U.S. History</th>
<th>Science</th>
<th>Geography</th>
<th>Mathematics</th>
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</thead>
<tbody>
<tr>
<td><strong>Windows (or Inquiries) Into the Past</strong></td>
<td>Culture</td>
<td>Time, Continuity, &amp; Change</td>
<td>Chronological Thinking</td>
<td>Science as Inquiry</td>
<td>The World in Spatial Terms: Places &amp; Regions</td>
</tr>
<tr>
<td></td>
<td>People, Places, &amp; Environments</td>
<td>Historical Comprehension</td>
<td>Science in Personal &amp; Social Perspectives</td>
<td>Human Systems</td>
<td>Human Systems</td>
</tr>
<tr>
<td></td>
<td>Individual Development &amp; Identity</td>
<td>Historical Analysis &amp; Interpretation</td>
<td>Science &amp; Technology</td>
<td>Environment &amp; Society</td>
<td>Environment &amp; Society</td>
</tr>
<tr>
<td><strong>Basketmaker Lifestyles</strong></td>
<td>Culture</td>
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<td>Places &amp; Regions</td>
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<td></td>
<td>Historical Research Capabilities</td>
<td>Science &amp; Technology</td>
<td>Environment &amp; Society</td>
<td>Environment &amp; Society</td>
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<td><strong>Pueblo Lifestyles</strong></td>
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<td>Environment &amp; Society</td>
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<tr>
<td><strong>Simulated Excavation</strong></td>
<td>Culture</td>
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<td>Culture</td>
<td>Time, Continuity, &amp; Change</td>
<td>Chronological Thinking</td>
<td>Science as Inquiry</td>
<td>The World in Spatial Terms</td>
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<td>Human Systems</td>
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<td><strong>Lab</strong></td>
<td>Culture</td>
<td>Time, Continuity, &amp; Change</td>
<td>Chronological Thinking</td>
<td>Science as Inquiry</td>
<td>Measurement</td>
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ONLINE STUDENT RESOURCES

Pueblo Indian History
This brief history of the Pueblo Indians of the American Southwest is geared toward young students. Its primary focus is the ancestral Pueblo Indians (also called the Anasazi) of the Mesa Verde region and how their lifestyle changed over time.

Peoples of the Mesa Verde Region
Intended for older students and adults, this chronology summarizes more than 10,000 years of American Indian history and approximately 250 years of European-American history in the Mesa Verde region. Includes maps and historic photographs.

Castle Rock Pueblo: A Trip Through Time
Students travel back in time to Castle Rock Pueblo, a large village inhabited in the thirteenth century A.D. and excavated by Crow Canyon in the 1990s. They visit the site during three different time periods and imagine what it was like to be an ancestral Pueblo Indian, a U.S. government explorer, and a Crow Canyon archaeologist.

Woods Canyon Pueblo: Life on the Edge
Students are challenged to think about why Pueblo Indians built their village on the edge of a steep cliff more than 800 years ago. They read what archaeologists have to say and meet descendants of the Pueblo people who once lived in the Mesa Verde region.

Student Glossary
This glossary contains words commonly used by archaeologists and historians and defines them in ways students can understand.

Student Reading List
For young students who want to learn more about the archaeology and cultures of the American Southwest, this reading list will get them started.

www.crowcanyon.org/students

CROW CANYON ARCHAEOLOGICAL CENTER
Registrar: 970.564.4346 or 800.422.8975, ext. 146
www.crowcanyon.org/schools
ONLINE TEACHER RESOURCES

Study Guides and Lesson Plans
These study guides and lesson plans focus on different aspects of archaeology and Pueblo Indian culture and are designed to develop your students’ understanding of basic concepts in history, geography, archaeology, math, and the scientific method.

Peoples of the Mesa Verde Region
This chronology summarizes more than 10,000 years of American Indian history and approximately 250 years of European-American history in the Mesa Verde region. Includes maps and historic photographs.

Archaeological Glossary
This glossary defines terms used by Southwestern archaeologists to describe and interpret their findings.

General-Interest Reading List
The resources listed here allow interested readers to explore the archaeology, history, and indigenous cultures of the Southwest in detail.

Education Bibliography
This bibliography lists texts that deal specifically with the application of educational theory to the teaching of archaeology and anthropology.

www.crowcanyon.org/teachers

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FROM A TEACHER...

PLYMOUTH-CANTON EDUCATIONAL PARK

CANTON HIGH SCHOOL
S. Canton Center Road • Canton, Michigan 48188
Phone: 734-995-1000
Fax: 734-995-1044
D. Cynamon, Principal

PLYMOUTH HIGH SCHOOL
3940 S. Pontiac Trail • Canton, Michigan 48188
Phone: 734-995-1000
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D. Cynamon, Principal

Salem High School
3940 S. Pontiac Trail • Canton, Michigan 48188
Phone: 734-995-1000
Fax: 734-995-1044
D. Cynamon, Principal

September 6, 2007

Crow Canyon Archaeological Center
High School Field Program
Letter of Endorsement

As teachers, our daily challenge is to find meaningful ways to facilitate the academic and affective growth of our students. Our task is made easier to those students who not only are knowledgeable in subject and content, but also see these same students are fully immersed as they analyze and critically evaluate new data and concepts. Whether they are learning about the process of scientific research and inquiry, or to make connections between the material and social sciences, to be skilled problem solvers, creative thinkers, responsible about learning, and to be active participants in their community, is quite an ambitious agenda for education.

Places like Crow Canyon provide the perfect setting, support and inspiration for such a mission. For the last 20 years, I have been taking students to Crow Canyon every year. I believe that there is no better way to learn history than to “bring it to life” in the classroom—a hands-on, authentic experience that makes learning come alive. As we visit Crow Canyon, I am excited to introduce history to my students. As my students actively engage in archaeological research, they become a part of the scientific process. Working alongside professional archaeologists, they, themselves, are a part of that community. Students realize the real world value of the analytical and communicational skills that they have previously developed in the classroom—skills which they are able to expand, as they use these understandings on site, in the lab and in similar discussions.

Crow Canyon is a place where it is through exploration or as an active participant in the field, one becomes a sense of “connectedness” to all of human culture. When my students emerge from a field trip, they understand the interrelationship between the men, women and children that lived and worked along this spot over 100 years ago. These are the places that we as students experience the once in a lifetime, through the lens of time and place.

On a more personal level, I see Crow Canyon as a place where my students are treated with respect and dignity and valued for the contributions that they make to the research program. This research and educational staff values and embraces our students as perfect models as they demonstrate the cultural application of research techniques, critical analysis of theory and a respectful recognition of cultural diversity.

Crow Canyon is a place where we can share and connect with other departments and labs to learn more about our culture. Crow Canyon is a place where we can share our findings and connect with other researchers and archaeologists. Crow Canyon is a place where we can learn more about our culture and connect with other researchers and archaeologists. Crow Canyon is a place where we can learn more about our culture and connect with other researchers and archaeologists.

For these reasons, I believe that Crow Canyon is an excellent place for students to learn about history and culture. I strongly endorse the Crow Canyon Field Program and encourage other teachers and students to participate in this program.

Sincerely,

[Signature]

David M. Glanz
Teacher, Canton High School
AWARDS & RECOGNITION

Crow Canyon’s contributions to American archaeology and education have been widely recognized by numerous professional and governmental entities.

2008 National Trust for Historic Preservation’s National Preservation Honor Award
2008 Colorado Historical Society’s Caroline Bancroft History Award for the film *Visit with Respect* (awarded to the Anasazi Heritage Center for a collaborative project with Crow Canyon and the San Juan Mountains Association)
2006 Colorado Historical Society’s Caroline Bancroft History Award for project titled “Making History: Engaging the Public in Reconstructing the Past”
2006 Colorado Preservation, Inc., State Honor Award for project titled “Ancient Images, Pueblo Perspectives” (co-recipient with the Anasazi Heritage Center)
2003 Colorado Historical Society’s Stephen H. Hart Award for Leadership in Educational Programming in Colorado Archaeology
2003 Princeton Review: The Best 109 Internships
2002 Awesome Library Editor’s Choice for *Castle Rock Pueblo: A Trip Through Time*
1999 Society for American Archaeology’s Award for Excellence in Public Education
1992 President’s Historic Preservation Award
1991 El Pomar Foundation’s Henry McAllister Award for Excellence in Special Projects

CROW CANYON
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Registrar: 970.564.4346 or 800.422.8975, ext. 146
www.crowcanyon.org/schools
2010 Travel Adventures

Traders, Trading Posts, and the Development of Southwest Indian Art
June 13–19, 2010

Description
Contemporary Southwest Indian art is the culmination of thousands of years of cultural and aesthetic development. Archaeological finds of beautiful pottery, jewelry, and rock art demonstrate that indigenous people have always valued beauty and craftsmanship. With the arrival of Anglo traders in the Southwest in the 1800s, there developed a wide appreciation of—and demand for—American Indian art. Encouraged by traders, native artists began developing innovative art forms and styles that drew on ancient precedents but also reflected their own unique experiences.

Join the husband and wife team of Joe and Cindy Tanner, members of a trading-post family dynasty, as we visit historic and contemporary trading posts throughout northwestern New Mexico and meet some of the most recognized American Indian artists in their fields—including weavers, painters, fetish carvers, jewelers, sculptors, and sand painters.

Scholars
Joe and Cindy Tanner are among the best-known American Indian art traders in the Southwest. Joe is a fourth-generation “old-school” trader and a leading authority on turquoise, with a private collection that includes one of the finest assemblages of natural turquoise in the world. He and Cindy are passionate about cultivating local native talent and have helped advance the careers of some of the most recognizable names in Southwest Indian art. Both are heavily involved in the Inter-Tribal Indian Ceremonial Art Show; Joe currently serves as head judge in this prestigious juried event.

In addition, we will be joined regularly by a variety of American Indian artists.

800.422.8975, ext. 160 or 146 • www.crowcanyon.org/travel
Educational Focus

- The history of traders and trading posts in the northern Southwest from the mid-1800s to the present
- The cultural and economic impacts of trading on indigenous peoples
- How the American Indian art trade has influenced the development of native art
- The future of trading in the twenty-first century

Dates: Sunday, June 13 - Saturday, June 19, 2010
Tuition: Donor $2,395  Nondonor $2,520
Deposit: $400  Balance due: April 13, 2010
*Minimum $100 donation

Tour Details

Tuition: Tuition is per person and based on shared accommodations. Tuition includes accommodations, meals listed, entry fees and permits, most gratuities, and transportation from arrival in Farmington, New Mexico, on June 13, 2010, until departure from Farmington on June 19, 2010. Transportation to and from Farmington is your responsibility.

Accommodations: All nights are spent in comfortable motels. Motel accommodations are double-occupancy; single accommodations are available for an additional fee of $375.

What to Expect: All travel is by Crow Canyon vans; no drive is more than two hours. The entire trip takes place at elevations between 5000 and 6500 feet. The program requires no hiking. There will be opportunities for leisurely discussions with the scholars and artists and plenty of time to purchase works of art.

Detailed Itinerary

Sunday, June 13: Arrival in Farmington, New Mexico  Introduction
Arrive in Farmington, New Mexico, by 4:00 p.m. for refreshments, dinner, and introductions. (D)

Monday, June 14: Farmington Museum  Fifth Generation Trading Company  Hatch Brothers Trading Post
A visit to the Farmington Museum at Gateway Park, which features a replica 1930s-era trading post, introduces us to the rich history of Farmington. Next we visit Fifth Generation Trading Company, where Joe’s son, Joe Tanner, Jr., runs a showroom housing the largest trading post collection of Navajo sand paintings in the Southwest. In the nearby town of Fruitland, we stop by the Hatch Brothers Trading Post on the north bank of the San Juan River. One of the last traditional Navajo trading posts, Hatch Brothers is operated by proprietor Stewart Hatch in much the same way that business was conducted during the pioneer days. Throughout the day, we have the opportunity to meet with Navajo artists who supply the traders with their handcrafts. Lodging in Farmington. (B, L, D)
Tuesday, June 15: Shiprock • Two Grey Hills Trading Post • Gallup

This morning we make our way south toward Gallup. On the way, we stop at the Northern Navajo Medical Center in Shiprock, where we view the works of Navajo painter James King (Woolenshirt) and Navajo sculptor Tim Washburn. We then continue on to Two Grey Hills Trading Post, the oldest continuously operated trading post in private ownership. Trader and owner Les Wilson sells the exquisite rugs for which the area is famous and introduces us to some of the Navajo weavers who create them. This evening we arrive in Gallup, New Mexico, one of the major commercial centers for traders and artists in the eastern Navajo Reservation. Lodging in Gallup. (B, L, D)

Wednesday, June 16: Zuni Pueblo

Zuni Pueblo, south of Gallup, has been occupied for at least five centuries and may have been the famed Seven Cities of Cibola sought by the Spaniards in the 1500s. Though they found no gold, the Spanish did meet Zuni residents adorned in turquoise, a stone still used by Zuni jewelers and fetish carvers today. At Zuni, we meet descendants of “Old Man” Leekya, one of the most famous fetish carvers in the first half of the twentieth century. Today, his children and grandchildren carry on his legacy. We also visit Our Lady of Guadalupe Church, which was built in 1629 but more recently has been decorated with kachina mural paintings by renowned artist Alex Seowtewa. On our way back to Gallup, we meet Justin Winfield, a third-generation trader whose grandfather mined Lone Mountain Turquoise. Lodging in Gallup. (B, L, D)

Thursday, June 17: Tanner Private Gallery • Richardson’s, Shush Yaz, and Ellis Tanner Trading Companies

Today, Joe and Cindy Tanner invite us to their private gallery to view their extensive collection of jewelry, weavings, pottery, kachina dolls, baskets, and turquoise. We then visit Richardson’s Trading Company, which has been family owned and operated since it was established in 1913. After lunch we visit Shush Yaz Trading Company, owned by the Don Tanner family and managed by Bill Malone, who also operated Hubbell Trading Post for 23 years. Then it’s on to Ellis Tanner Trading Company, where Joe’s brother Ellis guides us through his collection. We also meet Navajo painter and Living Treasure Chester Kahn, who painted the “Circle of Light” on display at Ellis’s trading post. Lodging in Gallup. (B, L, D)

Friday, June 18: Gallup Trading Posts • Tsaya Trading Post

This morning is at your leisure, with the option of revisiting any of the Gallup trading posts. After lunch we depart for Farmington via the Veterans Highway and stop at Tsaya Trading Post along the way. Lodging in Farmington. (B, L, D)

Saturday, June 19: Departures from Farmington

Departure may be scheduled for any time after breakfast. (B)

Itinerary subject to change.
Tour Reservations

Phone: Call 800.422.8975, ext. 160 or 146. Mon-Fri, 8 a.m. to 5 p.m. (Mountain Time).

Online: Use the secure reservation form at www.crowcanyon.org/travel.

Please Note: Online requests are subject to availability. Your credit card will not be charged until your registration is fully processed and confirmed by Crow Canyon.

Late Reservations: To secure reservations on a trip for which the final payment deadline has passed, full payment by credit card is required at the time of your reservation. Last-minute reservations are subject to space availability and may require the payment of late fees.

Cancellation: All cancellation requests must be made in writing to Crow Canyon Registrar, 23390 Road K, Cortez, CO 81321-9408, or e-mailed to travel@crowcanyon.org. Cancellations become effective on the date received. The following penalty schedule applies: On or before April 13, 2010: $200 handling fee; after April 13, 2010: forfeiture of all payments.

Group Size: Our programs are designed for small groups. A minimum number of participants is required for each trip. If this minimum is not reached by the final payment date, you may be offered several options: pay a slightly higher program price, select another program, or receive a full refund. Please contact us to check program status prior to making your travel arrangements.
2010 TRAVEL ADVENTURES

ZUNI COMMUNITIES THROUGH TIME
The Archaeology and Culture of the Zuni People

August 8–14, 2010

Description

The red sandstone buttes of northwestern New Mexico have been home to the Zuni people, or A:shiwi, for centuries. Zuni Pueblo itself is built on the site of an ancient village, and surrounding it are countless reminders of the distant past—ruins and rock art panels that stand in silent testimony to the lives of the Ancestors.

On this archaeological and cultural tour, you will trace the rich history of the Zuni people, from scattered pithouse settlements built in the A.D. 700s to massive villages constructed in the fourteenth and fifteenth centuries—the fabled Seven Cities of Cibola sought by Coronado in 1540. By special permission of the Zuni Tribal Council, we will tour rarely visited archaeological sites and explore the complex interactions of indigenous and European peoples in this remote corner of the Southwest. Along the way, we'll discover contemporary Zuni culture, which remains vibrant and distinctive in the face of unprecedented historic challenge.

Scholars

Dr. Andrew Duff, associate professor of anthropology at Washington State University, has conducted extensive research in the Western Pueblo region, including the Zuni area. His research interests include social and demographic changes in the Pueblo world between the eleventh and eighteenth centuries, as well as the Chaco regional system in the eleventh and twelfth centuries.

Dan Simplicio is a Zuni tribal member and archaeologist who currently serves as a consultant to the A:shiwi Awan Museum and Heritage Center. A former member of the Zuni Tribal Council, Dan led the tribe’s successful effort to prevent mining at the sacred Zuni Salt Lake, and he continues to be a vocal advocate for his people on numerous issues. Dan is also a talented fetish carver and jeweler in the Zuni tradition.
Educational Focus

- The history and culture of the Zuni people, from ancient times to the present.
- How the Zuni people have made—and continue to make—their living in the harsh environment of the Colorado Plateau.
- How archaeological and Pueblo perspectives provide complementary ways of understanding the past.
- Modern Zuni lifestyles and the social issues that confront the Zuni people today.

Dates: Sunday, August 8–Saturday, August 14, 2010
Tuition: Donor* $2,395 Non-Donor $2,520
Deposit: $400 • Balance due: June 9, 2010
*Minimum $100 donation

Tour Details
Tuition: Tuition is per person and based on shared accommodations. Tuition includes accommodations, meals listed, entry fees and permits, most gratuities, and transportation from arrival in Albuquerque, New Mexico, on August 8, 2010, until departure from Albuquerque on August 14, 2010. Transportation to and from Albuquerque is your responsibility.

Accommodations: All nights are spent in comfortable motels. Motel accommodations are double-occupancy; single accommodations are available for an additional fee of $330.

What to Expect: All travel is by Crow Canyon vans; expect drives on rough back roads. Although this program does not involve strenuous hiking, access to some sites requires hiking up to one-and-a-half miles roundtrip, occasionally over rocky, uneven terrain and on undeveloped trails at elevations over 5000 feet. Most site visits require standing for 30 minutes or more at a time. Our pace is leisurely and assistance is given, but you must be in reasonably good physical condition. Specific times for ceremonial dances are not announced in advance, nor is it known ahead of time whether non-Zuni people will be allowed to attend. We will leave our schedule flexible to take advantage of opportunities as they arise. Portions of this itinerary are contingent upon tribal approval.

Detailed Itinerary

Sunday, August 8: Arrival in Albuquerque, New Mexico • Introduction
Arrive in Albuquerque by 4 p.m. for dinner and introductions. (D)

Monday, August 9: Acoma Pueblo • El Malpais National Monument
This morning we travel west to the Pueblo of Acoma, where Dan is currently collaborating with Acoma tribal members on a project to document the extensive shared history of the Zuni and Acoma peoples. As special guests of Acoma elder and tribal councilman Ernest Vallo, Sr., we will tour the pueblo, visit the Spanish mission church, and learn about the pottery for which Acoma is famous. After lunch, on our way to Gallup, we visit El Malpais National Monument—a beautiful but rugged landscape marked by lava flows, cinder cones, and lava tubes—and discuss the various groups who have used or inhabited the area over the centuries. We spend the night in Gallup, about 35 miles from Zuni Pueblo. (B, L, D)

Tuesday, August 10: Village of the Great Kivas • Badger Springs • El Morro National Monument • Atsinna
After breakfast, we head south from Gallup and enter the Zuni Reservation. Our first stop is Village of the Great Kivas, an enormous site that may have functioned as part of the vast Chaco regional system during the eleventh and twelfth centuries, and a nearby twentieth-century pictograph panel depicting several kachina masks in great detail.
Next, we explore Badger Springs, another Chaco-era site, and take in the spectacular view, which encompasses much of the Zuni world. Then it’s on to El Morro National Monument, located east of the reservation. We hike to the mesa-top site of Ateinna, which dates from the late A.D. 1200s to 1400, and view historic inscriptions carved by early Spanish explorers into the rock at the base of the mesa. The day wraps up with a visit to two nearby Pueblo sites that demonstrate the evolution from small pithouse settlements to massive villages over the centuries. Lodging in Gallup. (B, L, D)

**Wednesday, August 11:** Archeotekopa
* Ashiwi Awan Museum and Heritage Center
* Hantalaapinkya

This morning we return to the Zuni Reservation to explore Archeotekopa, a large site dating from the twelfth and thirteenth centuries and located in a remote area of tall pines and redrock formations. A stop at the Ashiwi Awan Museum and Heritage Center in Zuni Pueblo provides an overview of Zuni culture, both past and present. Driving west into Arizona, we come to the remarkable rock art site of Hantalaapinkya. Stretching half a mile down a shallow canyon, this striking collection of animal, human, and spiral petroglyphs is believed to be tied to the Zuni creation story. Lodging in Gallup. (B, L, D)

**Thursday, August 12:** Hawikku
* Kechipawan
* Hawikku Exhibit
* Our Lady of Guadalupe Mission Church

Moving into more-recent times, we have a special opportunity to visit the sites of Hawikku (Hawi'uh) and Kechipawan (Kechiba'wa), which figure prominently in the early history of Pueblo-European relations. As the place of first contact between the Zuni people and the Spanish, Hawikku is an especially important ancestral site, and both it and Kechipawan are among the Seven Cities of Cibola that the Spanish believed were paved with gold. Returning to Zuni Pueblo, we stop at the Hawikku exhibit at the Ashiwi Awan Museum and Heritage Center to view cultural materials recently repatriated from the Smithsonian Institution. This afternoon, we visit Our Lady of Guadalupe mission church, built in 1629 but more recently decorated with kachina mural paintings by renowned Zuni artist Alex Seowtewa. Lodging in Gallup. (B, L, D)

**Friday, August 13:** Zuni Pueblo
* Zuni Fetish-Carving Demonstration

Today we visit Dan’s studio, where he demonstrates the traditional craft of Zuni fetish carving, which continues to be an important source of income for the Zuni community. This afternoon, we depart for Albuquerque to share a farewell dinner and stories of a memorable week. (B, L, D)

**Saturday, August 14:** Departures from Albuquerque

Departure may be scheduled for any time after breakfast. (B)

Itinerary subject to change.
Tour Reservations

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Group Size: Our programs are designed for small groups. A minimum number of participants is required for each trip. If this minimum is not reached by the final payment date, you may be offered several options: pay a slightly higher program price, select another program, or receive a full refund. Please contact us to check program status prior to making your travel arrangements.
APPENDIX TWO INTERPRETIVE MATERIAL FROM THE HEAD-SMASHED-IN BUFFALO JUMP SITE
Almost 6,000 years old, Head-Smashed-In Buffalo Jump is one of the largest and best preserved buffalo jump sites in North America.

National Aboriginal Day

June 21, 2010

PROGRAM

• Welcome and Opening Prayer
  – Blackfoot Elder

• Flag Raising Song
  – Blackfoot Drum Group

• Drumming & Dancing
  Two performances:
  11 am and 1:30 pm

• Napl’s Puppet Theatre

• First Nations Music

• First Nations Arts & Crafts

Reserve your craft table early, call 403-553-2731.

Orientation tours and on-site shuttle service available throughout the day.

For information contact
Head-Smashed-In Buffalo Jump
at 403-553-2731. For toll free calling in Alberta first dial 310-0000
info@head-smashed-in.com
www.head-smashed-in.com

Hours of Operation
Open daily, year round
10 am - 5 pm

(A celebration recognizing First Nation’s contributions to Canadian society.

Sample some delicious Blackfoot delicacies, make a native-themed craft to take home, enjoy Blackfoot entertainers and story telling through song and dance or take a guided tour of the Head-Smashed-In Buffalo Jump Interpretive Centre.

All activities are offered on a first come basis. Please register for programs on arrival at the information desk.
The articles in "Buffalo Tracks" are drawn from the foundational research and literature that form the basis of Head-Smashed-In's interpretive program.

Each feature has been authored and edited by the Archaeological Survey of Alberta or the Research Unit of the Historic Sites branch. Each contains information presented in an easily understood format, and each elaborates on the use of the Buffalo Jump or the "buffalo culture" of the people who used it. The articles are condensed versions of the many scientific reports, ethnographic studies and oral histories that inform us about our past and Head-Smashed-In Buffalo Jump.

The material contained in "Buffalo Tracks" is useful both as preparatory information prior to touring, or as supplementary data to be taken away from the site and absorbed at the visitor's leisure. The articles are particularly useful aids for teachers and can be used directly in the classroom in the middle school and high school grades.

Content

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Head-Smashed-In Buffalo Jump
A World Heritage Site

Head-Smashed-In Buffalo Jump, located in the Porcupine Hills of Southern Alberta, 18 km north and west of Fort Macleod, is one of the oldest, largest and best preserved buffalo jump sites in North America. Head-Smashed-In was designated a World Heritage Site in 1981. In doing so, the members of UNESCO recognized the outstanding intrinsic value in protecting and preserving this historic site for present and future generations.

Many visitors ask:
What is a World Heritage Site?
What are the criteria for designation as a World Heritage Site?
What makes Head-Smashed-In outstanding?

What is a World Heritage Site?
A World Heritage Site is a property, either cultural or natural, that is an outstanding example of a creation by humans or by the forces of nature. Because the member states of UNESCO (the United Nations Educational, Scientific, and Cultural Organization) recognized the need to preserve such properties for future generations irrespective of National boundaries, the World Heritage Convention was established.

The World Heritage Committee, established by the World Heritage Convention, is comprised of experts in cultural and natural heritage conservation from around the world. It is the responsibility of this committee to identify, protect and promote outstanding examples of cultural and natural properties.

What makes Head-Smashed-In unique as a World Heritage Site?
Machu Picchu in Peru, the Taj Mahal in India, the Palace of Versailles in France and the Pyramid fields of Egypt are but a few of the outstanding cultural properties designated World Heritage Sites. Head-Smashed-In Buffalo Jump joined this exclusive fraternity of World Heritage Sites in 1981. For many visitors it may be unclear why Head-Smashed-In is ranked as a unique cultural place on an equal footing with the pyramids or the Taj Mahal. To the members of the World Heritage Committee, it was clear that Head-Smashed-In Buffalo Jump satisfied the exacting criteria a cultural property must meet to be considered a World Heritage Site.

What did the committee see?
Let us look again at the criteria for an outstanding cultural property and discuss how Head-Smashed-In is unique.

Head-Smashed-In is a very large site, covering 1,470 acres. It contains a wide variety of cultural remains associated with communal buffalo hunting, ranging from drive lane cairns and projectile points to butchered bone and fire-broken rock. These cultural remains, stratified to a depth of 10 meters in some areas of the site, have remained largely undisturbed — one of the only sites of this nature to remain virtually intact. The cultural chronology represented by these undisturbed remains, not to mention their excellent degree of preservation, has provided scientists with a unique opportunity to trace the evolution of communal bison jumping from its earliest beginnings to its eventual abandonment in the 19th century.

Head-Smashed-In was first used for killing bison at least 5,700 years ago and perhaps as early as 10,000 years ago. Except for one major interval, the site was used regularly for hunting buffalo up to the historic period. Its repeated use as a killing site over such a lengthy period of time is a testament to both the ideal conditions of the site for buffalo jumping and the daring and skill of the hunters who used it.

The hunters who first used Head-Smashed-In possessed only rudimentary tools. Their weapons consisted of spears and atlatls (spear-throwers) used with detachable wooden darts tipped with projectile points made of stone. The conventional method of stalking large animals with such simple weapons was dangerous and did not yield sufficient game to feed large groups.

Over time, these early people learned to exploit both the natural topography of the region and their knowledge of bison behavior to hunt them efficiently, despite their lack of sophisticated weapons. Early hunters saw, in the location and topog-
killing bison. The 18-metre cliff facing east, opposite the prevailing winds, prevented bison from smelling the kill site. A large basin of grassland west of the cliff regularly attracted large herds of bison. Over a period of days they could be lured towards the precipice to their deaths. The large stretch of prairie immediately below the cliff provided a source of fresh water and shelter for camping, butchering and processing activities.

The massive bone deposits (over 10 metres deep) testify to the success of generations of hunters in killing buffalo at this site. The deeply stratified deposits preserve not only the record of hundreds of kills but also the evolution of tools and techniques used in the hunt. The stone tools identify discrete prehistoric periods, and the bones and fire-broken rock reflect distinctive butchering and processing techniques.

The use of buffalo jumps for killing bison represented a significant advance in Plains Indian subsistence. To conduct a hunt and process the kill required small bands of people to unite and organize themselves in ways that would benefit the larger group. This led to a more formalized social organization which would characterize the Plains Indian way of life. The success of these buffalo hunts not only brought groups together but enabled larger groups to remain together, and encouraged the development of distinctive cultural identities. The buffalo, whose carcasses yielded most of the necessities of life for the Plains Indian, assumed sacred status to early people and became a focal point around which the bulk of religious and cultural activities revolved. The abundant supply of buffalo afforded the Plains Indian the time and opportunity to develop a rich spiritual and cultural life. In short, communal buffalo hunting was the catalyst for the development and growth of Plains Indian culture as we know it.

The extraordinary archaeological, historical and technological value of this site, combined with its dramatic prairie setting and outstanding interpretive potential, were major factors in the designation of Head-Smashed-In Buffalo Jump as a UNESCO World Heritage Site.

Further Reading:
- Reid, Gordon.
  Head-Smashed-In Buffalo Jump.
  A Random House Book - 102 Main Street, Evanston, WY 82930
- Swanson, Olav.
  White Cap Books, Vancouver.
- Ventures, Julian.
  A World Worth Keeping.
  Ginn Publishing Canada Inc.
Ethnography and Ethnology

Ethnography and Ethnology are the primary research activities of anthropologists, particularly those called "social anthropologists." Their activities are aimed at understanding the diverse customs and beliefs (the culture, as anthropologists use the term) of societies around the world. The difference between ethnography and ethnology concerns the level of explanation that is attempted. In ethnography, the functioning of a single society is examined, whereas ethnology compares many societies to discover universal truths about human behavior.

Ethnography
The word "ethnography" has Greek roots, ethnos means "people," the ending "graphy" refers to "description or writing of a particular subject." Ethnography is an attempt to understand the culture of a people through the intense study and description of that society. Ethnography tells us what it would be like to be a member of a different ethnic group or society, and gives us a greater understanding of how different cultures operate.

Ethnographic fieldwork is very difficult; it demands that the anthropologists put aside their cultural background and absorb the culture of those they study. To do this, the anthropologists must live with the people they study, learn their language, and gain their confidence. They must become "participant observers." When the people they study begin to regard them as participants, no different from themselves; the true structure of the culture can be better perceived and understood.

The anthropologist must at the same time continue to observe the actions of the society scientifically. At the end of the fieldwork, the notes, records, and observations must be synthesized into a report, which accurately explains the customs and beliefs of the society being studied. It is traditionally considered difficult for anthropologists to study their own society because of the difficulty in attaining the necessary level of objectivity.

The work of the Anthropologist is crucial to understanding the history of human organization. It can explain customs, which at first glance may seem strange or inappropriate. When seen from the perspective of the society itself, these customs often are sensible, reasonable and essential to the good working of the society. Understanding different cultures also leads to tolerance, respect and an appreciation for the varied methods of cultural survival.

Ethnology
The word "ethnology" has the same root as ethnography; the ending "ology" refers to the study of. Ethnology is the comparative study of human cultures. By comparing societies, ethnology helps us to understand the commonalities of human existence. As well, it points out the differences, and shows where to look for an explanation of these differences. For example, ethnology tells us that most Plains Indians lack true clans. A clan is a group of people who trace their descent to a common ancestor. For example in a farming society a great deal of stability is needed to ensure continued access to land through the generations, and therefore stability, rather than flexibility, is the hallmark of a clan.

Plains Indian organization is based on a residential group called a band. A band is a group of people, not necessarily related, who usually camp and hunt together. Because people can leave to join another band, the flexible structure works well for hunting societies.

The Cheyenne Indians offer a unique example of ethnological study. As the Cheyenne moved from farmland to the Plains, their organizational structure also changed. Their clan structure, which had been appropriate for a farming lifestyle was replaced by a flexible band structure as the people adapted to the hunting climate of the Plains.

The work of ethnography and ethnology is use extensively by archaeologists. By studying the ethnography of the people who lived in an area, the archaeologist can gain insight and understanding into the significance of the items he uncovers in old campsites. Ethnology can reveal general principles about how people interacted with the environment. When an archaeologist tries to understand a site
Planning Archaeological Research

Because archaeological resources are limited and an archaeological site is permanently altered once it has been excavated, the archaeologist will only dig when it is absolutely necessary. To answer important questions about the human past, the archaeologist first studies historical documents, ethnographic material and previous archaeological research to determine whether more information is needed. If excavation is necessary to uncover further information, the archaeologist must submit evidence that this preliminary research has been done and show that excavation is appropriate.

Archaeological research at Head-Smashed-In Buffalo Jump has been conducted to assist the provincial government in the development of the interpretive facilities and programming at the site. This research was conducted in light of previous historical, ethnographic and archaeological research.

Past historical and ethnographic documents dealing with buffalo hunting provided much needed information on techniques used in killing and processing buffalo. Previous archaeological research at the site indicated the nature and depth of the cultural remains at the site. Other questions about the Head-Smashed-In site, which had to be answered in order to ensure that the site was both well protected and properly interpreted.
Knowledge about the physical size of Head-Smashed-In and the distribution of artifacts at the site was required for further development. The planners needed to ensure that the construction of parking lots, access roads, the interpretive centre, and other related facilities would be kept away from significant archaeological deposits.

It was also discovered during preliminary research that while a great deal of information existed in regard to buffalo hunting, there were few physical descriptions detailing certain processing activities such as bone boiling. Much of the archaeological work, therefore, concentrated on excavation in areas associated with camp activities rather than the killing site itself. The information gleaned from this research was combined with ethnographic and historical information to develop the interpretive themes and displays featured at the site.

**Dissemination of Research**

Pages of data on lithics and bone do not automatically tell us what we wish to know about the past. It is the archaeologist's task to take the sum total of the information and apply it to solving the research problem, in order for archaeological research to benefit other members of the archaeological community and the general public, these conclusions must be presented in a form readily understood.

For fellow archaeologists, the researcher will generally prepare scholarly papers for publication or presentation. These papers are very technical and generally require some background in the field to be readily understood.

For members of the public at large, information on archaeological research is communicated through public talks, films, interpretive displays, tours, and written materials—all of which are used at Head-Smashed-In Buffalo Jump.

**Further Readings**

- Stevens, Brian G.K.  
- Birdsall, Jack.  
Anatomy of the Jump

For thousands of years native people of the Plains hunted the North American Bison. The Plains Indian lifestyle became dependent on hunting buffalo, and the native people adapted numerous hunting techniques to obtain their livelihood. The buffalo jump was the most sophisticated technique developed by native people to capture and kill the bison. Head-Smashed-In Buffalo Jump is one of the oldest and best preserved sites of this kind with its elaborate drive lane complex and deep archaeological deposits still intact. For these reasons, Head-Smashed-In was designated a world heritage site by UNESCO in 1981.

The first archaeologist to investigate the site was Junius Bird of the American Museum of Natural History. Since these first excavations in 1938, three major archaeological projects spanning nine summers of excavation have increased our understanding of this unique and complex archaeological site.

The Head-Smashed-In site is composed of three different components, each of which played a role in the operation of the jump. Each area—the gathering basin, the kill site, and the campsite and processing area—has different kinds of archaeological remains.

The Gathering Basin

West of the cliff lies a large drainage basin 40 square km in extent. This was a natural grazing area that attracted the herds of buffalo that would be driven over the jump. Long lines of stone cairns were built to help the hunters direct the buffalo to the jump. Thousands of these small piles of stones can still be seen marking the drive lanes that extend more than fourteen kilometers into the gathering basin. These cairns may have served as simple markers, or they may have supported sticks or brush to hide the hunters.

To start the drive, a “buffalo runner” would entice the herd to follow him by imitating the bleating of a lost calf. As the buffalo moved close to the cliff, hunters would circle behind and upwind of the herd and scare the animals by shouting, waving robes, and shooting arrows. As the buffalo stampeded towards the edge of the cliff, the animals at the front would try to stop but the sheer weight of the herd pressing from behind would force them over the cliff.

The Kill Site

The sandstone cliff north of the interpretive centre contains the actual jump site. This cliff is just one of several such locations along the edge of the Porcupine Hills which were used as buffalo jumps. Another buffalo jump, the Calderwood Jump, is visible one kilometre north of Head-Smashed-In.

Against the cliff are deep stratified deposits that contain evidence of use of the jump site going back more than 5,700 years. These deposits consist of accumulated layers of dirt, stone rubble and bones. During each use of the jump, the natives would kill any crippled animals that were not killed outright by the fall. Then they would butcher the animals, removing the useful portions. The remaining animal residue and bones, along with worn or broken stone tools and resharpening flakes, were eventually covered by windblown dirt or “loess” and by rock fall from the cliff.

Over thousands of years of use of the jump, this layered or “stratified” deposit has accumulated to a depth of over eleven metres. The age of these layers and the different artifacts found in them can be determined by using the radiocarbon dating method to date the bone. This information has allowed archaeologists to reconstruct the cultural history of the site.

Artifacts found in the kill site include thousands of arrowheads and dart tips (“projectile points”) as well as numerous stone knives and choppers.
The Campsite and Processing Area
The hunters camped on the flat area immediately below the kill while they finished butchering the buffalo. A few tipi rings, the stones used to anchor tipis against the wind, can still be seen on the prairie level. It was here that meat was sliced into thin strips and hung on racks to dry in the sun. Large leg bones were smashed to remove the nutritious marrow, and the numerous boiling pits excavated by archaeologists in this area indicate these broken bones were also boiled to render grease. Boiling was done by throwing red-hot rocks into hide-lined pits filled with water.

Much of the meat obtained from the buffalo carcasses was used to make pemmican. In order to make pemmican, grease and marrow and sometimes bents were pounded together with dried meat. Pemmican was a very nutritious staple food that could be preserved for years.

Artifacts found in this area include stone scrapers, knives, choppers, drills, broken arrowheads, pottery, bone awls, and occasionally ornaments such as bone beads. Also in this area are found tons of fire-broken boiling stones.

The Plains Bison
Buffalo are celebrated in songs, appear on coins and are part of the folklore of the North American Plains. Yet there is no such thing as a North American buffalo. The name “buffalo” only applies to animals found in Africa and Asia. The largest land mammal in North America is properly called a bison. The unique shoulder hump distinguishes it from buffalo, but the name has stuck since it was first used by early European observers.

Bison are actually distant relatives of domestic cattle. Extinct forms, 2 million years in age, have been found in Europe and gigantic forms, now long extinct, entered North America some 100,000 years ago but these animals were never hunted by man. The animal hunted at Head-Smashed-In for 6,000 years is the modern living species called the Plains Bison. This species of bison occupied most of the central region of North America and, together with its close relative the Wood Bison, would have covered a territory extending from Alaska to Mexico and from the Rocky Mountains to the Allegheny Mountains during prehistoric times.

Nobody knows how many bison were present at the time of the first European contact, but estimates in the range of 60 million animals have wide acceptance. Bison were highly mobile, travelled in dense herds and covered a huge territory, all of which combined to make accurate estimates of their numbers all but impossible.

Despite this staggering abundance of animals, a concerted effort to slaughter the species, assisted by the gun and the horse, very nearly succeeded in their
By the late 1800s, in less than 100 years of wasteful exploitation, man had reduced the vast herds to about 1,000 animals. Only the efforts of a few foresighted individuals, who moved the animals to remote preserves to protect them, ensured that the species survived to be seen today. Large herds are maintained in remote locations such as Wood Buffalo National Park in northern Canada. Only the Wood Bison remains an endangered subspecies, and this is largely a consequence of inbreeding with the far more numerous Plains Bison.

The typical Plains Bison bull weighs 800 kilograms, stands 1.75 metres tall and is over 3 meters from nose to tail. Both males and females possess permanent horns and a characteristic heavy growth of dark hair around the head, shoulders and front legs. As a rule, females can only be distinguished from males based on their smaller size and their close association with calves. Bison reach sexual maturity at 3 years of age and are fully-grown in 6 years. Captive bison have been known to live for more than 20 years, but the lifespan in the wild is approximately 15 years.

Bison are more efficient grazers than domestic cattle, exploiting a variety of grasses and shrubs during their annual movement between the open plains and the sheltered foothills and river valleys.

a predictable and calculated manner in order to exploit ripening forage over the course of the year.

In the summertime large herds moved together on the open prairie to graze on the short grass species. This is the time of the annual rut, and the males challenged one another for access to the breeding females. The agitated nature of the herd made late summer an inappropriate time to attempt communal hunts. Following the rut, the older males left the cow/calf herds to travel in separate smaller groups or as lone bulls. With the approach of fall, the bison moved towards the shelter of the foothills and large river valleys, grazing on the nutritious late-maturing grasses. Such grasses were found in abundance in the Olsen Creek valley west of Head-Smashed-in. This was an ideal time to hunt bison. The animals were in prime condition after a long summer grazing on the open plains, their coats thickly haired in anticipation of winter.

Following the long winter the bison were in less than prime condition, and cows in particular were stressed near the end of their 9 month pregnancy. Calves are born in late April and May. They have a reddish coat that soon turns dark brown, and they weigh about 18 kilograms. Calves remain close to the cow for about a year and travel in cow/calf herds as the bison move to the summer grazing areas on the open prairie. Like most mothers, female bison are very protective of their young and maintain a constant watch for predators such as bears, wolves, coyotes, and man.

Adult bison have no natural enemies, other than man, who has hunted them for nearly 12,000 years. Plains hunters exploited several behavioral characteristics of bison, and most important of these was thegregarious nature that promotes the formation of large herds. The herd was usually led by a mature cow whose actions towards signs of danger would cause the herd to move as a group and, if panicked, into a stampeding mass. Although bison are blessed with a keen sense of smell, their eyesight is not as well developed. As a result, they are extremely wary of unfamiliar objects downwind of their immediate surroundings.

Prehistoric hunters piled rock and brush, called “dead-men”, along a route leading to a cliff edge such as that found at Head-Smashed-In. The bison would climmy perceive these features on the horizon and would move between the lines when scenting the presence of man at their rear. Hunters would also cover themselves with a wolf or coyote skin, and thus disguised would threaten another hunter who wore the robe of a bison calf. The matriarch of the herd would maneuver to protect this calf. In these ways, a herd was directed into the drive lane of dead men and finally stampeded as a blindly running mass over the cliff edge.

The importance of the bison was evident in every aspect of Plains Indian culture, both in material needs and spiritual
The Plains hunters understood that the bison were a gift from the Creator. They believed that the bison would and only allow themselves to be captured if the hunters prepared proper ceremonies, including symbolic actions and songs that brought the bison to the cliffs.

It is not surprising that Plains Indian mythology, artwork, song and belief systems were strongly interwoven with the existence of the vast buffalo herds and ready availability of this single most important resource. Although the Plains Indian lifestyle was all but destroyed along with the bison, it too is now celebrating a renewed vigor and presence, as are the Isolated herds of North American Bison.

Furthur Readings:

For more than 10,000 years, increasingly sophisticated hunting techniques evolved among these pedestrian people. But with the arrival of the horse via the Spanish in the 1700s, important modifications increasing mobility and flexibility in hunting strategies appeared.

Stalking
The most ancient method of hunting is stalking. It was usually undertaken by one or two hunters and required great patience and stealth. Because of the bison's poor vision, approach was best conducted in wooded country or on the open plains in midday when the animals were lying down. Care would always have to be taken of wind direction because of the bison's keen sense of smell. In open country, hunters crawling on hands and knees would frequently use disguises such as wolf or buffalo calf skins, and in winter, white robes or blankets.

The presence of a wolf would not necessarily be cause for alarm among the grazing bison. Imitating the bellowing of a calf, particularly if attacked by the false wolf, would be strong attraction to curious, protective cows.

The intent of these procedures was to bring the hunter close enough to an animal to make a lethal strike. Probably more common before the arrival of the horse, stalking was useful when small quantities of meat were required or when
The Plains People of Southern Alberta
The Blackfoot

The Blackfoot, fiercely independent and very successful warriors, controlled a vast region stretching from the North Saskatchewan River in Alberta to the Yellowstone River of Montana, and from the Rocky Mountains to the Cypress Hills on the Alberta-Saskatchewan border. It was not until the coming of the North West Mounted Police in 1874, just over 125 years ago, that Euro-Canadian settlement in the region began. Until the near extinction of the buffalo by 1881, the Blackfoot pursued their traditional lifeways. Only with the loss of their food supply were they obliged to adapt to the new era.

The Blackfoot proper actually refers to four tribes - The Blackfoot proper (Siksika), the Bloods (Kainai), the Northern Peigan (Aapatsihpihkân) and the Southern Peigan (Aamáskapihkân). Each tribe was independent, but they all spoke the same language and regarded themselves as allies. The Blackfoot proper are the northernmost of the tribes and currently occupy the Bow River east of Calgary. To the south are the Bloods, situated on the Oldman, Belly and St. Mary rivers west of Lethbridge. To the west of the Bloods are the Northern Peigan on the Oldman River. In Montana, the southern branch of the Peigan occupy the upper Missouri River drainage. This distribution of tribes reflects the area controlled at the time of the treaties. It is thought that throughout the last few hundred years the tribes had been expanding their territory southward.

The Surround
It was possible for three or more hunters to surround a bison either on foot or on horseback. By approaching on several sides from a considerable distance, preferably on windless days, the animals could be gradually enclosed into a milling group, which could be killed once exhaustion, Hunters shouting and waving robes or blankets could generally turn a small herd, but it was not uncommon for animals to break through a tightening human enclosure. Strict organization of duties was necessary.

When attempting a surround on foot, favourable terrain for concealment was advantageous, but on horseback it became especially critical because of the high visibility of a horse and rider. Careful movement of the herd to the proper terrain might be necessary. With the increased mobility of the horse, this technique became popular because of the flexibility of application.

The Pound and the Jump
Several days were required to locate and collect the bison before herding them to the kill area. Swift young men dispersed widely, gradually urging the herd toward drive lanes. Once inside the lanes, a specially trained hunter would entice the animals toward the kill by imitating a distressed calf. Hunters following from the rear and others stationed behind the "dead men" shouted and waved blankets to ensure the herd would not reverse direction or turn away.

When the animals were corralled inside a pound, it was necessary to kill the animals from secure positions around the outside of the corral. In the case of the jump, many animals were incapacitated in the fall. Perhaps the greatest investment of effort in both of these techniques was required for processing the large quantities of meat generated. A great number of people were necessary to convert carcasses to storage.
Other than the family, the band was the basic social unit of the Blackfoot. Bands among the Peigan varied from about 10 to 30 lodges or about 80 to 240 persons. Such bands were large enough to defend themselves against attack and to undertake small communal hunts. The band was a residential group rather than a kin group. It consisted of a respected leader, possibly his brothers and parents, and others who needed not be related. A person could leave a band and freely join another. Thus, disputes could be settled easily by simply moving to another band. As well, should a band fail upon hard times due to the loss of its leader or a failure in hunting, its members could split up and join other bands. The system offered maximum flexibility and was an ideal organization for a hunting people on the Northwestern Plains.

Leadership of a band was based on consensus: that is, the leader was chosen because all the people recognized his qualities. Such a leader lacked coercive authority over his followers. He led only so long as his followers were willing to be led by him. A leader needed to be a good warrior, but, most importantly, he had to be generous. The Blackfoot despised a miser! Upon the death of the leader, if there were no one to replace him, the band might break up. As a result, bands were constantly forming and breaking up.

During the summer when the bands assembled for tribal ceremonies and communal hunting, the warrior societies would become active. These societies, known as "Pan-tribal Societies", were very interesting social institutions. Membership was not based on kinship ties but was purchased and crossexchanged bands. A number of young men would purchase membership in the lowest society. Throughout their lives, they would continue to purchase membership in higher societies while selling their old positions to the new generation. These warrior societies acted as a police force, regulating camp moves and the communal hunt.

The Blackfoot bands were nomadic. This does not mean they wandered haphazardly over the land. Each relocation was dictated by the bison herds, the weather, and the seasons. This structured movement was known as the seasonal round.

For almost half the year, the Blackfoot bands lived in winter camps strung out along a wooded river valley, perhaps a day’s march apart. In areas with adequate wood and game, some bands might camp together all winter. From about November to March, the people would not move camp unless food supplies or firewood became depleted.

In spring the bison returned northward onto the Plains where the new spring grasses provided forage. The people might not follow immediately for fear of spring snowstorms. During this time they might have to live on dried food or game such as deer. Soon, however, the bands would leave to hunt the buffalo. During this time each band traveled separately.
starvation, the Blackfoot people maintained their cultural identity. Their numbers have increased since World War II to about 12,000 people. Hand in hand with an increased economic diversity based on farming, ranching, and light industry has come a revitalization of Plains Indian culture and traditions.

Further Reading

Plant Resources
At least 185 species of plants were used by the Blackfoot. Although not all the species mentioned here are found in the immediate vicinity of Head-Smashed-In, all occur within southwestern Alberta and are likely to have been used by people as they moved throughout the region.

Buffalo meat was the preferred food of the Plains people but they supplemented their diet with a variety of plant and animal resources. Different parts of various plants contain sugars and starches needed for human survival. Roots, bulbs and tubers contain large amounts of starch. Plants, such as the cattail (Typha latifolia), prairie onion (Allium textile), arrowhead (Sagittaria cuneata) and Indian breadroot (Psoralea esculenta) have roots or bulbs that were roasted, boiled or dried and used to supplement the meat diet. Fruits provided the sugar component of the diet. Currants, gooseberries (Ribes spp.), saskatoon berries (Amelanchier alnifolia) and other berries were very important food sources for the Plains People. Berries were used in soups, stews, and mixed with meat for pemmican. The various bulbs, tubers, berries and meat were dried for winter consumption. The early spring was often a time of food scarcity for the Plains People. At this time of year, their stocks of preserved food, both meat and vegetable, were almost depleted, and new plant growth had not yet begun.

The people who gathered and used these plants knew them well and understood which plants were useful and which were dangerous or poisonous. Without this detailed knowledge, wild plants should not be gathered and at random eaten or used medicinally.

The medicinal use of plants was common among tribes of the Great Plains. The medicine men or women had high status in the tribe because of their knowledge of plants. Many plants were boiled or steeped to extract the juices in a tea or decoction. For example, a tea made from common yarrow (Achillea millefolium) was used as a laxative. The roots of Old Man's Whiskers (Geum triflorum) were boiled and the liquid used to treat sore eyes. The inner bark of the chokecherry (Prunus virginiana) was boiled and the resulting reddish liquid strained and drunk while warm as a cold remedy. Other plants were used to dress wounds and to encourage healing. The down from cattails (Typha latifolia) was used to make dressings for wounds and diapers for infants.

Many plants were used in personal care. Porcupine grass (Stipa spartea) was bound into a bunch and used as a hairbrush. Sweetgrass (Hierochloe odorata) was tied into sachets and used as perfume or soaked in water and the liquid used to wash hair. Plants such as river alder (Alnus rubra) produced red and orange dyes. A violet dye was obtained from the roots of the puccoon (Lithospermum incisum). These dyes were used to paint personal articles and clothing.
Plants were also used for making weapons and other implements. Saskatoon or chokecherry shoots were used for arrow shafts. The scouring rush (Equisetum hyemale) was used to polish the shafts. Containers such as buckets and basins were made from a framework of willow branches, covered with the lining from a buffalo paunch. Small diameter lodgepole pine (Pinus contorta var. latifolia) were used to construct the framework of the tipi, which was then covered with buffalo skins. Pegs and pins to anchor the tipi were often made of willow wood (Salix spp.), while willow branches were used to make sweat lodges.

Although our knowledge of the ceremonial use of the plants is limited due to the secrecy surrounding many rituals, some plants have general ceremonial usage. For instance, braids of Sweetgrass (Hierochloe odorata) and Juniper twigs were burned and used as purifying incense.

Further Reading
Johnson, Max.
“Plants and the Blackfoot”
Provincial Museum of Alberta.

Animal Resources
The bison has been called a “walking department store” because almost all parts of the animal were useful. Its flesh, fat and bone marrow provided food; its hide was used for clothing and shelter; and its bones were used for making a variety of tools and implements. The flesh from many other animals was also eaten. Deer, rabbits, and birds added to the diet. The use of a range of animal resources for food ensured that the people usually had a supply of meat even if one animal was scarce.

Everyday clothing was made from buffalo hides sewn together with sinews. Ceremonial clothing was more ornate and may have included eagle feather headdresses and buffalo horn bonnets. The buckskin clothes worn at ceremonies might be highly decorated, and beards were used for ceremonial robes. People sometimes wore claw or tooth necklaces.

Bone or horn was often used to make bows. Wooden bows could be wrapped with sinew, which gave them strength and springiness. Bone was also used to make arrowshaft wrenches; these tools were used to make arrow shafts straight and true. Arrows were carried in quivers made from the skins of animals such as the otter, the buffalo and the deer. Otter skins were also used to make grips on lances. Hides were used for making bags and linings for boiling pits. Bone was used to make a wide range of tools and implements. For example, bone awls were used to pierce holes in hides so they could be sewn together with sinews. Spoons could be made from horn.

Animal materials were also used to make many articles that had ritualistic or ceremonial significance. Ceremonial drums were made from hide stretched across a wooden frame. Medicine bundles, which usually made from buffalo hide and filled with
Head-Smashed-In Buffalo Jump
World Heritage Site

Education Programs 2010
To book, call 310-0000 then 403-563-2731 or visit head-smashed-in.com

Located 90 minutes south of Calgary, Head-Smashed-In Buffalo Jump is a UNESCO World Heritage Site that was used by Native people for close to 6000 years. Native guides describe a way of life at the very place where hunters drove buffalo over the cliff. In our imagination, the cliff still echoes with the voices of the hunters and the thunder of buffalo hooves.

Guided Tour included with all Education Programs
A tour of the Interpretive Centre will include an introduction to Native culture and the history and mechanics of a buffalo jump. It will also include the cliff top trail, buffalo culture display, artifact exhibits and theatre presentations. Allow additional 1.5 hours.

PROGRAM FEES
$3 Per student / program
$25 Guide fee (maximum group size of 40 students per guide)

PROGRAM DURATION
1 hour unless otherwise specified

All education programs are designed to complement the latest revisions to the Alberta Education Social Studies Curriculum, K-12. Chaperone ratio is 1:8.

LIVING OFF THE LAND
All Grades
Our most popular program! Learn how First Nations people lived in harmony with nature and our Mother Earth. Learn about the tools and technologies that evolved with the buffalo culture. Explore camp life during a buffalo hunt.

“TIPI-TEPEE-TEEPEE!”
All Grades
All 3 are correct! Learn about the perfect home from the inside out. Tips were made with brain-tanned buffalo hides and long, straight lodge poles from what came to be known as lodgepole pines. Symbols painted on a tipi tell us legends of the earth and sky.

STONES AND BONES
Grades 4-12
Be a bone and stone detective. Learn about point styles, materials and methods for stone flaking. When is a bone just a bone and not a scraper? Learn what archaeology is and what an archaeologist does.

VIDEO CONFERENCE PROGRAMS
Grades 1-12
Video conference with a Blackfoot guide in our Lodge. Each program explores Native culture, adapted to suit each grade and age group. The programs complement our Travelling Edukit. We use Tandberg Edge 95 HD. Flat rate of $100 is charged.

SLEEPOVER PROGRAM
Fee: $80 per student (includes programs and student meals)
Sleep in a Blackfoot tipi beneath the cliff that served the plains peoples as their most significant hunting site for nearly 6000 years. Take an evening hike with your guide on trails lined with sage and chokecherry, and learn the ancient ways. Sample buffalo stew and barnock bread for your evening meal. Hear the legends of the stars and learn the meanings of symbols on the tipis. Discover what it was like to live off the land and be in harmony with our Mother Earth. Teachers, chaperones and leaders pay $30 per person to cover meal costs.

TRAVELLING EDUKIT

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EDUCATIONAL SLEEPOVER PROGRAM
HEAD-SMASHED-IN BUFFALO JUMP WORLD HERITAGE SITE

Welcome to the Head-Smashed-In Buffalo Jump Educational Sleepover Program! Sleep in a Blackfoot style plains tipi under the cliffs of Head-Smashed-In Buffalo Jump.

Head-Smashed-In Buffalo Jump’s sleepover program allows groups to enjoy many activities and experiences in a two day visit. There is no need to try to complete a trip to Head-Smashed-In Buffalo Jump World Heritage Site in a single day when you have the opportunity to spend the night right here below the cliffs.

Call Head-Smashed-In Buffalo Jump at 403-553-2731 to plan your visit. Alberta residents can call toll free by dialling the RITE line at 310-0000 and entering 403-553-2731 after the prompt.

Special needs:

Please notify the Sleepover Coordinator if your group has any special needs or requirements such as physical challenges or behavioural issues.

If dietary sensitivities (food allergies, etc.) or other medical issues are a concern, please notify us at the time of booking.

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IMPORTANT NOTES

This Educational Tipi Camp Sleepover is available ONLY to Schools and Youth Groups like Scouts, Cubs, Girl Guides and Brownies.

Our Chaperone Ratio Policy is 1:8 (meaning 1 chaperone per 8 students)
Our minimum group size is 24 students plus 3 chaperones plus teacher = 29
Our maximum group size is 40 students plus 5 chaperones plus teacher = 46

The educational sleepover is only for the month of June.
We do not offer a tipi camp for the general public.
HEAD-SMASHED-IN BUFFALO JUMP WORLD HERITAGE SITE
SLEEPOVER CONFIRMATION OR BOOKING FORM

Group Name:

Address: ____________________________  Date of Booking: ______________

Contact Person: ______________________
Contact Phone: ______________________

Number of Children: ________________  Contact Fax: ____________________
Number of Adults: ________________  Contact Email: ____________________

Date of arrival: ____________________  Estimated time of arrival: __________

Do any members of your group have any special needs or requirements (e.g. dietary concerns, allergies, restricted mobility or behavioral issues, etc.):

□ Yes
□ No

If yes, please be very specific as to issues and numbers:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Fax back to 403-553-3141 or save and email back to your contact at HSIBJ
Important Notes:

- Groups are permitted to bring their belongings to their appointed Tipi as soon as they arrive.
- Student supervision and discipline is the responsibility of the group leader. We require one (1) adult for every (5) children. Teachers and students must remain with their group at all times. Please be sure parent supervisors are aware of their responsibilities as chaperones (the ratio will be adjusted if the group consists of special needs youth).
- Your group may have a scheduled time to shop in the gift shop. A maximum of eight (8) adults are permitted to shop at one time. Due to limited space, please assist us in enforcing this requirement.
- The cost of the sleepover program is $50.00 per child, plus $30.00 for food. The teacher/group leader, plus drivers and chaperones, up to the 1:8 ratio, pay for food only. Additional chaperones must pay $50.00 tipi fee plus $30.00 for food. All groups are required to bring a cheque made out to the Alberta Ministry of Finance. Alternatively, groups may pay with VISA, MasterCard or cash upon arrival.
- Deposit of 10% must be received to "lock in" your booking. The balance can be paid upon arrival.
- See appendix A.

We thank you for your interest and participation in the Head-Smashed-In Buffalo Jump sleepover program. For questions regarding your booking or itinerary, please contact the Sleepover Coordinator at 403-553-2731.

Signed

School/Group Primary Contact Person

Date:__________________________

Fax back to 403-553-3141 or save and email back to your contact at HSIBJ
PROGRAM AND ITINERARY

An orientation session will be provided for all children and adults in your group. This will encompass an overview of your program schedule and outline the requirements of Head-Smashed-In Buffalo Jump World Heritage Site. The sleepover coordinator and site staff are responsible for program content and presentation. The group leader and chaperones are responsible for group behavior.

Sample Itinerary

DAY ONE:

2:00pm ~ Azurth: Bathroom break and wash station orientation.
   Tipi assignment. Move gear into appointed tipi.
   Camp rules, tipi groups, program schedule, site orientation, and camp safety.
   Orientation sessions held at the programming Tipi.

3:00pm ~ Assemble on plaza (wristbands, rules of the building)

3:30pm ~ Building tour

5:00pm ~ Supper time

6:00pm ~ Settle into Tipi

7:00pm ~ Tipi Program (Living off The Land) at the programming Tipi

8:00pm ~ Evening program (Hand games, stories by the fire)
   If the winds are high this program will be held inside the programming Tipi.

9:00pm ~ Free time

10:00pm ~ Lights Out

DAY TWO:

6:00am ~ Rise, clean up, pack up, and load bus or assemble gear for loading.

9:00am ~ Breakfast

10:00am ~ Lower trail hike

11:00am ~ Free time for gift shop and interpretive center (supervised)

11:30am ~ Lunch ~ A bag lunch is provided - to eat in the Plaza, or at the Tipi Camp
   or on the bus while going home

12:00pm ~ load and depart
Registration

All groups MUST complete the standard registration form on Page 2 and 3 of this package. Waivers are included on page 6 and every participant must complete a waiver. Please photocopy one form for each participant. The forms must be completed and signed by the parent or guardian, or the individual age 18 yrs and over. Indicate “Student/Youth”, “Adult/Chaperone” or “Bus Driver” on the form.

What to send:
- Signed Confirmation of Booking Forms, part A and B.
- Waivers Forms (1 per person attending)
- 10% Deposit

Upon receipt of your booking information we will confirm your booked sleep-over dates and itinerary.

Mail, fax or email information to:

Mail:
Head-Smashed-In Buffalo Jump World Heritage Site
P.O Box 1977
Fort Macleod Alberta, T0L OZO
Attention: Tipi Camp Coordinator

Fax: 403-555-3141
Email: info@head-smashed-in.com
Phone: 403-555-2731

CANCELLATIONS, CHANGE OF DATE AND REFUNDS

The option to change the date of your program is available if the request is made more than two (2) weeks before the existing confirmed date or the proposed new date, whichever comes first. Although we do not promise that the new date you want will be available we will make every effort to accommodate requests.

Group cancellations received by telephone must also be confirmed in writing, either by fax or by mail 2 weeks or more prior to the confirmed date of the sleepover. These groups will receive a refund of the total amount paid minus a $25.00 administrative fee.

Please note: Groups arriving with fewer participants than booked may be charged for the missing participants’ third party costs (i.e. meals) and other fixed costs.

The Manager and/or the Head of Interpretation will make all final decisions regarding refunds. The Head-Smashed-In Buffalo Jump World Heritage Site, through the Sleepover Coordinator, reserves the right to cancel a booked or confirmed Sleepover Program. If the Site deems it necessary to cancel a booked or confirmed Sleepover Program, the group will be given the option of an alternate date or a full refund of monies paid.
PROGRAM POLICIES AND PROCEDURES

Chaperones:

Student supervision and discipline is the responsibility of the group leader. Head-Smashed-In Buffalo Jump requires a minimum of one (1) adult chaperone for every eight (8) children. Teachers and supervisors must remain with their groups at all times. Please be sure parent supervisors are aware of their ongoing responsibilities as chaperones.

- The role of every adult chaperone is to assist with supervision, organization and clean up and to communicate individual and group needs and problems to the Sleepover staff.
- Chaperones are in a supervisory role while at the center and other locations included in the scheduled itinerary. Head-Smashed-In Buffalo Jump staff are not responsible for the basic disciplinary needs of your group. Any damage caused to the center or surrounding area will be properly identified and charged to the responsible group.
- Adult chaperones are responsible for ensuring that all areas of the Tipi Camp used by the group are clean and neat upon the group’s departure.
- Unacceptable behavior or failure to comply with Head-Smashed-In Buffalo Jump World Heritage Site’s guidelines and rules may result in the group being asked to leave. No refund will be made to the group in this case.
- One chaperone with the group is to be designated as the First Aid Person for the group. He/She will be responsible for decisions regarding sick and/or injured participants. Any cost related to a sick and/or injured participant is the responsibility of the participants’ parent or guardian and/or the group’s leader. (Please see the Waiver Form)
- All programs are mandatory and full participation from both participants and chaperones is expected unless extreme circumstances prevail.
- There must be one chaperone sleeping in each tipi to supervise the children throughout the night.

Arrival and Departure

- Arrival time for sleepover is 2:00 pm. We try to maintain a flexible schedule and atmosphere, but a late arrival will likely result in us having to alter or reduce your scheduled activities. Please contact Head-Smashed-In Buffalo Jump as soon as possible if you find your group is going to be delayed.
- Departure time is at 12:00 noon on day #2. We ask that chaperones make certain that the bathrooms and sleeping areas are neat and clean and that all personal and sleeping gear is packed and stored in your vehicle(s) before breakfast.
WHAT TO BRING:

A happy smile and a good attitude!

- Dress casually and comfortably
- Nighttime wear: pajamas, jogging pants, T-shirts
- Warm sleeping bag and pillow
- Your own pad or air mattress - we also have foam pads available on site
- Indoor footwear (in times of rain or snow)
- A flashlight (at least one per tipi)
- Water bottle (to fill from water jug at tipi camp)
- Facecloth and towel, toothbrush and toothpaste
- Participants may wish to bring additional spending money to shop in the gift shop. Shopping will only be allowed at the times stated, maximum $5 at a time.
- Bring your best manners. Be respectful of this place as it is sacred to the Blackfoot people and honoured worldwide. Be respectful of your fellow campers, other site visitors and all site staff. And please be respectful of any wildlife, however small or large, that you might encounter.

Please do not bring:

- Electrical appliances such as hair dryers, shavers, curling irons, radios, i-pods and cell phones (group leaders may bring a cell phone)
- Disrespectful language or behavior
Head-Smashed-In Buffalo Jump Interpretive Center
Waiver of Liability for Sleepover Program

I, ______________________________, wish to participate in the sleepover program at the Head-Smashed-In Buffalo Jump Interpretive Center on the _______ and _______ of June, 2010.

I agree to follow the guidelines, responsibilities and regulations which are to be outlined by the Sleepover Coordinator / Interpretive Guide upon arrival at the Head-Smashed-In Buffalo Jump Interpretive Center.

In consideration of acceptance of my participation in the sleepover program and the provision of benefits of the sleepover by the Minister Of Culture and Community Spirit (Minister), I hereby waive any right of recourse I may now have or acquire in the future against Her Majesty the Queen in Right in Alberta as represented by the Minister, his employees and agents in the event of any bodily injury or property damage arising as the result of participants' and supervisors' occupancy or use, except where such injury or damage is due to the negligence of the Minister, his employees or agents. I further agree that my participation is voluntary and for my own benefit. This waiver shall be binding upon my executors and heirs.

Signature of Applicant

____________________________

Date: ______________________

Address of Applicant

____________________________

____________________________

____________________________

Phone Number of Applicant

____________________________

Signature of Parent or Guardian
(whence applicant is under 18 years of age)

____________________________

Date: ______________________

Address of Parent or Guardian
(if different from applicant)

____________________________

____________________________

____________________________

Phone Number of Parent or Guardian
(if different from Applicant)

____________________________
Emergency Procedures for Head-Smashed-In Tipi Camp

FOR ALL EMERGENCIES PLEASE CALL 911

Fort Macleod Ambulance 911
Fort Macleod Fire Dept 911
Fort Macleod Hospital Emergency Room (403) 553-5311
Poison Centre 1-800-332-1414, if busy call Calgary (403) 944-1414
Fort Macleod R.C.M.P. (Local problems, during office hours) (403) 553-4406
RCMP Dispatch for Emergencies 911

Cell phone signal strength is excellent, on site at the tipi camp.

Cell phones do not work inside the Visitor Center and your phone battery will run down if left on for an extended period of time, within the building.

Emergency Procedure

- Inform H.S.I staff of emergency
- Assess the injury/emergency
- Assess if First Aid is needed – Level 1 First Aid is available on site
- Call 911 immediately for EMERGENCIES
- Give location under “DIRECTIONS” information
- It will take at least 20 to 30 minutes for local ambulance service to arrive on site.

Phones are available at Interpretive Centre during daytime hours of operation.
HSIBJ Phone # (403) 553-2731

HSIBJ Interpretive Centre hours of operation:
10:00 am – 5:00 pm - Daily

DIRECTIONS
Located 3 km north of Fort Macleod on Hwy 2 then 16 km west on Secondary Hwy #785

The Tipi Camp is on the north side of the highway, next to the overflow parking lot.

UTM Land Location:
Section SW-6-9- W-4

GPS coordinates:
49 degrees 42 minutes 30 seconds north
113 degrees 39 minutes 7 seconds west
**Special Events 2009**

**Head-Smashed-In Buffalo Jump**

is one of the oldest, largest and best preserved buffalo jump sites in North America. It was declared a World Heritage Site by UNESCO in 1981.

**Monday, February 16**

**Family Day**

Enjoy a variety of activities and entertainment in this fun-filled day for the entire family. Experience Blackfoot language and culture through Napi’s Puppet Theatre. If you like the Muppets then you won’t want to miss our tribe of puppets!*Free admission*

**March 8 to April 5**

**Sundays at The Jump**

Each Sundays at The Jump event features hands-on activities and workshops designed to teach you about Blackfoot Native culture. Make your own hand drum or learn beading and moccasin making techniques. See how ancient tools and weapons were made and used. Have your stone tools or bones identified and dated by an Alberta archaeologist or take a hike into the drive lanes.

**May 15 to September 15**

**Tipi Camping**

Camp beneath the cliffs of a World Heritage Site steeped in thousands of years of culture and history of the Plains People. Sleep in a Blackfoot tipi, like the trails, explore the Interpretive Centre and sample the food. Ask about our tipi camping packages: Evening Star or Buffalo Trails. See Website for details.

**June 21**

**National Aboriginal Day**

A celebration recognizing First Nations’ contributions to Canadian society. Enjoy Blackfoot entertainers and story telling through song and dance.

**July 1 to August 26**

**Drumming and Dancing on the Plaza**

Every Wednesday join us on the plaza to watch spectacular dance performances. Listen to live Blackfoot drumming and singing featuring some of the best Native dancers in Western Canada. Two performances daily: 11 am and 1:30 pm.

**Wednesday, July 22**

**Birthday Bash**

Come celebrate the Interpretive Centre’s Birthday Bash! This multi-cultural event will feature a variety of special activities including performances of music and dance by local cultural groups.

**Saturday, November 28**

“Heritage Through My Hands” – Christmas Festival & Craft Fair

Native people demonstrate and display their artistic skills and products during this pre-Christmas festival. Listen to Native entertainers and watch spectacular dance demonstrations. There will be kids crafting workshop, silent auction, door prizes and special presentations all day long! *Free admission.*

For Special Events booking contact:

Head-Smashed-In Buffalo Jump

Toll free in Alberta at 1-888-255-0000,
then dial 403-553-2731
Fax: 403-553-3141
info@head-smashed-in.com
www.head-smashed-in.com

**Hours of Operation**

Open daily, year-round

Summer: 9 am - 6 pm
Winter: 10 am - 5 pm

*(Check website for seasonal operating & closing dates)*

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Why is Head-Smashed-In Buffalo Jump a World Heritage Site?

Head-Smashed-In Buffalo Jump is known around the world for its remarkable testimony of prehistoric life. The site bears witness to a custom practiced by native people of the North American plains at HSIBJ for nearly 6,000 years. Thanks to their excellent understanding of topography and of bison behavior, they were able to kill bison by driving them over a precipice. Carcasses were carved up and processed in the butchering camp below.

In 1981, the United Nations Educational, Scientific and Cultural Organization (UNESCO) designated the jump as a World Heritage Site, placing it among other world attractions such as the Egyptian pyramids and the Galapagos Islands.

World Heritage Sites – an overview

- In 2006 there were only 13 other World Heritage Sites in Canada.
- The history of designating World Heritage Sites goes back to 1972. Recognizing that the world's cultural heritage knows no national boundaries, member states of UNESCO unanimously formed a Convention for the Protection of the World Cultural and Natural Heritage, known as the World Heritage Convention.
- The World Heritage Convention provides a worldwide system of cooperation to protect the world's heritage within a permanent administrative framework.
- The Convention maintains a World Heritage list identifying treasures such as masterpieces of humanity's creative genius, unique witnesses of lost civilizations, natural habitats where threatened species of plants and animals still survive, and beliefs that have left a strong mark on humanity.

For more information on UNESCO see www.unesco.org
BUFFALO JUMPING

• Long before they had the horse, the gun or even the bow, Plains Native Tribes hunted the buffalo, driving herds to their death over the cliffs at Head-Smashed-In Buffalo Jump.

• Buffalo jumping is such a sophisticated hunting technique that modern science is only beginning to understand its workings.

• The hunt began with a spiritual ceremony in which medicine women and men would go through detailed rituals to ensure a safe and successful hunt.

• During the ceremonies, the 'buffalo runners' were sent to locate and herd the animals. These were young men who possessed skill to move the bison herds.

• The buffalo runners, disguised under animal hides, would pass near the herds and try to lure them toward the cliffs, using their intricate knowledge of buffalo behavior.

• Ingenious V-shaped drive lanes were used to channel herds to the most dangerous point on the cliffs. These lanes were edged with rows of stone cairns which are still visible today. The lanes made their way across the countryside, following ridges, crossing coulees and rising across the tops of high hills.

• Near the cliff area of the drive lanes, people hid behind brush stacks into the cairns and prevented the beasts from straying by shouting and waving buffalo hides. Hunters rushed from behind, panicicking the animals into a thundering headlong plunge over the cliff.

• After falling, many buffalo were only stunned or wounded. Hunters waited below the cliff to kill the surviving beasts. The Native People believed that escaping animals would warn other herds of the deadly trap.

• The kill brought a surplus of meat to families and clans participating in the hunt. The people dried the meat, made pemmican, extracted fat from the bones, made tools, and tanned hides. Almost every part of the animal was used.

did you KNOW?

• Some meat was made into pemmican by first sun-drying it, then pulverizing the dried meat with a stone maul and mixing this with buffalo fat. To add flavor to pemmican, fruit such as chokecherries or saskatoon berries was added. The mixture was then placed in a 'parfleche', a rawhide container, and pounded to remove all air from the food. This mixture, when carefully prepared, remains edible for many years.
THE EXHIBITS

Napi's World

Level 1
Orients the visitor to the delicate ecology of the prehistoric plains; describes the geography, climate, and vegetation; and introduces the native account of the origin of people and how they learned to hunt the buffalo.

Napi's People

Level 2
Provides an overview of the lifestyle of the Plains people and includes reconstructions of a tipi and 'dog days' travois, and a number of artifacts which visitors are encouraged to handle. This 'hands on' approach to interpretation has been a key element in the development of displays and programs throughout the Centre.

The Buffalo Hunt

Level 3
Describes the use of jump sites like the one at Head-Smashed-In, focusing on a topographical model of the gathering basin and drive lanes used to direct the stampeding herd toward the cliff. The spiritual and ceremonial significance of the hunt is also explored.

Theatre

In search of the buffalo, a ten minute film depicting the Iniskim Ceremony. Local Blackfoot actors re-create a buffalo drive and the activities surrounding a jump.

Cultures in Contact

Level 4
Depicts the consequences of the introduction of European trade goods in the early 19th century. The arrival of the horse and gun marked the passing of the traditional buffalo hunt and dramatically altered the native buffalo culture. European contact brought epidemics of foreign origin that nearly wiped out the native population.

Uncovering the Past

Level 5
Includes a film presentation of the archaeological program at Head-Smashed-In.

did you KNOW?

- It is estimated that 60 million buffalo roamed the Great Plains when the Europeans arrived in North America.
- The Head-Smashed-In area average 35 Chinooks per year, the highest frequency in Canada's chinook belt. A Chinook is the warm, dry, westerly wind that flows over the Rocky Mountains and brings relief from cold, snowy winter weather.
To view the exhibits chronologically:
follow the 'Red Buffalo' from Elevator 1 to Elevator 2 on Level 3. Take Elevator 2 and then two flights of stairs to reach the Upper Trail Viewpoint, then follow the exhibits moving downward from Napi's World to Ground Level.
THE ARCHAEOLOGY

- This World Heritage Site is rich in prehistory. Bone and tool beds, nearly eleven metres thick, lie beneath the jump’s sandstone cliffs.

- The oldest evidence of humans at Head-Smashed-In is represented by two Scottsbluff spear points, which are believed to be 9,000 years old. These points indicate the site was visited in early prehistoric times, although there is no evidence that bison were driven over the cliff by the makers of the early artifacts.

- According to radiocarbon dating of ancient bones, the site was used as a buffalo jump 5,700 years ago – more than 500 years before the first pyramid was built in Egypt and before Stonehenge was erected in England.

- Head-Smashed-In is just one part of a communal kill site complex which includes a network of sophisticated drive lanes used to gather herds and lure them to the cliffs.

- The first archaeologist to investigate the site was Junius Bird of the American Museum of Natural History in 1938. Since then, the site has seen four major archaeological projects, between the late 1940s and early nineties.

- At the bottom layer of the kill site, archaeologists have found projectiles used during the Middle Prehistoric Period. These tools are from the ‘Mummy Cave Complex’ – crude projectile points, smaller than spearheads, but too large to tip arrows. The points were attached to a dart that was thrown with an ‘atlatl’ or throwing stick.

- During the period from about 4,000 to 3,000 years ago, the jump appears to have been abandoned. There are no tools or bone deposits directly above those attributed to the Mummy Cave Complex. Archaeologists are uncertain why the jump was not used at this time.

- Most of the bone deposits and artifacts recovered at Head-Smashed-In come from Late Prehistoric times; that is, during the last 1,000 years.

- The uppermost layers at Head-Smashed-In contain metal arrowheads, indicating the jump was used in early historic times. As guns and horses became common the labour-intensive buffalo jumps were soon abandoned.

- Archaeologists have also studied sites above the cliffs. There are petroglyphs, or rock carving areas, and vision quest sites where brave would go to commune with the spirits. These sites are not open to the public.

did you KNOW?

- Buffalo horns were scraped and formed into spoons.

- Buffalo tongues were often given to medicine men or women, who were responsible for ensuring the success of the hunt.

- Peter Fidler, a Hudson’s Bay Company trader, was probably the first European explorer to...
THE ARCHITECTURE

The unique $9.8 million visitor centre (1987 dollars) is a seven-tiered building buried in a large slump block, south of the jump sites.

Architect Robert LeBlond (of LeBlond Partnership) designed the Centre. Careful to not disturb the fragile archaeological deposits, contractors removed a section of the cliff, built a massive concrete box, and then pulled the earth and grass back over the top of the building.

Robert LeBlond was presented the Governor General's Award for Architecture in 1990 for his design.

Interior

Skylights over the ecological and buffalo jump displays provide natural light.

The building's interior has a series of terraces on which the displays are arranged. Elevators and stairs take visitors to the top of the building where they can overlook the panoramic plains. Stairs allow visitors to descend through the exhibits and theatre to the main floor and gift shop.

Exterior

To give the impression the building was created by erosion, its exterior closely resembles the surrounding rock outcrops in color and texture. This theme of subdued sandstone hues is reinforced inside the building.

Outside the Centre, visitors can walk to an interpretive node, overlooking the jump site, or take a walk in the shadow of the cliffs on the lower trail.

did you KNOW?

- During the summer months, the buffalo's hair is at its shortest. Lodge covers and numerous other articles were made from the soft, dressed buffalo skins.
- One or two individual animals, usually females, led the buffalo herds.
- Natural topographic barriers such as coulees, depressions, or hills were sometimes
THE CENTRE

Location
Head-Smashed-In Buffalo Jump is located 18 km north and west of Fort Macleod on secondary Highway 785 (Spring Point Road), at the eastern edge of the Porcupine Hills, approximately 100 km east of the Rocky Mountains.

Hours of Operation
Open year-round, seven days a week.
10 am – 5 pm

Closed: Christmas Eve, Christmas Day, New Year’s Day, and Easter Sunday

History
1969 – designated a National Historic Site
1979 – designated a Provincial Historic Resource
1981 – designated a World Heritage Site
1982 – May, Provincial Government approval for Interpretive Centre
1984 – September 28, ground breaking ceremony
1985 – June, start construction
1986 – October, finish construction
1986 – December, building occupancy
1987 – July 15, official opening with HRH Prince Andrew and Princess Sarah Ferguson, the Duke and Duchess of York.

FACILITIES:
• Theatre (80 seats)
• Cafeteria (60 seats)
• Gift Shop
• Over 2 km of outdoor interpretive trails
• Wheelchair accessible services
• Tours of the Centre with Blackfoot Guides
• Education programs
• Tipi camping (seasonal)

PARKING
• Cars: 120 stalls
• Trailers / RV’s: 50 stalls
• Buses: 6 stalls

DIMENSIONS
• Site: 1,370 acres
• Building: 2,400 m²
• Public area: 1,850 m²
• Display area: 568 m²

COST TO BUILD
9.82 million in 1986

Head-Smashed-In Buffalo Jump

CONTACT
Box 1977
Fort Macleod, Alberta
Canada T0L 0J0

Tel: (403) 555-2739
Fax: (403) 555-3141
E-mail: info@head-smashed-in.com
Website: www.head-smashed-in.com
APPENDIX THREE INTERPRETIVE MATERIALS FROM THE WILLANDRA LAKES WORLD HERITAGE AREA
Willandra Lakes Region

A place of stark beauty, the Willandra Lakes Region is unique, showing how climate, wind and water have shaped the landscape over the last 3,000,000 years. Human remains found here are crucial to improving our understanding of the human settlement of Australia.

The region contains powerful fossil remains of early human occupation dating back 45,000,000 years.

Once a lush environment teeming with water and animal life, the now arid lakes and dunes have remained well preserved fossils of over 55 animal species, including giant mammals. The fossil record also provides evidence of people adapting to changes in

The region was inscribed on the World Heritage List in 2001 for both outstanding natural and cultural universal values.

Natural

- as an outstanding example representing the major stages in the earth's evolutionary history
- as an outstanding example representing significant ongoing geological processes

Cultural

- bearing an exceptional testimony to a past civilization.

The Willandra Lakes Region covers 2,400 km² of a semi-arid landscape mosaic in the Murray Basin area of far south-western New South Wales. It comprises dried saline lake beds, plains vegetated with saltbush communities, fringe sand dunes and woodlands with grassy understoreys.

The region contains a system of Pleistocene lakes, formed over the last two million years. These lakes are now dry. Most are filled on the eastern shore by a crescent-shaped dune, referred to as a 'funnel', that was formed by the prevailing winds.

Today, the lake beds are flat plains vegetated by salt-tolerant low bushes and grasses. Part of the World Heritage property is gazetted as the Mungo National Park, which covers about two-thirds of Lake Mungo and includes the spectacular parts of the Walls of China dunas. The remaining area comprises pastoral leasehold properties. Jukurrpa those on the southern end of the Mungo dunas is of cultural significance to the three Traditional Tribal Groups.

source for the lakes was a creek flowing from the Eastern Highands to the Murray River. When the Willandra lakes were full, the water level of the lakes was about 100 to 150 metres higher than it is now. The ancient shorelines are stratified into three major layers of sediments that were deposited at different stages in the lake's history.

The lakes were full of deep, relatively fresh water for a period of 30,000 years that came to an end 15,000 years ago. The earliest sediments are more than 50,000 years old and are orange-red in colour. Above are clays, clean quartz sand and silt that were deposited along the lake's edges when the lakes were full. The top layer is composed largely of wind-blown clay particles hopped up on the dunas during periods of fluctuating water levels, before the lakes finally dried up.

Indigenous people have lived in the Willandra Lakes Region for at least 50,000 years. Excavations in 1968 uncovered the cremated remains of Mungo Man, the oldest remains in the world. In 1974, the ochre burial of a male Aborigine was found nearby. The skeleton, known as 'Mungo Man', is believed to be 40,000 years old.

In 2003, nearly 40,000 inscribed human bone fragments were discovered at a site of 30,000 years ago. This is the largest collection in the world. The prints were made by children, adolescents and adults from 10,000 to 20,000 years ago in wet clay. The clay, containing calcium carbonate, hardened like concrete, and a layer of clay and
During the last Ice Age, when the lakes were full, the Mungo people camped along the lake shore, taking advantage of a wide range of food including freshwater mussels, yabbies, golden perch and Murray cod, large eels and a variety of marsupials, which probably included the now extinct glacial kangaroos. They also exploited plant resources, particularly when the lakes began to dry and food was less abundant.

The human history of the region is not restricted just to an ancient episode. Evidence so far points to an extraordinary continuity of occupation over long periods of time. In the top layers of sediments there is abundant evidence of occupation over the last 50,000 years.

The vegetation in the region, sparse though it is, is typical of the semi-arid zone. It plays an important role in stabilising the landscape and hence maintaining its sediment stores and many species of native fauna.

Small scrubby multi-stemmed mallee eucalypts are found on the dunes, with an understory of herbs and grasses. Rosetted-leaf woodland is common on the sand plains. In the lake beds, several species of saltmarsh are able to thrive in the saline conditions.

The remains of a large number of animals have been found in the Willandra Lakes Region. More than 55 species have been identified, 40 of which are no longer found in the region, and 11 of which are extinct.

Twenty-two species of mammals are currently recorded. Birds are the most diverse group, and there are some 40 species of reptiles and amphibians.

The bird life of the Willandra Lakes Region is similar to that in many other semi-arid areas of Australia. Parrots, cockatoos and finches are the most conspicuous of the 157 recorded species.

Policy coordination and funding are joint responsibilities of the State and Commonwealth with advice from the Community Management Council, the Technical and Scientific Advisory Committee and the Elders Council. Day to day
### Appendix Four: Results of KWIC Analysis for Each Brochure

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<th>Program Name</th>
<th>Sub-Theme</th>
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