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ARCHAEOLOGICAL TOURISM OPPORTUNITY SPECTRUM:
EXPERIENCE BASED MANAGEMENT AND DESIGN
AS APPLIED TO ARCHAEOLOGICAL TOURISM

by

Brian J. Mazzola

A project submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF LANDSCAPE ARCHITECTURE

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2015

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ABSTRACT

Archaeological Tourism Opportunity Spectrum: Experience Based Management and
Design as Applied to Archaeological Tourism

by

Brian J. Mazzola, Master of Landscape Architecture

Utah State University, 2015

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Department: Landscape Architecture and Environmental Planning

Archaeological sites need a new management and development framework to address the pressures resulting from an increasing interest in archaeological tourism. This new framework needs to address both the imminent threat that increased tourism brings (overuse, crowding and additional wear) to the site as well as the widening range of experiences that tourists expect. Over the last decades, management frameworks have been developed in many fields of tourism to address similar issues. The most widely known of these approaches are the Recreational Opportunity Spectrum (ROS), the Tourism Opportunity Spectrum (TOS) and the Ecotourism Opportunity Spectrum (ECOS). These frameworks provide several classes of opportunities in which tourist may engage and enlist the management guidelines necessary to preserve the integrity of each class. This paper develops a tourism approach to archaeology adapted from these examples.

The new framework herein proposed is named the Archaeological Tourism Opportunity Spectrum (ATOS). This spectrum proposes four separate tourism classes within which different archaeological tourism experiences are offered. Development and management guidelines for each tourism class are created by looking at the outcome of four tourism classes as they are defined by seven archaeological site-based factors. These guidelines will create clear management objectives for each of the four classes. It will also facilitate an opportunity for small regional archaeological sites to be managed as a network providing an increased range of experiences for all tourists.

The application of ATOS is tested by applying the recommendations of this newly proposed framework to five established sites at Hovenweep National Monument. It is predicted that the ATOS will illuminate the opportunity for changes within the existing design, allowing for a wider range of experience opportunities.

(94 pages)

PUBLIC ABSTRACT

Archaeological Tourism Opportunity Spectrum: Experience Based Management and
Design as Applied to Archaeological Tourism
Brian J. Mazzola

Due to increased popularity in culture heritage, more people are venturing off the beaten path and visiting archaeological sites. While this increased interest is welcome and has many benefits such as greater awareness and economic gains for the communities associated with the sites, there are repercussions as well. Overcrowding and premature wear are occurring at sites that are not prepared to handle the higher visitation numbers. This influx of interest is also bringing a new type of tourist to archaeology sites. As more tourists who are new to archaeology visit these sites, the range of experiences they expect to have is widening. Archaeological sites need to adopt a new management framework that will accommodate the growing range of experiences desired by the tourists while also helping preserve the archaeological sites against tourism pressures to ensure years of continued enjoyment.

In the late 1970's two frameworks developed almost simultaneously to address similar issues in the field of wilderness recreation. These frameworks provide unique opportunity classes in which the public may find their desired recreating experience. Since the development of these recreation opportunity spectrums (ROS), several other areas of tourism have adapted this framework to fit the specific requirements of different tourism niches. The most notable of these adaptations are the Tourism Opportunity Spectrum (TOS) and the Ecotourism Opportunity Spectrum (ECOS). This thesis uses these highly accepted models as the building blocks to develop a new opportunity spectrum for archaeological tourism named the Archaeological Tourism Opportunity Spectrum (ATOS). The ATOS creates four tourism classes that provide the whole range of experiences for archaeological tourists. Each of these classes is prescribed clear guidelines for the development and management of the site and the protections of its resources. This framework encourages the development of regional site networks that will provide the full range of tourism classes and offer tourists the experiences they desire.

ATOS is demonstrated in a hypothetical *real world* application by being overlaid on the existing sites at Hovenweep National Monument. Changes based on the tourism classes are suggested and the picture of a new Hovenweep emerges offering a wider range of experiences.

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CHAPTER I

INTRODUCTION

The Positive and Negative Effects of Increased Tourism

Archeological sites are under increasing pressure from tourism, the result of which is placing these fragile cultural remains at risk of irreparable damage. Yet without the revenues generated by the interest of heritage-related tourism, the necessary resources will not be available to preserve archeological sites for future generations of scientists and tourists (Walker & Carr, 2013). This ongoing dilemma poses site management and design problems that a new framework based on unique opportunity classes will be well suited to address.

Substantial increases in heritage-related tourism are the result of a developing interest in heritage related sites by the casual tourism population (Walker & Carr, 2013). Tourists are looking for a “genuine first-hand experience” in the destinations they visit. While the *hardcore* tourist fringe continues to search for “deeper understanding of the heritage” at their destination (Craig, 1992, pp. 29-31), the majority of tourists interested in cultural heritage are seeking an entertaining experience (Hughes, Little & Ballantyne, 2013).

Increased tourism rates at cultural heritage sites have many benefits. Chief among them are the economic benefits for both municipal and private parties peripheral to the site (Nash, 2004; St. George, 1992). There are social benefits as well. Cultural heritage “preserves aspects of culture and history for [an] increased sense of belonging and group identity ... at local, regional, national and global levels” (Aplin, 2002, p. 49). With more

tourists there is more exposure. This leads to an elevated stewardship and a greater demand for the protection and preservation of the sites.

Countering the benefits of increased tourism is a number of negative impacts. Most obvious among these is that higher visitation rates result in a faster rate of deterioration to both the site and its surrounding infrastructure (Hawas, 1998; Merhav & Killebrew, 1998). Several other issues include an increased sense of overcrowding (Pedersen, 2002), vandalism to the site (Matero, 2008), overuse of site resources, conflicting site uses occurring simultaneously, and failure to meet visitor expectations.

Site Protection Versus Site Promotion

There are many in the field of archaeology who would prefer the public do not know about—much less visit—the sites, as tourists bring about irrevocable damage which can prevent future archaeologists from making new discoveries as techniques and technologies improve. Some archaeologists and anthropologists argue that tourism is a “rapacious disease” that robs cultures and sites of authenticity (Castañeda & Mathews, 2013, p. 40). The lack of enthusiasm for tourists at archaeological sites is hardly new (Garrod & Fyall, 2000) and increases in visitation create a need to develop a solution to these conflicts.

Archaeological sites have historically been managed for a more serious and informed tourist. Due to recent increases in tourism numbers, sites now need to be designed and managed to appeal to a wider range of visitors. People who are less informed about the site they are visiting require a different experience than those with

some familiarity of the culture represented at the site or those that are seeking a remote experience (Hughes et al., 2013). What is required is a paradigm shift from the conventional approach of treating the site like an outdoor museum to creating a site that has more opportunity for enjoyment and interpretation: a values-led approach (Wijesuriya, Thompson & Young, 2013). These underlying concepts need to be addressed in the early stages of policy development. Cultural heritage sites should no longer be “confined to the role of passive conservation” (Wijesuriya et al., 2013), but instead should be designed as dynamic sites with multiple experience opportunities for all people.

The interpretation and presentation of archaeological sites needs to evolve in order to engage this new tourist group. Sites should be more dynamic. Museum-like sites offer site protection and can be very educational, but they do not capture the imagination of the new tourist (Herbert, 1995). Archaeological sites should offer unique experiences along a continuum anchored at one end by education and at the other end entertainment (Hughes et al., 2013).

Trying to accomplish this much versatility at one site can be overwhelming for site management and the tourist alike. One solution is to promote lesser-known sites as a means to offset the pressure on popular sites. Creating regional networks of several sites will not only diffuse tourism pressure, but will also allow similar sites to be designed and managed for different user experiences (Pinter, 2005).

A New Management Approach

The goal of this thesis is to create a management framework for archaeological sites based on the Recreational Opportunity Spectrum (ROS) and establish a design strategy that will allow their implementation. The ROS is a management framework developed by the U.S. Forest Service that focuses on the varied experiences people desire from recreation. By establishing how attractions at a site will be designed and managed, the ROS has the power to create a variety of opportunities to meet the desires of a diverse population.

One half of the management requirement is to accommodate the needs of the tourist through tools such as the ROS; the second half is to protect the site. An opportunity spectrum-based framework will help create classes of sites based on user expectations. These classes can then be given a specific site treatment and infrastructure design assignment based on the class type, ranging from low impact design and minimal infrastructure for sites geared toward serious archaeologically inclined visitors, to a substantial infrastructure for the more interactive sites catering to casual tourists. Using this technique will create a streamlined and replicable process. Implementing these elements into the design will help archaeological sites accommodate the increasing demands placed on them.

It is crucial to address the goals for site design and user experience early in the steps of policy formation. This will place design in the driver's seat of site development, not as an afterthought. By designing cultural heritage sites to fit various user experiences we can increase visitations and revenue as well as create better resource protection.

This thesis will also highlight the key role landscape architects can play in the design of a new management framework. Landscape architects have often been included in management teams, but as stakeholders rather than as a members of the core development team. Archaeologists are experts at the discovery and study of cultural heritage but not at creating a sense of place (Ouf, 2001). Engineers are great at stabilizing fragile ruins and building roads but not at creating an experience. Site managers know how to manage and accommodate for tourists, but they do not know how to hide people in the landscape using topography and vegetation. There is a gap of knowledge in the management team that can be filled by the skill and talents a landscape architect brings to the table.

Landscape architects, with their creative problem solving techniques, ability to work across disciplines, and their design sensitivities, are the professionals that will mostly aptly guide the direction of this change. They have the necessary skills to develop a site that will blend the educational and recreational experiences desired by the tourist along with the necessary conservation measures to ensure its protection for future generations of tourists and scientists. Incorporating this level of site design and conservation with the well-tested management strategies and tool such as ROS, adapted to meet the specific needs of archaeological sites, will result in a beneficial solution to the problems outlined in this chapter.

CHAPTER II

LITERATURE REVIEW

Archaeological Tourism

Promote Archaeology or Protect it?

Conflicts and contradictions clearly exist when it comes to resource protection versus tourism. There is not only a lack of communication between archaeologists and tourism scholars but a disagreement over how to approach site management as well. In order to preserve or ensure an archaeological experience for future generations, the needs of archaeologists, tourists, local communities, and the tourism industry must be considered. It has to be a cohesive group project (Walker & Carr, 2013).

Each side of this argument possesses many clear and sound points and as with most disagreements, there is not a clear winner or loser. The solution will come in a well thought-out compromise and require an “assessment from a variety of perspectives with the involvement of multiple constituencies” (Pinter 2005, p. 9).

Archaeology is the definitive discipline for the discovery and study of cultural heritage. However, archaeologists are not trained to accommodate and plan for tourism, and tourism scholars are not trained in the sensitivities of cultural heritage (Hawas, 1998; Ouf, 2001). It is necessary to have cooperation in order to reach a common goal. Katherine Slick (2002) argues that as archaeologists we “must consider the tourism industry our partner, rather than an adversary” (p. 221).

Advocates of protection argue that any tourism is exploiting the site (Larkham, 1995; Herbert, 1995) and these concerns are only escalated by the tourist industry's need for commercialization. Terry Stevens (1995) writes,

Perhaps the greatest challenge faced by the practitioner involved in the design of heritages as a visitor attraction is the interface with those professionals whose interest is focused on the resource and its protection and for whom public access is an aberration. (p. 197)

Daily wear and tear on a site causes irreversible damage (Merhav & Killebrew, 1998), and exposed sites are more susceptible to vandalism and looting (Matero, 2008). These concerns have a significant amount of validity and consistently recur in the literature (Pederson, 2002; Pinter, 2005). For many on this side of the argument, the ideal scenario would be to excavate, document and rebury the site, leaving everything *in situ* for future study (Roby, 2010; Wilson, 1989).

The other side of the argument focuses on the need to engage the public, encourage visitation, and generate funds in order to pay for preservation and further research (Levine, Britt & Delle, 2005; McGivney, 2005; Larkham, 1995; Herbert, 1995).

Traditionally, archaeological artifacts have been housed in museums and not left *in situ* at the site. Museums, while educational, typically lack the dynamism that is necessary to capture the attention and imagination of the public (Herbert, 1995). Museums are good for experts in the field who want to simply look at one object versus another, but for the lay person, who doesn't have the advanced degree, it really is not all that fascinating (Schouten, 1995). If these resources are logged away in a museum or buried out in the desert to be seen by only a few, they are no longer part of a continuous cultural heritage. They will have no significance to society as a whole, but instead only to a handful of

academics. Similar to the way a wild lion is much more majestic in the plains of Africa than in a cage, archaeological remains tell a better story when experienced at the site and not behind a display case.

One side of the argument robs citizens of their right to cultural heritage by locking away artifacts and keeping sites a secret, the other side risks destroying cultural heritage for future generations by exposing them to overuse. Stevens (1995) argues, “Shaping the character of the synergy between conservation and recreation at heritage properties remains an unresolved paradox...” (p. 197), but this does not have to be the case. Recreation and conservation can exist simultaneously, if designed and managed correctly.

Tourists and Tourism

Today, more than ever, greater numbers of people have the desire and economic means to travel. As a result, countries, regions, towns and cultures are becoming receptive to tourists and the opportunities that they provide. Tourism has become an “enormous, lucrative business” which is benefitting “governments, public officials, individuals, and private enterprises” alike (Walker & Carr, 2013, p. 22). Archaeology and heritage tourism are receiving a lion’s share of this increased tourist activity. The U.S. Travel Association (2013) states that in 2012, 855.4 billion dollars were spent on travel, generating 129 billion dollars in taxes and creating 7.7 million jobs. Indirectly, these tourists generated another 1.1 trillion dollars in revenue and 6.9 million more jobs. Of the 855 billion dollars spent on travel, 569 billion of it is directly related to leisure related travel.

The increase in visitation numbers at archaeological sites is due to an increased interest within the general public, not just special interest groups. As a result, the type of visitor to these areas is changing. “Traditional visitors to archaeology sites were mainly an educated minority who are comparable in many ways to archaeologists and historians;” they were “content to visit sites unadorned” with visitor centers, cafes, and gift shops and prefer them with little or no interpretation (Walker & Carr, 2013, p. 23). Today, however, “the average visitor to an archaeological site is often just as concerned with the provision of shops and cafes on the site as with the archaeological ruins and artifacts on display” (Walker & Carr, 2013, p. 23).

The New Tourist

Archaeological tourism, just like any other business, needs to cater to its patrons. As the masses become more interested in this type of tourism, the site management needs to adapt. The wants of the mainstream *recreational* tourist will replace those of the *hardcore* fringe. Archaeology sites need to develop an experience that appeals to a broader interest group (Malcolm-Davies, 2004). “Few people are interested in archaeology the same way archaeologists are interested in it” (Holtorf, 2007, p. 20). Archaeology is increasingly dependent on public funding to survive. “It goes without saying that in these days of diminishing federal funds for archaeology, the public’s understanding of the mission of archaeology is essential if the discipline is to survive” (Young, 2006, p. 240).

Why is the general public so disinterested in archaeology? In part, the problem lies in the stagnant story offered by the archaeological site itself; “unless it is explained otherwise, people never seem to realize that there is anything to be learned from ancient objects aside from their being old and attractive” (Lazrus, 2006, p. 275). People want a story, and more than education, authenticity, or even supporting preservation efforts, they want to be entertained (Slick, 2002).

To the archaeologist or well-informed tourist, a stone, bone fragment or other artifact can tell a story, but to the casual tourist at an archaeological site, artifacts do not instantly have meaning. They rely on interpretation in order to create “links between what is visible and what it represents” (Hughes et al., 2013, p. 81). When presented with information about the site, it is much easier and more enjoyable for the recreational tourist to relate at a personal level than an intellectual level. A site that offers comparative analogies and stories will encourage tourists to reflect on their own life or to project their life into the culture represented. As a result, the site will convey a deeper, more personal understanding of the culture (Walker & Carr, 2013).

In order for cultural heritage sites to succeed, it is important for management to understand their market base when designing sites and features. “Any discussion of what should and should not be offered to visitors must first consider who actually visits archaeological sites and why” (Hughes et al., 2013, p. 68). Management at archaeological sites that fail to understand their customer base and do not recognize their experience needs are less likely to survive in what is becoming a competitive heritage tourism market (Beeho & Prentice, 1997).

Many archaeologists feel that designing a site for entertainment degrades the site by compromising its authenticity (Walker & Carr, 2013; Duke, 2007; Chhabra, Healy & Sills, 2003). The challenge for archaeological sites is to design an experience that meets the needs of the customer's experience expectations without compromising the archaeological integrity of the site (Walker & Carr, 2003).

Site Interpretation: Educate or Entertain?

One question for management at archaeological sites is whether site features should be educational or entertaining? Educational attractions are more akin to open-air museums: they don't leave much room for interpretation and are more appreciated by tourists with background knowledge. While they are deemed authentic, many feel that this type of site is static and dead (Duke, 2007; Chhabra, et al., 2003). Entertaining attractions often take the form of a simulated environment or experience. They offer a story and allow the tourist to relate to the past at a personal level (Beeho & Prentice, 1997).

Traditionally, visitors to archaeological sites sought authentic experiences and were frustrated by settings and experiences they thought to be inauthentic (Hughes et al., 2013). The purpose of their visit was to see the remains of an extinct culture *in situ*, not to be entertained by fabricated fictions, and as a result the primary purpose of most heritage attractions was education (Hughes et al., 2013).

As the growing leisure tourism industry has expanded to include heritage tourism, the emergence of a *recreational* archaeological tourist is requiring a new type of entertainment based archaeological experience. Most tourists will not find experiences

marketed as *strictly educational* all that appealing and will be less apt to visit. “For most visitors, the promise of entertainment, fun, and engagement are essential to attract customers” (Hughes et al., 2013, p. 70). Several studies (Falk & Dierking, 2000; Jones, 1999; Beeho & Prentice, 1997) have shown that tourists derive great satisfaction from and enjoy the experiences that transport them back in time via a simulated environment. The tourist experiences sights, sounds, smells, and tastes associated with the time era represented. This creates a “reasonably realistic impression of what it must have been like” (Hughes et al., 2013, p. 71).

Lack of authenticity is the threat that results from compromising education for entertainment. Authenticity is defined as accuracy, genuineness, and truthfulness (Waitt, 2000). Many archaeologists are starting to argue that authenticity may not be as important as once believed, but that it is the illusion of authenticity that is most important (Chhabra et al., 2003; Cohen, 1988). But Erik Cohen (1988) warns while perceived authenticity is acceptable for the recreational tourist, it can be a slippery slope. Tourists want to be entertained, but they do not want an ‘entertainment for the sake of entertainment’ experience. “The key is to ensure there are obvious links between entertainment or ‘fun’ activities and the educational messages of the site” (Hughes et al., 2013, p. 81).

Different Sites for Different Experiences

Archaeological sites can be thought of as being divided into three tiers depending on the amount of development they have received. While ‘primary sites’ are more iconic and receive more attention from media and tourism, the majority of sites in the world are second and third tier. Matthews suggests we focus on the role these sites can play in

tourism (Castañada & Mathews, 2013). Teresa Pinter (2013, 2005) advocates the creation of site networks. The primary site would serve as a hub with several second and third tier associated sites that would comprise a regional archaeological experience. There are many benefits to this approach. By promoting the visitation of the lesser sites, tourism pressure on main sites is reduced; integrating the stories of each site creates a bigger picture for the tourist; different sites can be managed for different user experiences. Having multiple sites as part of a network allows the management team to periodically close sites for maintenance without dramatically compromising the visitor experience.

The problem with trying to please all the tourists at every site is that, “while seeking to appeal to a wide range of audiences and interest, there is the danger that educational objectives can get smothered by management’s desire to provide experiences that are exciting, interesting, and entertaining” (Hughes et al., 2013, p. 89).

Having multiple sites would permit management to offer a range of interpretive techniques and activities (Beeho & Prentice, 1997). Various user expectations can be met at individual sites, instead of trying to develop each site to appeal to all tourists. This way the tourists looking for differing levels of authenticity will be able to choose sites that cater to them, instead of being subjected to attractions that would otherwise ruin their experience (Cohen, 1988).

Recreational Opportunity Spectrum:

Fundamentals and Variations

When looking for an archaeological tourist site development and management framework, there are many options to choose from. Similar concerns over resource protection and tourist motivations in the field of recreation and natural resource management suggest that discipline as a fertile ground for comparative research. Several models developed in these fields offer attributes that might potentially apply to an archaeological framework. Some of the most established of these models include the Recreational Opportunity System (ROS), Visitor Impact Management (VIM), Benefits-Based Management, Limits of Acceptable Change (LAC), Visitor Experience and Resource Protection (VERP), and Management Process for Visitor Activities (VAMP). Most of them are quite similar. Robert Manning (2004) writes that the “distinctions among contemporary recreation planning frameworks are mostly a matter of terminology and sequencing” (p. 87). That being said, ROS tends to be the most widely adopted framework and has proven itself very compatible with other opportunity-based spectrums (Stanis, Schneider, Shinew, Chaves & Vogel, 2009; McCool, Clark & Stankey, 2007; Boyd & Butler, 1996).

Similarly, an adaptation of the Recreational Opportunity Spectrum (ROS) model applied to the management of archaeological sites holds promise. Existing management programs at archaeological sites have experimented with some of the models listed above, but as of yet there is not a model tailored specifically to the needs of an archaeological site. Using an ROS influenced model tailored to the needs of

archaeological tourism will create a more precise framework, illuminating issues specific to archaeological sites. Similar to learning a word that expresses an emotion you have felt but could never describe, this will create a vocabulary which will allow management to more accurately communicate and address the requirements specific to archaeology.

In order to understand the ROS concept and evaluate its potential applicability to archaeological sites, it was important to review the primary literature in the field. The remainder of this chapter outlines the core concepts of ROS as well as several adaptations of the framework that have been used successfully for recreation-related topics outside the primary scope of ROS.

ROS Development

Outdoor recreation on public lands saw an exponential expansion in the decades following World War II. Land management agencies faced with the impacts of increased usage responded with the development of new management philosophies, including the creation of the ROS (Pettengill & Manning, 2011). The development of the ROS framework began with two series of research papers. The first was published by Perry Brown and Bev Driver in 1978, the second by Roger Clark and George Stankey in 1979. Both of these approaches introduced the concept of a recreational opportunity setting, which is defined as “the combination of biological, physical, social and managerial conditions that give value to a place” (Stankey, 1999, p. 174). Once established as an evaluative tool to define settings, ROS was adopted and has been used with great success by the U.S. Forest Service, the Bureau of Land Management, the National Park Service,

and agencies in several foreign countries as well (Dawson, 2008; McCool et al., 2007; Stankey, 1999). In more recent years, the ROS model has been adapted and applied to planning and management in such diverse fields as eco-tourism (Boyd & Butler, 1996), transportation in parks and public lands (Pettengill & Manning, 2011), tourism (Dawson, 2008; Butler & Waldbrook, 1991), hiking (Robson & Eagles, 2002), and mountain biking (Cessford, 1995). This thesis examines the potential for application of the ROS model to archaeological site development as an extension of its adaptation in related areas.

ROS Fundamentals

At the core of ROS is the idea that quality recreational experiences are most likely to occur by offering a range or diversity of opportunities (McCool et al., 2007). These opportunities occur as a continuum, which may be described as the recreational setting. In ROS, this spectrum of settings ranges from primitive to urban.

The goal behind ROS is to provide a wide range of opportunities for quality recreation in a given area, as the public, in general, have a wide range of tastes. In this use, the term quality is defined as degree to which recreation opportunities meet the expectations of those who seek them (Clark & Stankey, 1979). Because varied user expectations make it impossible as well as undesirable to create a single recreation area that appeals the entire population, it is important to consider sites at a regional level. If each site were to be evaluated on an individual basis, then every site within the entire recreational region would be designed for the *average visitor* and would not preserve areas of diversity for those seeking experiences on the fringes (Pettengill & Manning, 2011). Alan Wagar (1966) aptly wrote, “Quality seems to be a highly personalized

matter” (as cited in Clark & Stankey, 1979, p. 4). “By providing a wide range of settings varying in level of development, access and so forth ensures that the broadest segment of the public will find quality recreational experiences” (Clark & Stankey, 1979, p. 4).

Recreation opportunities have three components: 1) settings, 2) activities, and 3) experiences. Settings are comprised of the biophysical, social and managerial environments in which the activity takes place. Activities are the behaviors in which the public engages. Experiences are the resulting psychological outcomes of the individuals engaged in the recreational activities at the setting. Each of these three attributes should be considered to exist along a continuum (see Figure 1).

The biophysical continuum varies from an unchanged and pristine wilderness environment to a highly modified urban setting. The social continuum includes the type and amount of interaction with others and ranges from none to many. The managerial continuum represents the type and amount of rules and regulations imposed by staff, ranging from minimal to intensive. When combined, these three continuums result in a complete continuum of settings, or the Recreational Opportunity Spectrum. This continuum is then split into distinct classes. The number and name of the class changes depending on which version of ROS is used, but the spectrum range typically goes from primitive to modern (Figure 2). Clark and Stankey (1979) proposed 4 classes (modern, semi-modern, semi-primitive and primitive), whereas Driver and Brown (1978) proposed 6 classes (Primitive, semi-primitive non-motorized, semi-primitive motorized, rustic and concentrated) (as cited in McCool et al., 2007).

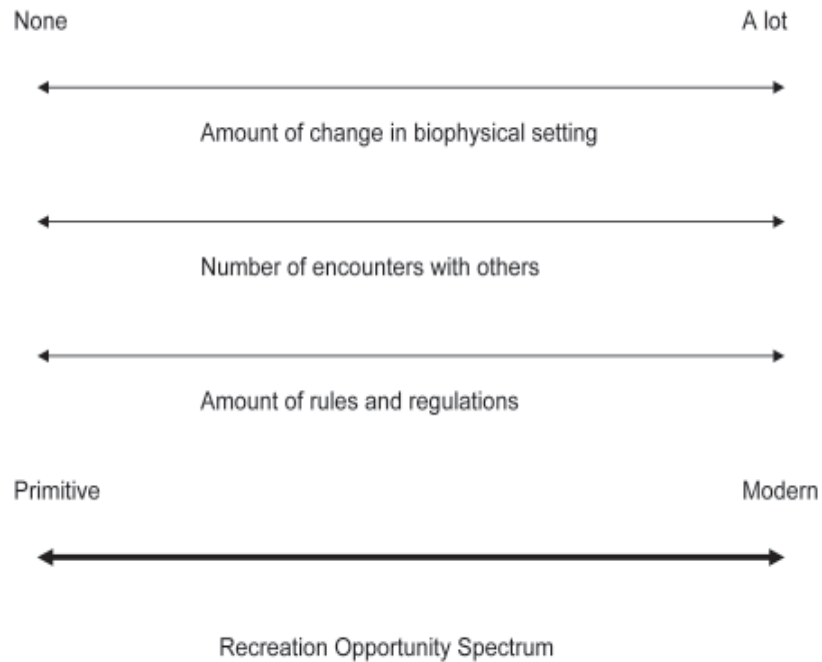


Figure 1. Three continua. The Recreation Opportunity Spectrum is described by continua concerning the biophysical, social, and managerial attributes. The combination of the three gives rise to a continuum of settings. From “An Assessment of Frameworks Useful for Public Land Recreation Planning,” by McCool et al. 2007, Portland, Oregon: U.S. Department of Agriculture, (p. 47).

The various classes as identified by the ROS are then further defined by resource, social and managerial factors as displayed in the Recreational Opportunity Matrix (Figure 3). Clark and Stankey (1979) have the most specific set of factors, although both approaches acknowledge that the factors are comprised of the three specific categories mentioned above (Pettengill & Manning, 2011; McCool et al., 2007). The Clark and Stankey model (1979), adopted as the basis of this thesis, uses four criteria to establish factors to define their opportunities. It is in part, because of these established criteria, that their model framework is easily adaptable to other opportunity spectrums. The criteria

are: 1) the factor is observable and measurable, 2) the factor is directly under management control, 3) the factor is related to recreationists' preferences and affects their decisions about areas to use, and 4) the factor is characterized by a range of conditions (Clark & Stankey, 1979).

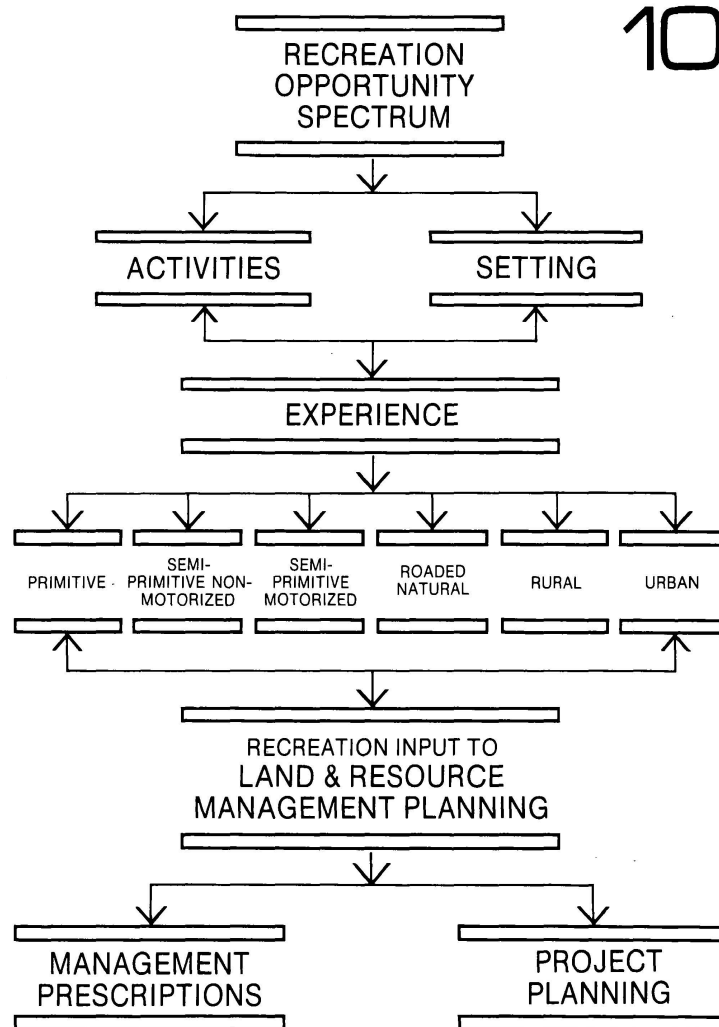


Figure 2. ROS flow Chart. From "ROS Users Guide" by USFS (1982), United States Department of Agriculture, (p. 3).

Management Factors

The six factors used to define the ROS are access, non-recreational resource use, on-site management, social interaction, acceptability of visitor impacts and acceptable regimentation (Clark & Stankey, 1979). Once an opportunity class has been defined by the factors, ROS is then able to help establish management objectives for that class. By creating these distinct opportunity classes, ROS allows visitors to better identify the opportunity they seek and achieve the experience that they are after. The potential for incompatible recreational activities occurring in the same area is also reduced, as there is an expectation as to the type of activity that is allowed at the given site (Pettengill & Manning, 2011). The defining factors used in ROS are described in detail below.

Access. The type of path and the means of travel, both of which may range from easy to difficult control how a visitor arrives at an area. For example roads might be highways or rugged trails and means of travel might range from airplane or car to walking or canoe. Maintenance of paths is also a consideration as they might range from a highly maintained roadway to an unimproved road for vehicles. Similarly for Pedestrians, the path might be a well-established trail with built features or paved sections or it might just consist of markers and have no treadway at all.

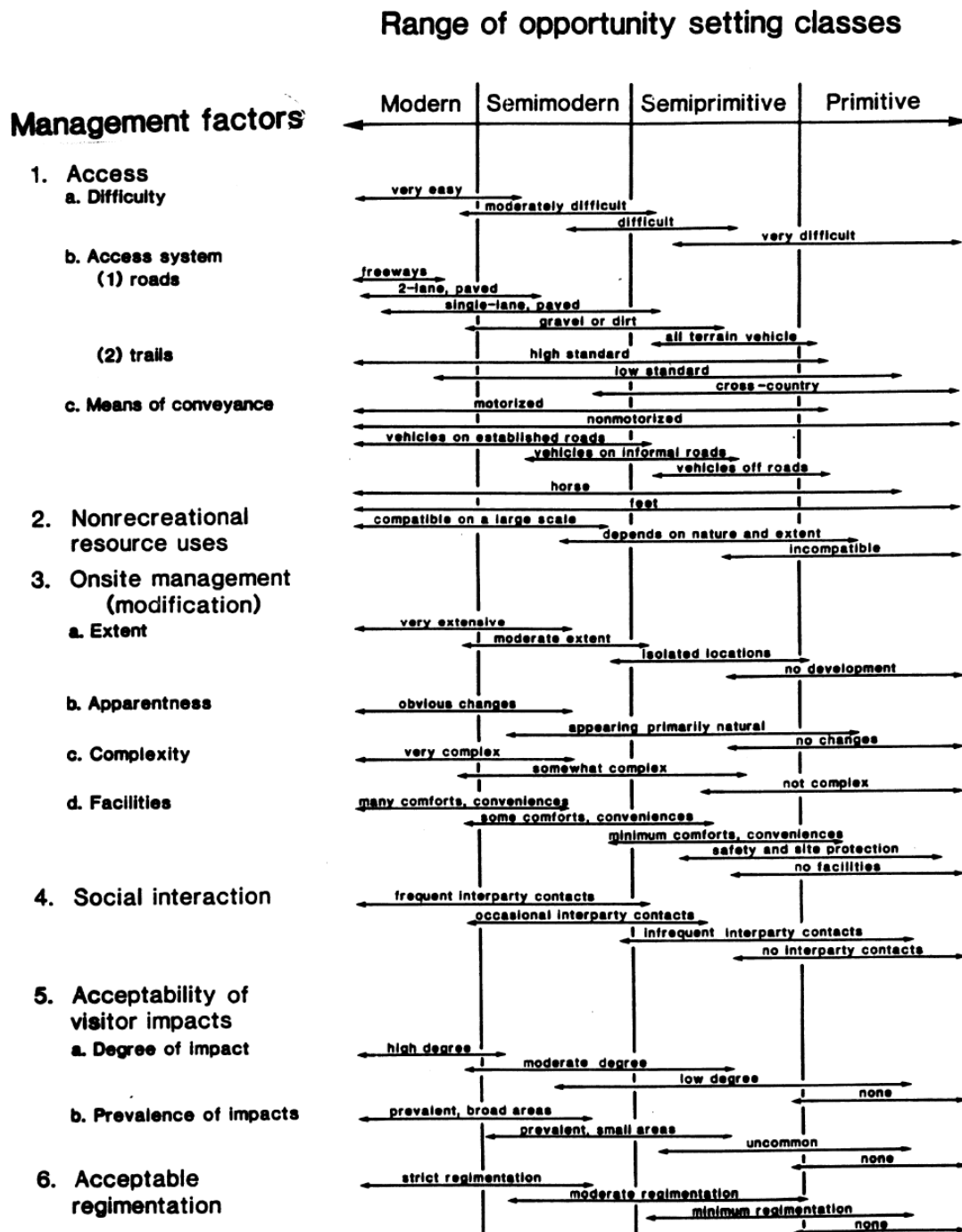


Figure 3. Recreational Opportunity matrix. Management factors defining outdoor recreation classes. From "The recreation opportunity spectrum: A framework for planning, management, and research," by R. Clark and G. Stankey, 1979, USDA Forest Service, (p. 11).

Non-recreational uses. In some recreation areas conflicting activities occur. These can include grazing, mining, logging, and drilling for oil to name a few. The conflict between non-recreational and recreational uses can be very detrimental to recreational opportunities. There is the short-term effect of noise and dust and the long-term effects of mining or clear cutting.

Onsite management. Modifications of the site, including use of facilities, management of vegetation landscaping, traffic barriers, etc. are elements of onsite management. There are four elements to consider before deeming site modification appropriate.

1) Extent of modification: “Is it limited to a few isolated locations or distributed throughout the area?”

2) Apparentness of the modification: “Has the use of native materials helped blend the modification into the natural setting or do artificial materials make the modification readily apparent?”

3) Complexity of the modification: “A bridge could be a simple log foot path or a complicated engineering effort.”

4) Facilities: Facilities might be for protection of resources, or the convenience, enjoyment or the safety of the user. In some scenarios not having facilities is appropriate; in others it is appropriate to have all facilities possible (Clark & Stankey, 1979, p. 10).

Social interaction. The number of people in one place is a major influence in the fulfillment of recreational expectations. Lower levels of interaction are generally expected at primitive areas, while significant interaction is acceptable at the urban end of

the spectrum. The amount of social interaction in a recreational area may be influenced by naturally by topography and vegetation or by management controlled access (Clark & Stankey, 1979, p. 11).

How people are distributed in space and time, and the probability of interaction between parties are important factors in determining the appropriate social carrying capacities at different points along the opportunity spectrum. Basically it is very site dependent whether the location can handle the number of people and where on the spectrum it will end up. A well-designed site that moves people well might have more visitors but be closer to the primitive side of the spectrum than a site with poor circulation.

Acceptability of visitor impacts. The use of recreational sites is inevitably going to cause an impact. The question is what level of impact is acceptable for the opportunity being supplied? It is important for management to determine this level before it is approached. With preemptive consideration, corrective management action is only required when damage surpasses the predetermined level for the opportunity being monitored (Clark & Stankey, 1979, p. 13).

Acceptable level of regimentation. The amount and nature of the control over a site is an important factor in determining the opportunities. Types of regimentation may be as subtle as site design or as overt as strict laws with penalties attached. There is a paradox in the area of regimentation, as it is most desirable to have the least amount of regimentation as possible to preserve a primitive feel, however in order to preserve the primitive feel, regimentation is often quite necessary (Clark & Stankey, 1979).

ROS Variations

The development of the ROS and its successful application to recreational management by the U.S. Forest Service and other public lands has encouraged management in other fields of tourism and recreation to consider its application to help meet their development and management needs (Pettengill & Manning, 2011). By adapting the ROS and applying the criteria Clark and Stankey (1979) established to create corresponding management factors, alternative uses of the ROS framework have evolved to successfully to meet these needs. The following is a review of some of the most referenced examples.

Tourism Opportunity Spectrum

One of the earliest and most referenced variations of the ROS is the Tourism Opportunity Spectrum. Richard Butler and Lori Waldbrook (1991) created the TOS as a means of creating and defining tourism experience options. The Opportunity continuum they use ranges from hard to soft adventure and the six factors that they created to define the continuum are 1) type and level of access, 2) other non-adventure uses, 3) level of development of tourism infrastructure, 4) social interaction between guest and hosts, 5) acceptability of visitor impacts, and 6) acceptability of visitor regimentation (Pettengill & Manning, 2011).

Ecotourism Opportunity Spectrum

Stephen Boyd and Richard Butler adapted the TOS to focus on one specific area of tourism. The Ecotourism Opportunity Spectrum (ECOS) was created to manage and develop ecotourism adventures. Their concern was helping to define the various user

expectations, which are associated with ecotourism. Ranging from casual guided group trips to arduous trips into primitive areas, the term ecotourism covers a broad range of activities. Instead of using hard to soft adventure, ECOS more specifically labels the classes of its opportunity spectrum eco-specialist, intermediate and eco-generalist. The eight factors used in ECOS are similar to those used in ROS, with the exception of attractions and level of skill and knowledge (Boyd & Butler, 1996).

Revised Tourism Opportunity Spectrum

Chad Dawson (2008) took the ECOS one step further as a means of managing a “growing tourism demand and limited resource supply especially related to ecotourism and nature-based tourism” (p. 43). This approach sets out to further define the TOS. Instead of a spectrum from hard to soft, five classes range from ecotourism to urban tourist. In effect, Dawson has placed the ECOS inside of the TOS making a spectrum in which a wider range of tourism classes are comparable. The revised TOS uses typical defining factors to define the spectrum: 1) Management goals, 2) Accessibility, 3) Visual characteristics, 4) Visitor environmental impact, 5) On-site management, 6) Social interaction, and 7) Visitor management (Dawson, 2008).

Water Recreation Opportunity Spectrum

Several authors have developed an opportunity-based framework for water recreation as well (Aukerman & Hass, 2004; Orams, 1999). The WROS has been applied to several study water recreation areas from rivers and wetlands to coastal zones. WROS, now referred to as Water and Land Recreation Opportunity Spectrum (WALROS) has

progressed into a planning guidebook for the Bureau of Reclamation (Pettengill & Manning, 2011).

Transportation Recreation Opportunity Spectrum

As transportation is fundamental to getting to and from national parks as well as a recreational pastime of its own, Peter Pettengill and Robert Manning (2011) propose the development of an opportunity spectrum to aid in planning and managing the transportation experience. They feel that the Transportation Recreation Opportunity Spectrum (TROS) has real application due to the “recent emphasis on designing alternative transportation systems for parks and public lands...that incorporates transit, pedestrian and bicycle transportation in addition to private automobiles” (Pettengill & Manning, 2011, p. 23).

The TROS uses a similar range of opportunities. They propose six classes ranging from urban to primitive. Instead of using management factors, TROS uses eight indicators and standards of quality. They are Density of Use, Landscape Character, Facilities/Services, Cost, Convenience, Corridor Design, Mode of Transport and Trip Purpose.

Summary and Observations

Not all people are seeking the same recreational opportunities. A day in a city park might offer the same level of pleasure for one individual as another receives from hiking a high alpine trail in a national park. Everyone has different expectations and needs (Pettengill & Manning, 2011). The ROS is designed to offer distinct recreation settings in

which tourists can find and enjoy the experience that they are seeking (Clark & Stankey, 1979).

One of the greatest benefits of creating an opportunity spectrum is that if accepted at a regional, national or even global level, it creates a framework of concepts and definitions that are then relatable and comparable throughout the extent of its reach (Dawson, 2008).

The adaptation of the ROS framework for guiding the planning and management of uses outside of the area of parks and outdoor recreation has proven very successful (Pettengill & Manning, 2011). It is in this light that adapting the ROS to develop an experienced based management framework for archaeological sites seems appropriate.

CHAPTER III

METHODOLOGY

Research Question and Development

The purpose of this study is to derive a technique to facilitate the design and management of archaeological sites that will minimize the pressures and destructive forces of increased tourism while at the same time providing a positive and desirable user experience. This purpose was developed over the course of several years of research and investigation. While the general nature of the study has been consistent, the specific approach and framework evolved only after substantial literature review and multiple iterations of this thesis. This idea combines the research and ideas of several professions, most notably those of archaeology, landscape architecture, tourism and recreation planning. The model used in this study is adapted from the Recreation Opportunity Spectrum (ROS) used extensively by the U.S. Forest Service. The ROS has been successfully adapted to other types of tourist activities.

This is a qualitative theoretical research paper. The research was performed through a combination of observations, literature review on relevant topics, and discussions with BLM and NPS landscape architects, archaeologists and site managers. Throughout the thesis I have relied on my graduate school education in landscape architecture as well as my undergraduate education in archaeology.

Research Sites

Observations for the research occurred during visits to numerous ancestral Puebloan archaeological sites in southwest Colorado and southeast Utah. The intent of the site visits was to search for relationships between cultural heritage conservation and the presentation of the archaeological landscape by experiencing the sites first hand. Site observation is a crucial step in developing a framework for the management and design of archaeological sites, as it is important to understand the concepts of the archaeological activities and the constraints brought about by them. Locations were selected for the broad spectrum of site development intensity and degree of interpretation represented by their current management and existing site infrastructure (Table 1). The sites I visited are managed by several different agencies. These include the National Park Service (NPS), the Bureau of Land Management (BLM), and Utah State Park Service. Many of these locations are large *umbrella sites* comprised of several smaller sites.

While visiting these sites and having discussions with experts and locals I made several observations about site design, infrastructure, interpretation, and regional proximity. Across the board, these sites contained features that offered similar experiences. It was these features' similarities to the defining factors in the ROS that made me realize that an opportunity spectrum based framework could be successfully used for designing and managing archaeological sites. I also realized that there was a disconnect between sites in the same region. By managing these sites as a single unit or a network of sites that offers different experiences at different locations, it would benefit both the sites and user the experiences

Table 1
Sites Visited

Hovenweep National Monument (NPS)	Cortez, CO
Canyon of the Ancients (BLM)	Dolores, CO
Mesa Verde National Park (NPS)	Mesa Verde, CO
Buckhorn Draw (BLM)	San Rafael Swell Castledale, UT
9 Mile Canyon (BLM)	Price, UT
Natural Bridges National Monument (NPS)	Lake Powell, UT
Newspaper Rock (BLM)	Monticello, UT
Horseshoe Canyon (NPS)	Canyonlands N.P. Moab, UT
Edge of Cedars (Utah State Parks)	Blanding, UT
Comb Wash (BLM)	Blanding, UT
Indian Camp Ranch (Private development)	Cortez, CO
Butler Wash (BLM)	Blanding, UT

Development of Framework

While researching cultural heritage site design and management issues, I came across references to the Recreational Opportunity Spectrum (ROS), a framework utilized by the U.S. Forest Service as a planning and management tool for recreational activities on lands they administer. Upon further reading into what ROS was and the problems it addressed for the development of recreation sites, it appeared to be a framework that would resolve many of the issues affecting archaeological sites. The way that ROS streamlined the recreational site development process and provided specific guidelines

for developing categories of sites seemed to be just the solution to the management problems archaeological sites were facing. Continued research showed that ROS has been adapted to several other areas of tourism quite successfully. Through consultation with landscape architects and archaeologists from NPS and BLM, I was able to adapt the structure of ROS to meet the needs of archaeological sites through the development of an opportunity spectrum frame work I have name the Archaeological Tourism Opportunity Spectrum (ATOS).

Case Study

As a means to demonstrate the usability of ATOS I overlaid the framework on an existing site. I choose Hovenweep National Monument as a case study area due to the configuration of its main site and several satellite sites as well as my familiarity with the site. Hovenweep offers several experience opportunities at its various sites, allowing for representation of most of ATOS's categories. The result of overlaying ATOS onto an established site will demonstrate the ease of implementing the management and design standards based on the categorical prescriptions developed by the framework.

CHAPTER IV

A DIFFERENT APPROACH TO ARCHAEOLOGICAL SITE DESIGN

The Need for a New Framework

Archeological tourism is in need of a functional framework for the development and management of sites. Butler and Waldbrook (1991) made note of this, “Tourism planning must shift ... toward a process in which research, modeling and goal-setting directly complement all development plans” (p. 26). The Archaeological Tourism Opportunity Spectrum (ATOS) herein proposed, will provide this in a package that is replicable, economical, ecological, and built on a well-tested platform.

When considering a framework for the design and management of archaeological sites, there are two key, intertwined elements to be considered. One element is the goal of maintaining the quality and historical integrity of the archaeological resource, preserving the site for its own sake and for the sake of generations of future visitors. The other is the goal of creating the desired experience for the visitor. This is based not only on the quality of the site, but also on the visitor’s interaction with other users and their ability to engage with the site (Boyd & Butler, 1996).

There is a wide range of opportunities for tourists visiting cultural heritage sites. These include experiencing the education/entertainment spectrum, emotional reactions and feelings, gaining insights into a new world, enjoying a unique historic experience, having an adventure, or simply passing an afternoon (Hughes et al., 2013). Most sites

tend to be designed to appeal to a wide range of people (Aplin, 2002), creating a site for the general public: the peak of the tourist bell curve, not the fringes. Drawing all the visitors to one site, though, exacerbates the problems and negative forces that currently jeopardize archeological resources.

Chad Dawson (2008), proposes a solution to a similar issue involving tourism:

An analysis of the tourism opportunities in an area, using a continuum like the TOS [Tourism Opportunity Spectrum], will help outline an overview of the distribution of what tourism opportunities are being provided and suggest where there is market competition, where market niches could be developed or what types of new tourism development will be compatible with existing opportunities. (p.47)

Similar to the TOS in Dawson's situation, the purpose of ATOS is to create a "rational and comprehensive planning approach for regional planning and management that provides for a broad array of tourism opportunities for users" (Dawson, 2008, p. 47). With different sites offering different experiences, those looking for entertainment and those looking for education will realize their desired experiences. Some sites will cater to those looking for less interpretation and more solitude, while other sites easier to access will offer more interpretation, entertainment, and services.

Many successful archaeological and cultural heritage sites are well managed and provide tourists with an enjoyable experience. Unfortunately, there are many that are poorly managed, underdeveloped, overdeveloped, or otherwise provide an unsatisfactory visitor experience. One of the goals of ATOS is to create a replicable framework that allows less well-funded sites to be managed successfully on the same grounds as the successful ones. This will level the playing field as far as design and management are concerned.

Multiple Experience Opportunities

Not all tourists are created equal. It has been well established that different users have different expectations when visiting sites (McCool et al., 2007; Boyd & Butler, 1996; Clark & Stankey, 1979). For this reason, sites that are managed similarly will not appeal to all visitors. Qualities such as site intimacy or sense of *genus loci* are important qualities to have at a cultural heritage site in order to engage the tourist (Hughes et al., 2013), but these are subject to user interpretation. To the casual tourist, staring at the ruins of a culture in a barren landscape will offer less of a sense of connectivity than the opportunity to witness a tribal dance. Conversely, a more imaginative tourist with an advanced understanding of history might find the dance contrived and feel greater connection in the desert solitude. Designing and managing sites based on the classes designated by an opportunity spectrum will provide an archaeological experience for the whole range of tourist experiences.

Using classes of tourist types along the spectrum from casual to experienced will create enticing unique experiences at primary, secondary and tertiary sites, allowing for a unique, enjoyable, and educational visit for each individual. In this way ATOS will effectively draw tourists away from the main sites eliminating overuse pressures and enhance the experience of the tourist while protecting site resources. Site protection is of the utmost importance. Archeological sites are fragile and susceptible to many forms of destruction. Without the resource, there is no tourism.

Less experienced tourists will be drawn to the more developed sites, leaving the remote and less developed sites more pristine and less controlled for the informed and

experienced tourist. Having a network containing sites representing several if not all of the tourism classes will inevitably save on management and interpretation costs as well. Grouped sites will be able to pool resources and distribute them throughout the network eliminating the redundancy that occurs by managing each site individually.

The Archaeological Tourism Opportunity Spectrum

ATOS capitalizes on the success of previous tourism-based opportunity spectrum frameworks, most notably ROS, TOS and ECOS. This new framework for archaeological tourism “is evolutionary rather than revolutionary” (Boyd & Butler, 1996, p. 560). It builds on the ideas of the other frameworks, creating one uniquely tailored to the needs of archaeological sites.

What is this opportunity spectrum going to look like? Following the footsteps of the previous adaptations, ATOS looks similar to ROS and in fact retains many of the same defining factors but tailors the framework to the specific needs of archaeological sites. This chapter looks at components of the ATOS, how they work together, and at the information that the results will provide designers and managers. The ATOS will provide specific tourism classes for archaeological sites based on user expectations. Design and management guidelines will be associated with each class, creating a replicable set of guidelines for archaeological site design.

Tourism Class Types

Creating the tourism class types requires determining what is to be included in each spectrum class. Because the point of this framework is to create specific user-based experience classes, the most logical spectrum to use should be based on the type of tourist visiting sites. Both ROS and TOS use a spectrum based on an experience that a certain type of location will give a user, whereas ECOS uses a spectrum based on the experience a certain type of user will have at a site. Because ATOS strives to provide an experience based on the motivation of the individual, it follows that the spectrum classes should reflect that motivation as opposed to the site's location.

Trying to fit tourists into groups is, at best, a generalization. It is much easier to look at large populations to view trends than to look at individuals. It is, however, necessary to view trends in tourism to create this spectrum, and using factors such as motivations, behaviors, and desired experiences is an effective means to classify tourists (Pedersen, 2002). Tourists who react in similar ways to these drivers can then be grouped together into classes (McKercher & du Cros, 2003).

The classes used in the ATOS are a composite of several studies (McKercher & du Cros, 2003; Pedersen, 2002; Boyd & Butler, 1996). Boyd and Butler (1996) use three classes: eco-specialist, intermediate, and eco-generalist. Arthur Pedersen (2002) also uses three classes: hard-core, dedicated, and casual. Bob McKercher and Hilary du Cros (2003) have five types of cultural tourists: the serendipitous tourist, the incidental tourist, the casual tourist, the sightseeing tourist, and the purposeful tourist. The first two sets of classes rely on a single dimension of motivation. There is a direct correlation between the

motivation and the drive of the tourist and the experience that they receive as a result; the more experienced the tourist, the deeper the understanding that they have. The tourism classes of McKercher and du Cros (2003) essentially follow the same pattern with the exception of the serendipitous tourist. They feel that this tourist may have a deep, meaningful experience at a site, but did not set forth with the intention of visiting that site; they simply happened upon it by chance.

For the archaeological tourism opportunity spectrum, the one-dimensional approach seems to fit better, as the classes of sites occur along a spectrum. Including a fourth class also makes sense as it creates a larger range and more options allowing for a more specific type of site. The four classes for the ATOS are: casual, intermediate, informed, and expert.

The Casual Tourist

The casual tourist has no agenda. They are visiting an archaeological site by chance. They are interested while there, but have not considered the site or its history much beforehand. Visiting cultural heritage sites is not a common pastime for them. The purpose of their visit to the area is not the site or the culture associated with it. The fact that they are there at all is because they happened upon it, either individually or as part of a tourist group. Entertainment is more appealing than education at a site for the casual tourist, but the right experience can start this tourist down a path of increased interest and appreciation. Having not visited many archaeological sites previously, the casual tourist does not know the proper site etiquette and requires the most site protection and infrastructure.

The Intermediate Tourist

The intermediate tourist enjoys cultural tourism. The purpose of their trip is generally something other than sightseeing. They do not necessarily have previous knowledge in the subject matter, but they find it interesting. Intermediate tourists visit museums and other cultural heritage areas that are easily accessible but will not venture outside of urban areas that often. They lack the adventurous spirit to stray too far from the beaten path and thus enjoy developed sites with plenty of interpretation.

The Informed Tourist

This tourist type is a student of the world. They have knowledge about many things and have a general curiosity. They do not necessarily know much about the site at hand but are aware of its place in the world and history. This tourist respects the site and knows how to behave. They have a reverence for the culture and the fragility of the site. As this type of tourist likes to learn, having some interpretation is important to place the site in context.

The Expert Tourist

The expert has studied the culture or time period either as an extracurricular hobby or in school or is a professional in the field. They are the most informed and require the least amount of interpretation. The purpose of their visit to the area is for archaeology and they are most likely to want to view the site as untouched as possible.

Defining Factors

The defining factors used to describe the classes in the archaeological tourism spectrum were chosen to best describe the qualities of the archaeological experience that

the framework is seeking to promote. Access, onsite management, and social interaction are factors used in ROS. Interpretation, site protection, treatment standard, and site interaction are additions based on the requirements specific to the archaeological sites used to help with the development of the framework.

Access

Access to a site is defined by three categories: 1) difficulty of trail, 2) access system, which is split into either roads or trails, and 3) means of conveyance. In other words, by what means does the tourist arrive at the site?

The difficulty of arriving at a site has a direct correlation to the number of visitors at the site. Some sites are quite accessible while others require an investment of time and effort on the part of the tourist. The designer can also layout site access in order to enhance the user experience. Arrival to the site can tell a story or be part of the experience. Similar to the way tourists hike the Incan trail on their way to Machu Picchu, or a peregrino hikes through the mountains and plains of northern Spain following the Camino De Santiago, the designer has the ability to direct the tourist in a way which will allow them to connect to the site even before they arrive.

How does one get to the site? Access may be split into two categories: roads and trails. Both roads and trails range in degrees. A road may be an interstate highway or an unimproved high clearance path. Likewise, a trail may be an ADA (Americans with Disabilities Act) compliant paved path or a third class scramble requiring the use of hands or a rope.

There are several ways by which visitors may arrive at a site. Most sites are reachable on roads by a vehicle or any other means available. Sites that are located within urban areas are reachable by public transportation; sites that are more remote will require either a private or chartered vehicle. As sites become more remote high clearance vehicles and eventually 4-wheel drive will be required. Some extremely remote sites may be only accessible by foot, waterways or in some cases helicopter.

Onsite Management

All known archeological sites will be under some degree of management. Sites with greater numbers of tourists and infrastructure will, of course, be under more intensive management than sites with no infrastructure. Even remote sites with few visitors will still be under some form of management. Management is split into three categories: 1) extent, 2) apparentness, and 3) facilities.

How extensive is the management presence at a site? The extent might range from the occasional site visit by a ranger to observe site conditions or replenish brochures to several or even hundreds of full time staff.

Does the management have a visible presence at the site? Are there rangers on duty, or do trashcans mysteriously empty themselves while site upkeep occurs behind the scenes or during off hours?

Facilities at a site will increase proportionately with the expected amount of visitors. These include all additions to the natural landscape, such as restrooms, visitor centers, offices, trashcans, benches, parking lots, and concessions.

Interpretation

The level of interpretation at a site determines a large part of the tourist experience. Interpretation is the amount of informational material that informs the visitor about the site's content and history. There are many forms of interpretation ranging from visitor centers with museums, reconstructed exhibits, multi-media presentations, and artifacts, to sites with presentation boards and brochures, or simply signs pointing to the site and a placard with a name indicating which site is which.

Site Protection

Due to the fragile nature of many archaeology sites, site protection will be required as a means to prevent damage from tourism. Sites that cater to large numbers of tourists who are not educated in proper site etiquette will require more protective measures than sites that are more remote and cater to the expert tourist. As well, it follows that the more visitors a site will receive, the greater the protective measures that are required.

Protection at a site can come in many forms. It might be a boardwalk or fences that deter people from meandering in the ruins. Fragile rock art may be covered with glass or Plexiglas. Sunshades may be in place to prevent ultra-violet rays. The ideal protection is the minimum amount required for the individual site. It should be sufficient enough to prevent damage, but not deter from the experience.

Social Interaction

The number of people at a site has a large impact on user satisfaction. Large crowds will negatively affect the experience for a user looking for a remote experience, whereas the visitor looking to be entertained will not be affected as much by crowds. The amount

of social interaction is also regulated by site design. A well-designed site will be able to accommodate larger numbers of visitors without conveying a sense of being overcrowded. This is a result of good circulation, visual screening, and routing visitors to features in a way that disperses them throughout the landscape.

Treatment Standard

An authoritative guide to landscape treatment standards is the Secretary of the Interior's Guidelines for the Treatment of Historic Properties (here after referred to as Guidelines). When followed, these Guidelines "provide the necessary philosophical framework for a consistent and holistic approach for a cultural landscape project" (National Park Service, n.d.-a). While mandated for federally funded projects, the Guidelines also serve as an excellent tool for non-government funded and international projects. The Guidelines divide the treatment types into four broad standards; they are preservation, rehabilitation, restoration, and reconstruction.

Preservation focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.

Rehabilitation acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.

Restoration depicts a property at a particular period of time in its history, while removing evidence of other periods.

Reconstruction re-creates vanished or non-surviving portions of a property for interpretive purposes (National Park Service, n.d.-a)

Site Interaction

The amount of tourist contact with or proximity to the actual ruins at the site will typically depend on the type of treatment standard applied to the site. Sites that have completely reconstructed ruins might encourage children to play in them and adults to walk amongst them, as these sites are not original. Different treatment standards will require different levels of protection and the amount of interaction will vary accordingly. A restored site, in its original state but secured with modern day means, while fragile, is stable enough for interaction, but a structure that has only been stabilized to prevent further deterioration will have no contact as even the oils in hands can lead to further damage.

Applying Design and Management Standards

The resulting matrix (Figure 4) that the opportunity spectrum yields through the defining factors show some very clear patterns regarding the type of experiences each class is seeking. This is ideal as it simplifies the process of creating site standards. The more unique qualities that each class has, the more clearly defined it becomes. This means that it is easier for the tourist to match their desired expectations to a site, it is easier to manage a site based on those expectations as well as design the site with the qualities required when clear expectations are established.

Many of these qualities are straightforward. For example, sites that are difficult to get to will not have as many visitors; thus, they do not need the same amount of infrastructure. The people that will make the effort to see them have a vested interest in

		Casual.....	Intermediate.....	Informed.....	Expert.....
Access					
i.	Difficulty	Easy to get to.....	.....Map needed, but generally obvious .....	.....Becoming difficult to find, use of Roadside markers....	.....Difficult, GPS may be required...
ii.	Access System				
a.	Roads	Major roads, well maintained.....	.....Maintained, graded, loose gravel.....	.....Unmaintained roads.....	.....4WD Trail or no Road.....
b.	Trails	Paved, ADA compliant.....	.....Smooth, packed gravel.....	.....Hiking trail.....	.....No established trail.....
iii.	Means of conveyance	Public transportation, motorized vehicle.....	.....High-clearance vehicle, ATV .....	.....Horse, foot, boat, other means...	
Onsite management					
i.	Extent	Extensive.....	Increasingly less.....		
ii.	Apparentness	Can be obvious	Blended in with landscape	Not apparent.....	
iii.	Facilities	Visitor Center, Camping, Concessions Souvenir shop, lodging .....	.....Restroom, Information Kiosk.....	.....None	
Interpretation					
i.	Presence	Heavy Presence,.....	.....Some presence.....	.....Very little presence .....	.....None
ii.	Type of interpretation	Museums, demonstrations.....	Films, hands-on experiments.....	.....Tours, film, signs, brochure .....	.....brochure, markers.....
				.....None.....	
Site protection					
i.	Extent	Extensive.....	Increasingly less.....	.....None.....	
ii.	Type	Plexiglas, fences, boardwalks, walls, tents, replicas, rangers.....	.....walls, boardwalks, fences.....	.....Fences, signs.....	.....None.....
Social interaction		Crowded, frequent interaction ...	.....Frequent interaction ...	.....little to none	
Treatment Standard		Reconstruction.....	.....Rehabilitation.....	.....Restoration.....	.....Preservation.....
				.....None.....	
Site Interaction		Walk around, climb on .....	.....Walk amongst, do not touch .....	.....Walk up to, but not inside.....	.....Working on site.....

Figure 4. Archaeological Tourism Opportunity Matrix. Opportunities for archaeological tourism are defined by the management factors.

the subject matter and generally have some background knowledge, so they probably know how to behave and what to expect at such a site.

Some exceptions to this occur. For example, a site that truly represents an iconic example of a culture but is far off the beaten path should be developed to be accessible to the general public. In situations such as this, it is, in fact, better to accommodate and plan for people. For instance, if a large site was known but unmanaged, hundreds of people would try to visit it, many arriving at the site by different routes and different means. At the site, people would meander all over, creating desire lines and erosion throughout. Sometimes it is better to allow visitation to happen but to control it within suitable parameters rather than try to prevent it altogether.

Determining the Tourism Class

Class designation within the ATOS is based on the site characteristics as they are defined by the seven factors. For many of these factors there is a direct linear correlation between them and the ATOS, such as that the more remote a site is the further along the ATOS spectrum it is. This does not hold true for the reverse however as there are many instances of archaeological sites that are completely undeveloped and quite literally right off the side of the road. Due to the secrecy of archaeologists and their site knowledge, these sites are typically kept out of the public knowledge. Furthermore, in the realm of urban archaeology, areas in many European cities, Mexico City or even modern archaeological sites such as abandoned factories in Detroit, for example, might offer a scarcely developed and uninterrupted archaeological experience minutes from or within a major metropolitan area.

Unless an archeological site is new or in development, determining the site's tourism class may be a matter of assessing the site infrastructure and looking at visitor statistics. By evaluating the site using the ATOS, the management can identify the class and plan management strategies accordingly. For established sites that might have characteristics of one or more classes, the management has the opportunity to refine the site and gear it towards one specific class. This is why having a multiple-site hierarchy has such a potential to be successful. With several related sites, management can assess some of the features less prone to change, such as difficulty of access or the type of treatment that best fits the site and then determine the most appropriate way to manage the individual site. Ideally, each site would be developed and managed to fit a specific tourism class. The benefits of having multiple tourism classes available within a region are many, but the dispersion of tourists, the higher chance of having a satisfying experience and a simpler management strategy are at the top of the list.

The ATOS is more of a tool for the management and design of the archaeological sites than a guide for the tourists themselves. Most tourists will not self-identify with one of the classes, nor should the classes be used for marketing purposes. Certain key phrases and words can be used when describing the sites at the visitor center, website, or brochures. Terms like entertaining, family fun, educational experience, adventure, solitude, remote, and natural heritage will allow the visitor to identify with the site that will best suit their expectations.

Design and Management

Standards for the ATOS Classes

Each tourism class has its own set of expectations for what to experience at an archaeological site (Figure 4). In theory these classes are kept separate and individual, but in practice there is bound to be some overlap.

The following design descriptions are based on observations of sites in the southwestern United States. When applying ATOS to archeological sites in different locations, the overall expectations of the tourists as designated by the classes will not change, but some of the characteristics of site design will be tailored to the specific criteria of the location.

Casual Tourist

This class can be thought of as an introduction to archaeological tourism. This type of site will focus on entertainment and education. A story should be told about the culture—not at the expense of archaeological integrity, but it needs to be captivating. These will be the largest and most developed of all the sites. They will have extensive infrastructure and management present (Figure 5). The most prominent feature at this site may be a museum with only a small archaeological feature present. Reconstructed sites are often to be found in this class (Figure 6), either built out of original materials or completely fabricated. This allows the tourist to develop mental images of the culture. Displays and heavy interpretation are important as well.

The site that the casual tourist attends should be easy to access, as their level of commitment has not developed. Often times there are guided tours (Figure 7), movies, and other types of multi-media presentations available. During particularly busy periods, there may be hands-on activities or other public displays. Campsites or lodging are generally available, as are concessions and gift shops. This site class should be exciting and adventurous. The extreme example of this type of site is an archaeological park, where the tourist can experience a reenactment the time period represented. They are able to connect with the culture by relating their own life experience to the archaic ones. This type of site is designed to create knowledge and interest levels where there was none before.

Access to and around sites designed for the casual tourist should meet ADA requirements and as a result will be wide, hard-surfaced paths. Elevation changes will be met with suitable ramps or elevators when required.

Social interaction at this class of site is a given, and thus accepted. People are not concerned by the presence of others. In busy times, these sites can be quite crowded. It is through good design and circulation that a site may accommodate greater numbers of people. If a site has good circulation and a logical progression of features, visitors are not constantly in conflict with each other and the numbers seem smaller than they are, but a site where the tourists are constantly crisscrossing each other can lead to visitor dissatisfaction and frustration.

Also included in the casual tourist category is the much smaller, less developed *roadside attraction* (Figure 8). This type of site is right off of a highway or major road.

They are generally well developed and very well protected or reconstructed. As they are quite small—usually only one feature or a tightly clustered group of features—they do not have on-site management, but will have some interpretation, a parking lot, and possibly basic facilities such as a restroom.



Figure 5. National Park Visitor Center. Mesa Verde NP.



Figure 6. Partially reconstructed ruins. Spruce Tree House Mesa Verde NP.



Figure 7. Ranger guided tour. Far View sites Mesa Verde NP.



Figure 8. Mule Canyon UT. An example of a roadside attraction in southern Utah.

Intermediate Tourist

The intermediate tourist does not need to be wooed into the subject matter. They are choosing to be at the site because of curiosity or a desire to learn. Intermediate sites

are less developed and somewhat less accessible than casual sites. Interpretation is very much an important aspect of this site experience, but it takes the form of education and facts more than entertainment and speculation. The type of interpretation often found at these sites has as much to do with local vegetation and plant use in the daily lives of the inhabitants as the history and the day-to-day life of the culture (Figure 9). These sites are developed and accessible, but require some effort. In the case of ancestral Puebloan sites they generally will be farther than the range of public transportation, but will be less than an hour's drive from a population center. This type of site is ideal for tour groups: people who are interested but do not have the means or the drive to get there on their own. In scenarios involving archaeological sites in or around larger population centers, intermediate sites refer to those that are secondary to the popular tourist attractions; they are not as promoted and are thus more obscure. This may include smaller museums, ancient cemeteries and other points of historical interest.

There will generally be a visitor center or a small museum associated with these sites (Figure 10), and the site treatment is often rehabilitation or restoration (Figure 11). There is not an attempt to recreate the structures, except in the rare instance where an exact replication is created because the original is too fragile. Paths are well maintained and at least partially ADA compliant. They will be paved or graded crushed rock. This site might be a hub where it is possible to venture further down trails, arriving at sites that fall into the informed or expert tourist class, but there is plenty for the intermediate tourist to experience within a 15-minute walk of the parking area. Protection of the features is less intensive than at the causal site. There are generally fences and signs as opposed to

Plexiglas and boardwalks. The fences are gentleman fences; they suggest that the tourist not disobey them, but do not offer any true resistance (Figure 12).



Figure 9. Cultural history interpretive sign. Often sites will have signs describing native plants and their historic uses.



Figure 10. ADA compliant path. This path connects the visitor center and a Little Ruin Canyon vista at Hovenweep NM.



Figure 11. Restoration and roof covering. Lowry Pueblo, CO.



Figure 12. Site barrier. Unobtrusive fence protecting rock art at Buckhorn Wash, UT.

Informed Tourist

Harder to find and less developed, the informed tourist class sites are closer to an untouched experience. Generally, a map or thorough knowledge of the area is required. These sites might not even have road signs, but instead symbols (Figure 13) to indicate where they are. Occasionally, an informed tourist site associated with the ancestral

Pueblo culture will not be accessible by car, but will require a short walk along a path. These sites are often managed more like natural heritage sites than cultural heritage ones. In urban archaeology, these sites may be accessed through the back of a store or by some other inconspicuous entrance. The experience is less about gaining information and interacting with the site, and more about appreciating the site and the structures along with the landscape that surrounds it.

Interpretation is less common, but still occurs; there might be some signs or simply brochures describing the site (Figure 14). It is not common to have facilities and management, or in the case where it is, presence is not very visible. There may be waste containers or an outhouse by the parking, but not much beyond that. Management extends to the amount of interpretation or signage at the site and general upkeep (trash, erosion prevention, site maintenance, etc.). Site protection is also reduced to signs or small fences. Sometimes topography isolates structures from the tourist, providing its own type of protection (Figure 15).

Paths at these sites are closer to resembling hiking trails than sidewalks (Figure 16), this is due in part to smaller numbers of visitors and the desire to not overdevelop the site, as well as a desire to preserve the sense of place. Although this type of site is not always ADA compliant, often times a paved path will lead to a site overview. When heavily brushed or very technical, the trail is quite obvious, but when traveling large spans of slick rock, it is easy to fall off the trail and damage desert vegetation. Due to the extreme fragility of desert landscapes in the southwest, extra precaution needs to be taken to keep visitors from straying off of the trails.

Social interaction on a small scale is acceptable and expected, but crowds are not. Parking lots, when available, might be for ten or fewer cars unless it is a lot shared with another activity. The treatment standard at informed sites might include a bit of restoration, but generally only to prevent further deterioration of the site, not to rebuild anything. Typically these sites will be given the preservation treatment standard.



Figure 13. Archaeological site marker. Hovenweep NM.



Figure 14. Minimal interpretive sign. Painted Hand Pueblo, CO.



Figure 15. Tower protected by topography. Hovenweep NM.



Figure 16. Natural protective barrier. Sandstone curb prevents trail widening.

Expert Tourist

The ideal feeling the expert tourist is looking for is that he/she simply stumbled upon some ancient ruins or wandered into an environment where society suddenly ceased to exist. This is the extreme end of this class; on the other end, tourists may accept signs of previous visitors, markers designating the names of structures at the site, and some very limited protective measure.

Access to this class of site has the largest range. An expert tourist site might be a few blocks from a bus stop in downtown Detroit or it might require a several day hike through the desert. Management is either very limited or non-existent; some of these sites might not be managed, but they are on managed land. These sites will not contain facilities and have little to no interpretation. In remote sites, paths will at best be hiking trails, but may be overgrown or disappear due to lack of use (Figure 17). In urban areas sites might appear as abandoned buildings and be difficult to find without precise directions.

At the most, a visitor to these sites can expect to see a sign-in box and maybe read a board or see a marker naming the site and offering a brief description, but that will be the extent of interpretation (Figure 18). If the site is part of a network, the main visitor center may explain the site in more detail.

Social interaction is quite rare at this type of site due to the difficulty of its access, or the obscurity of the site, sometimes to the point that running into another visitor might be appreciated. This type of site may be truly isolated (Figure 19). If this site has been addressed by management and a preservation standard performed, then it will have only

received the most minimal amounts of preservation: some scaffolding to support it or some tension wires or bars (Figure 20).



Figure 17. Seldom used trail. Hole in the Rock site, Bluff, UT.



Figure 19. Remoteness of Combwash Ridge. Bluff, UT.



Figure 18. Minimal interpretation. NPS site sign, Hovenweep NM.



Figure 20. Cutthroat Castle preservation. Hovenweep NM.

ATOS as a Management and Planning Tool

Developing site characteristics for each of the four tourist classes will not only help tourists find sites that meet their expectations, it will help management develop new sites and maintain existing ones. The purpose of the ATOS and similar frameworks is to provide a context and framework within which information and data can be examined

prior to decision-making in respect to the activities which should be allowed or prohibited and the kind of facilities that should be developed. “The availability of accurate and up-to-date data is of crucial importance to the successful application of such concepts and frameworks” (Boyd & Butler, 1996, p. 559).

ATOS creates a template for both the tourist and for management. Tourists can look at the features or qualities of each site and choose the one that will deliver the best experience for them, or the site that would best match their experience expectations. On the management side, the site managers can look at the expectations and qualities of the target tourist class and design or manage the site to that end. This will economize the development and management process by eliminating overdevelopment in terms of replicating sites of the same class and suggest the minimum suitable site infrastructure and staff required at each location. Having the ability to connect several sites in a region allows the tourist to experience several types—if not every type—of tourism class in one connected and interrelated network. In this way, one network of sites is able to offer a full array of experiences, satisfying the range of tourists.

As would be expected, the more people visiting a site, the more infrastructure, maintenance, protection, and management a site needs. As stated above, the network approach reduces pressure on the fragile sites by drawing tourists to a well-developed and staffed hub. This allows the less developed sites to be managed in a minimalist fashion, creating experiences for the informed and experienced tourists. This approach will create unity and connectivity between all the sites and also allow management to pool resources for interpretation and management.

CHAPTER V

CASE STUDY

ATOS Applied to Hovenweep National Monument

In order to test the ATOS model, the decision was made to overlay the framework on an existing site. Hovenweep National Monument is an excellent site to analyze using the ATOS framework because it consists of several sites with minimal development. With the visitor center and outlying sites, the monument already offers many of the characteristics needed to fulfill most of the tourist classes. In order to keep with the management goals of the Hovenweep National Monument General Management Plan (GMP) and the relatively low visitation numbers, the casual opportunity class does not fit the site. Creating this class at the site would result in overdevelopment, which would be outside of the character of the monument. So while it will not fulfill the entire range tourism classes, ATOS's application at Hovenweep has the ability to offer an excellent example of this framework in use.

Background and History

Hovenweep National Monument was established in 1923 and is managed by the National Park Service. It is located in southwest Colorado and southeast Utah on the Cajon Mesa of the Great Sage Plain between Cortez, Colorado and Blanding, Utah (Figure 21). There is evidence that the area has been inhabited for a very large span of time beginning with early hunters of the Paleo-Indian Era (10,000-5500 BC) all the way through the Pueblo III era (1150-1300 AD). It is mainly for the structures built in the last

century of the Pueblo III era (1200- 1300 AD) that the monument is recognized (National Park Service, 2011).

Hovenweep is known for its iconic craftsmanship and having “a high concentration of the best preserved free standing towers” in America (National Park Service, 2010). Many of these towers are located on canyon head settlements as opposed to the mesa top settlements and cliff dwellings of neighboring Mesa Verde. At its peak, the area was home to over 2500 people spread out over five villages.

Visitation for the monument peaked in 1999 with just fewer than 50,000 visitors and has been around 27,000 (+/- 3000) visitors since. This is only a small percentage of the numbers for neighboring Mesa Verde National Park, which has peaked at over 700,000 visitors and routinely sees around 500,000 visitors a year. The months between May and October are generally the busiest, with visitation peaking in the summer months. (National Park Service, n.d.-b) According to a survey by Northern Arizona University, 71% of the visitors to Hovenweep came to visit as part of a larger vacation plan (National Park Service, 2010) and only 36% of tourists visited sites other than Square Tower unit Top unit (National Park Service, 2011).

Management

The National Park Service oversees the management of Hovenweep. While the GMP for Hovenweep states that the goal of management is to “preserve the resources and the remote and primitive character of Hovenweep National Monument” (National Park Service, 2011), it seeks to create changes in National Monument’s future. These changes

include increasing interpretation in a way that engages the visitor visually. Currently
 “Lack of focus and repetition of information makes wading through the text fairly

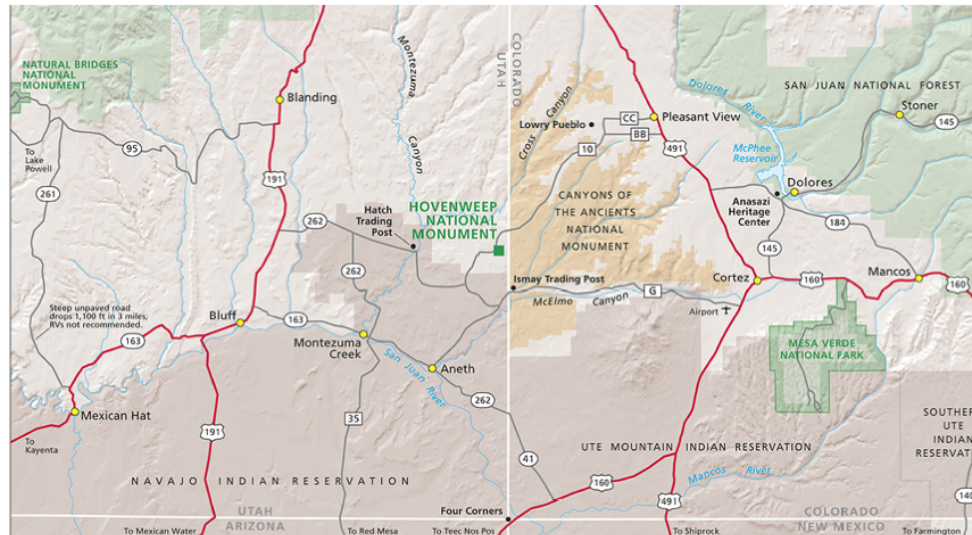


Figure 21. Regional context map Hovenweep National Monument. From Long-Range Interpretive Plan: Hovenweep National Monument, National Park Service, 2010 (p.8).

tedious” (National Park Service, 2011). They also feel that future interpretation should tell more about the people: what they were like, how they farmed, and about their material culture. The GMP recognizes changes in tourism and suggests a matrix-type framework to address these issues.

this matrix assesses the best combinations of current interpretive themes or sub-themes, the best locations for services and the most effective services for particular audiences. This would in turn facilitate achieving the park’s *Desired Visitor Experiences*. This exercise is also a good opportunity to assess whether or not resources are being optimally used to achieve these *Desired Visitor Experiences* and to support identified management initiatives. (National Park Service, 2010, p. 39)

The management at Hovenweep also recognizes the need to expand relations with neighboring agencies. This includes reaching out to Crow Canyon Archaeological Center, Mesa Verde, the Southeast Utah Group, and the Canyons of the Ancients National

Monument to “provide coordinated, complementary and boundary-free visitor experiences” (National Park Service, 2011).

Site Description

Hovenweep National Monument is known for its “solitude and undeveloped, natural character” (National Park Service, 2011, p. 92). The area protects 785 acres of mesa tops and canyons on the border of Utah and Colorado. It is comprised of five units: Square Tower, Holly, Horseshoe and Hackberry, Cutthroat Castle, and Cajon. Square Tower Unit is the main site and has full time staff. The other sites are referred to as outliers. All of the outlier sites have unique site characteristics but are managed in a homogenous fashion (Figure 22).

Square Tower Unit

At 400 acres, Square Tower Unit is the largest site. It is also the busiest, as it houses the visitor center, a 31-site campground, amphitheater, and picnic area. Paved roads and directional signs make getting to Square Tower and the visitor center very easy. The site houses many examples of Puebloan architecture, including towers, great houses, unit-type house, and structures in alcoves and atop boulders in and around Little Ruin Canyon. A 300 meter paved trail offers an excellent overview of the sites. This is also the trailhead for the two-mile hike in and around little ruin canyon. The museum has an 18-minute movie and several exhibits, and a demonstration garden outside the museum contains plants important to the ancient Puebloans. Several wayside signs and interpretive panels educate the visitors.

Cajon Unit

An improved dirt road leads tourists to the Cajon Unit parking area (Figure 22). This site is the furthest away from the visitor center, about nine miles southwest, and is surrounded by Navajo tribal lands. Once in the parking lot, the visitor passes through a fence to the site, which is 40 acres in size. At the trailhead, there are a few signs with minimal interpretation and a trail registry. A short trail leads to the ruins, which include remnants of standing walls, rubble mounds, terraces, check dams, and a permanent spring.

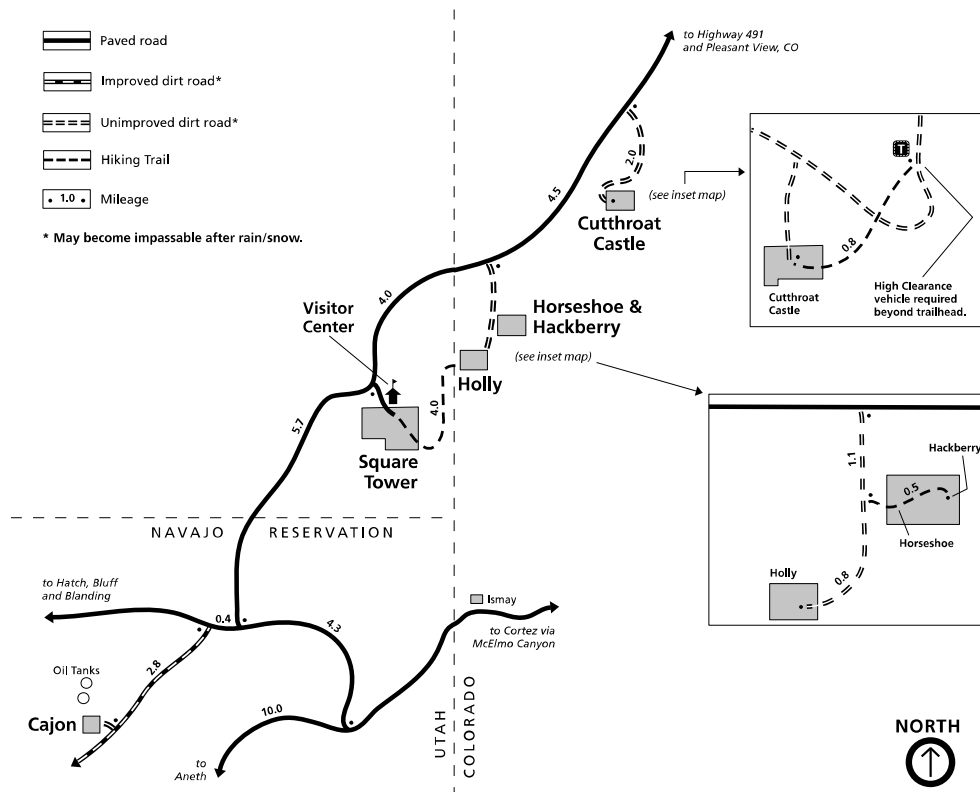


Figure 22. Hovenweep National Monument sitemap. From Hovenweep (n.d.).

Holly Unit

For those tourists interested in a hike through the desert, Holly Unit is four miles from the visitor center via hiking trail (Figure 22). It is also accessible by vehicle on unmaintained dirt roads. The road has a small pullout for parking, and from there a short trail leads into the 63-acre site. At the trailhead is a map of the site and an informational board. The site has examples of a two story *great house*, several multi-room blocks, rock shelters, rim dam, retaining wall, possible kiva depressions, and middens.

Horseshoe and Hackberry Units

Horseshoe and Hackberry Units are generally grouped together due to their proximity (Figure 22). Together they are 126 acres. They are accessible by continuing on the unimproved dirt road that the Holly Unit is located on. Hackberry is a large complex at the head of Hackberry Canyon. It contains a tower, a rim dam, possible kiva depression, talus debris, standing wall remnants, lithic scatters, and walls in cliff overhangs.

Horseshoe, or Upper Hackberry, contains a horseshoe-shaped house, a circular kiva, a two story oval tower, several standing wall remnants, lithic scatters, and walls in cliff overhangs. From the pullout, it is about a mile round-trip hike to access the sites.

Cutthroat Castle Unit

This is the least accessible unit in the monument and the smallest at 14 acres. Access requires either a high clearance vehicle to reach the upper lot or parking at a lower lot and hiking about a mile to the site (Figure 22). There is a short interpretive message and a map of the ruins at the upper lot. Cutthroat Castle is located at the head of

a tributary that flows into Hovenweep canyon. The site contains several towers, kivas, room blocks, constructed granaries, natural shelter granaries, and an extensive water controls system. Due to its higher elevation, this unit has a greater variety of plant species and is the only unit in the Piñon Pine belt.

Creating Archaeological Tourism Opportunity Classes at Hovenweep

Thought there does not readily exist an opportunity for a casual tourist site at Hovenweep, the existing sites easily fit within the description parameters of the other three classes: intermediate, informed and expert. It is not crucial that a network of sites contains all opportunity classes; what is more important is that the selected classes fit within the overall management plan. The following tables describe each site at Hovenweep by the defining factors of ATOS. Next to the description is the suggested class and the design changes necessary to match the qualities of that class.

Table 2
Square Tower Unit

ATOS Defining Factor	Current Site Description	ATOS INTERMEDIATE CLASS Recommendations
Access	Easy access to visitor center via paved road. Ruins accessible via paved path to overview. Square tower accessible via easy trail. Little Ruin Canyon via longer more challenging trail	No Change
Onsite Management	Full time staff in visitor center, occasional presence throughout rest of site trails. Visitor center stands out in landscape other maintenance buildings to blend with surroundings. Site contains a 31-site campground, with flush toilets, picnic tables, parking and other facilities.	Increased presence of on-trail rangers, for information and site protection
Interpretation	Visitor center houses museum and theater that loops an 18-minute film. Exhibits tend to focus heavily on text. Outside interpretations consists of wayside exhibits explaining the site, identification signs and brochures. Ranger guided tours are available throughout the day, as well as a self-guided tour.	More visually engaging and Hands-on exhibits in museum. Exhibits demonstrating plant use for tool making and everyday objects. Exhibits representing material culture. Increased outside interpretation along Little Ruin Canyon Trail
Site Protection	Site protection is minimal and consists primarily of low barriers and signs. The visitor center contains educational material regarding the fragility of sites and the need to protect them. Many of the structures are located in areas inaccessible to the visitors.	Wayside exhibits explaining how fragile sites are and the damage humans can inflict on them
Social Interaction	During peak months Hovenweep will see 200 or more visitors a day. Although visitor interaction is inevitable in the visitor center, it is not an issue along the trail as it is mostly groups of two to three people excluding class trips, or other large groups that are more noticeable. Sounds of cars piling up and doors shutting are likely when within range of the parking lot.	No Change
Treatment standard	Most of the ruins at Hovenweep have been treated under the rules of the preservation standard. This mainly consists of stabilization techniques.	Possibility of some reconstructed features
Site Interaction	Tourists are able to walk up to many of the units in Little Ruin Canyon, but touching and entering them is not allowed. Other units that are built on out of reach surfaces such as boulders in the canyons are visible from afar.	Potential use of reconstructed unit block houses or small kivas at the museum for tourist interaction

Table 3
Cajon Unit

ATOS Defining Factor	Current Site Description	ATOS INTERMEDIATE CLASS Recommendations
Access	Easy access by improved dirt road to parking lot. 100 meter trail leads from parking lot to Ruins	Better directional signs to site. Paved trail leading from parking lot to paved ruins overlook(s). Increased trails throughout site linking different view points
Onsite Management	Very little onsite management. Mostly to check interpretive signs for vandalism, trail registry and monitor use	If numbers warrant having a guided tour or on site ranger.
Interpretation	Identification sign and trail registry at trail head	Increased interpretive signs and wayside exhibits
Site Protection	Signs and low barriers	Wayside exhibits explaining how fragile sites are and the damage humans can inflict on them
Social Interaction	The most easily accessible outlier site, but social interaction is unlikely. Due to proximity to county road, car sounds are probable	Increased social interaction expected
Treatment standard	Most of the ruins at Hovenweep have been treated under the rules of the preservation standard. This mainly consists of stabilization techniques	No change
Site Interaction	Tourists are able to walk up to many of the units in Cajon, but touching and entering them is not allowed. Other units that are built on out of reach surfaces such as boulders in the canyons are visible from afar.	Building a greater trail system will allow tourist to interact more within the site, but not with the ruins themselves.

Table 4
Holly Unit

ATOS Defining Factor	Current Site Description	ATOS INFORMED CLASS Recommendations
Access	Moderately difficult access via unmaintained dirt road to small car pullout. 200-meter trail leads to ruins. Holly site may also be accessed via four-mile hike from visitor center.	Wayside exhibit along trail relating current hike with routes of the Pueblos.
Onsite Management	Very little onsite management. Mostly to check interpretive signs for vandalism, trail registry and monitor use	No change
Interpretation	Map of ruins, short informational sign and trail registry are located at trailhead	Modernized map and interpretation board located outside ruin at trail head to car pullout and hiking trail access point
Site Protection	Signs and low barriers	No change
Social Interaction	Solitude is expected. Possibility of coming across other visitors is not likely, but possible.	No change
Treatment standard	Most of the ruins at Hovenweep have been treated under the rules of the preservation standard. This mainly consists of stabilization techniques	No change
Site Interaction	Tourists are able to walk up to many of the units in Cajon, but touching and entering them is not allowed. Other units that are built on out of reach surfaces such as boulders in the canyons are visible from afar.	No change

Table 5
Horseshoe and Hackberry Unit

ATOS Defining Factor	Current Site Description	ATOS INFORMED CLASS Recommendations
Access	Moderately difficult access via the same unimproved road used to access Holly Unit. Ruins are 500 meters from trail Head.	Continue hiking trail from Square tower to Horseshoe and hackberry
Onsite Management	Very little onsite management. Mostly to check Interpretive signs for vandalism, trail registry and monitor use	No change
Interpretation	Identification sign and trail registry at trail head	Modernized Map and interpretive signs explaining how sites were connected, and how they interacted
Site Protection	Signs and low barriers	No change
Social Interaction	Solitude is expected. Possibility of coming across other visitors is not likely, but possible.	No change
Treatment standard	Most of the ruins at Hovenweep have been treated under the rules of the preservation standard. This mainly consists of stabilization techniques	No change
Site Interaction	Tourists are able to walk up to many of the units in Cajon, but touching and entering them is not allowed Other units that are built on out of reach surfaces such as boulders in the canyons are visible from afar.	No change

Table 6
Cutthroat Castle Unit

ATOS Defining Factor	Current Site Description	ATOS EXPERT CLASS Recommendations
Access	Difficult access via unmaintained road to lower car pullout and .8 mile hike to trailhead or arrive at upper pullout with high-clearance vehicle. Ruins are short hike from trail head.	Extend trail from square tower to Cutthroat Castle unit. Site maps and brochures should emphasize hike from Holly Unit access road instead of high clearance road.
Onsite Management	Very little onsite management. Mostly to check Interpretive signs and area for vandalism, trail registry and monitor use.	No change
Interpretation	Identification markers and trail registry at trailhead.	No change
Site Protection	Signs and low barriers	Remove or no change
Social Interaction	Least visited site. Solitude is expected. Possibility of coming across other visitors is not Likely, but still possible.	No change
Treatment standard	Most of the ruins at Hovenweep have been treated under the rules of the preservation standard. This mainly consists of stabilization techniques.	Primitive campground
Site Interaction	Tourists are able to walk up to many of the units in Cajon, but touching and entering them is not allowed. Other units that are built on out of reach surfaces such as boulders in the canyons are visible from afar.	In site no change, outside has the potential for a primitive campground for tourist hiking from Visitor Center.

Analysis of Case Study

The long-range interpretive plan for Hovenweep describes the need for better site interpretation and more user experiences. Following the design suggestions outlined in the tables above will result in an experience with more opportunities and a site that will appeal to a larger population of visitors. The changes suggested are not dramatic, and they fit in with the current GMP. By making these changes, Hovenweep will be able to cater towards a larger tourism base. Granted, this will result in increased numbers at some of the sites, but the GMP's overall goal of preserving the "resources and the remote and primitive character of Hovenweep National Monument" would not be compromised (National Park Service, 2011, p. 55).

The idea is to develop the visitor center in a way that informs and educates the public so that they will have the ambition to step beyond the visitor center to some of the outlier sites. It was mentioned above that the visitor center should not be managed as a casual tourist class site. That does not mean that it cannot be managed more effectively as an intermediate site. Suggestions for the visitor center would be along the lines of presenting a more engaging and uniform interpretation.

Exhibits in the visitor center (Table 2) can appeal more to the visual senses, with the use of models and pictures. New exhibits would show how useful items were made from the plants in the demonstration garden outside the museum. Showing farming techniques and everyday life interactions would help tourists relate to the culture on a personal level (Hughes et al., 2013). Another exhibit that would be very effective and is

mentioned in the GMP is an interactive three-dimensional map. The plan is to create this map and use it as a symbol on all interpretive signs as a means to convey continuity.

The interpretation at Little Ruin Canyon deserves some improvement as well. While there are name markers and wayside signs throughout the trail, there is not much continuity to them. Interpretation on the trail should also be more engaging and educational.

Cajon Unit (Table 3) is the easiest, albeit farthest, outlier site to access. For this reason, it lends itself to receiving the most development and being managed as an intermediate class site. The first suggestion would be to pave the 100-meter trail to the site and include one or more viewpoints. The amount of access to the ruins themselves is limited. Developing a trail loop similar to Little Ruin Canyon would allow for a more engaging experience. Finally, by increasing the amount of interpretative signs and wayside exhibits the overall impression of the unit will not change, but it will create another site accessible to disabled and elderly tourists and those less inclined to visit a remote site. The goal of ATOS is to distribute some of the 64% of tourists that do not leave the visitor center by encouraging them to venture out to the other sites. Designing and managing the Cajon Unit as an intermediate class site will help realize this goal by creating another site with interpretation that is informative but still has an element of entertainment. Tourists often do not fully appreciate the importance of cultural element and artifacts at the site unless they are effectively interpreted (Hughes et al., 2013).

Moving into the Colorado sites, Holly Unit (Table 4) is the most visited site after Square Tower. Ideally, this site would be managed for the informed tourist class. In that

light, there are very few changes that should be made, as it nearly perfectly embodies the qualities of this class. The interpretive portion of the site might be more informative and kept up to date with new findings of Puebloan culture. The four-mile hiking trail to Holly might be a bit more established and promoted more heavily than vehicular access. It also makes sense to extend this trail all the way to Horseshoe and Hackberry. These two sites (Table 5) also easily fit into the informed tourist class. Like Holly, Horseshoe and Hackberry would benefit from just a bit more site interpretation. In both cases, putting the interpretive features at the trailhead creates a sense of anticipation for the visitor, but does not create visual pollution at the sight.

The least visited site is the Cutthroat Castle Unit. Like the above units, Cutthroat Castle is not really in need of many management changes (Table 6). Because it is the most difficult to access and sees the least number of visitors (National Park Service, 2011), it logically follows that it be managed for the expert tourist class. Extending the hiking trail from the visitor center to the Holly Unit all the way to Cutthroat would give motivated tourists an incredible opportunity to wander the desert and existentially connect to the ancestral Puebloans through the landscape; a well-designed trail would be able to convey some of the mystique of the time period. Creating a primitive campsite on BLM land near Cutthroat would also create a unique opportunity to enjoy this landscape. Other changes at Cutthroat Castle might include revegetating parts of the site that are overly trampled due to erosion, desire paths, or stabilization work.

During the design and redevelopment process the site design knowledge of the landscape architect is the most beneficial. While above are just simple suggestions of site

design changes, it is obvious how an expert in landscape design will have more informed ideas on where to locate trails to create a sense of anticipation and place interpretative signs so they are out of the way but create a connection between the site and the tourist. Landscape architects are experts at knowing where to revegetate areas for the most dramatic impact and greatest site benefit. In a more detailed management plan, changes may include parking lot design, road placement or even visitor center construction. Large-scale revegetation plans using time-period plants or revegetation of sites for erosion and sun protection are also common improvements at archaeological sites.

Summary of Results

What was presented above are some management and design changes that can be made to the sites at Hovenweep National Monument as a means to show how the ATOS will create a viable framework to manage the sites. This is not an exhaustive study, however, as that would require extensive site surveys. It does show how easily a site like Hovenweep can fit into the framework ATOS provides with minimal financial investment and site disturbances. This hopefully will give encouragement to professionals to adopt ATOS as a management and planning tool for other archaeological sites.

One of the shortcomings with using Hovenweep as a case study is that it does not contain a unit that fits into the parameters of the casual tourist class. The visitor center at Square Tower does contain a museum, but due to the lack of visual exhibits, the relatively small number of visitors, and the distance from a population center, it fits much

better in the intermediate tourist class. One option would be to create a storefront museum, staffed with a ranger and housing exhibits and artifacts in one of the population centers surrounding Hovenweep. A site like this would be very accessible to tourists and might encourage visitation to the site itself.

The Anasazi Heritage Center in Dolores, CO, which is the launching point for the Canyons of the Ancients National Monument (CotA), is a much better example of a causal tourist class site. It receives much more visitation, has a large museum featuring visual exhibits, and it has paved paths which lead to a reconstructed complex where tourists can climb within its walls. By working in cooperation, Hovenweep and CotA could form a larger, regional network to satisfy the desires of even more tourists.

On the other end of the spectrum, Cutthroat Castle is in a grey area as far as in which tourist class it belongs. In the case of Hovenweep, it makes sense to manage it as an expert site, as there are three other related sites that optioned to be managed for the informed class. Extending the hiking trail from the visitor center and advertising access via hiking either from the visitor center or the Horseshoe Hackberry parking lot would increase the remote feeling dramatically.

CHAPTER VI

CONCLUSION

This thesis argues that an archaeological tourism opportunity spectrum (ATOS) can be a successful framework for the design and management of archaeological sites. ATOS is a framework based on the recreational opportunity spectrum (ROS) developed in the late 1970's and early 1980's by Roger Clark and George Stankey. The main concerns about developing a framework for archeological sites are preserving the site from damage and providing the desired experience that the tourist is seeking. Designing and managing a site that tries to please all tourists results in a muddled affair. Clark and Stankey (1979) recognized this while developing a framework for recreation sites. It's a simple premise: individuals desire different experiences. Their solution was to create several classes of *opportunities* for the tourist. With multiple options, it is easier for the tourists to identify the type of opportunity they desire, and by having multiple sites, managing for various opportunities becomes easier as well.

There are many parallels between recreation and archaeological tourism in terms of the experiences sought and the site protection required. On one end of the ROS, the tourist is looking for a primitive, pristine, and untouched wilderness experience far from civilization. On the other end, the tourist is looking for a well-developed campground with all the comforts of modern living accessible by car. Part of this model is the assumption that the tourist who visits the pristine wilderness knows how to behave in that environment, and as such the site does not need the protective measures required by the site on the opposite end.

The spectrum of archaeological site opportunities can be looked at in a very similar way. To the archaeology purist, the ideal site to visit would be one that evokes a sense of intrigue and discovery, a site without evidence of interpretation or other forms of management, while the tourist who is new to cultural heritage will not gain the same amount of satisfaction from that site. They are looking for a site that will offer entertainment, education and hands-on experiments. It is because these tourist activities exist along a spectrum that adapting the ROS framework to archaeological sites makes sense.

The archaeological tourism opportunity spectrum (ATOS) offers four classes of tourism opportunities: casual, intermediate, informed, and expert. These classes are defined by seven management factors pertaining to the characteristics of an archaeological site. It is these characteristics that locate the site along the opportunity spectrum. By using the ATOS matrix (Figure 4.1), site managers and designers can determine the opportunity class and proceed according to design and management recommendations. For instance, a site designated for the expert tourist class is designed for a tourist with reverence for the site and does not require extensive protective fences, lots of interpretation, or paved paths. These characteristics would, in fact, take away from the experience this tourist desires. At its most basic level, the goal of ATOS is to match the desired tourist experience with the correct site.

While any single site can be managed for one of the tourism classes of ATOS, it works better when there is a network of sites in the same region. The ability to have several sites managed together has many benefits for the tourist, the sites, and the

administration. The tourist gets the experience they desire and the ability to experience different classes of sites. As the class types move along the spectrum, interpretation becomes less desired. A tourist who would not have found an informed or expert class site interesting initially might have the desire to visit after learning about it at the visitor center.

Having multiple sites in a network relieves visitation pressure on the sites. This is especially true if one site in an area is particularly popular. If only one site is managed for tourism, that is where all the tourists will end up. Promoting a network of different experiences will encourage the tourists to spread out, which will relieve some of the conflicts from social interaction.

There are several administrative advantages to developing a site network as well. The main advantage is the sharing of resources and staff. A small single site may be too small to warrant a full-time staff person, but several small sites together will diffuse the costs. This will allow for affordable hands-on management. Having a network of sites with different opportunity classes will also relieve the pressure on management to have a single site that appeals to a wide range of people.

As a demonstration of how ATOS would work in a real world application, the framework was applied to the sites at Hovenweep National Monument. This is an ideal scenario for the application of ATOS because Hovenweep consists of a main site with a visitor center and several outlying sites. Hovenweep in its current state represents two ATOS classes. The visitor center has the characteristics defined by the intermediate class

and the outlying sites have the characteristics defined by the informed class. The outlying sites tend to be rather homogenous in their management style.

With a simple site analysis and a few site design changes, it was not difficult to come up with recommendations that would create a more diverse site. The visitor center was described in the GMP (National Park Service, 2011) as having exhibits that were not engaging to the public as they relied primarily on text. Having more visually-based exhibits and interpretation at the visitor center will create a more entertaining, yet still educational, launch point for the rest of the site. The Cajon Unit is the farthest site, but the easiest to access by vehicle. Because of this ease of access, it is possible to change this site from an informed tourist site to an intermediate site by increasing interpretation and including a paved path between the parking lot and the sites. Horseshoe, Hackberry, and Holly Units, already zoned as informed tourist class sites, would benefit from some improved interpretation and extending the hiking trail from the visitor center to Holly all the way to Horseshoe and Hackberry. The final site, Cutthroat Castle Unit, can be made to be more appealing to the expert class of tourist. Suggestions for this include further extending the trail to Holly all the way to Cutthroat, including a primitive campsite, removing protective barriers and interpretation in the site, and revegetating the site to obscure desire lines and trampling from the stabilization process. These are relatively simple suggestions, but if performed would create a greater diversity for the sites and more opportunities for the tourists at Hovenweep.

This thesis does not ask to reinvent the wheel, just adapt it to a new use and show that an opportunity-based spectrum will provide a good framework for archaeological

tourism. The resource concerns and tourist motivations of recreational tourism that were the impetus of ROS are similar to the resources concerns and tourist motivations of archaeological tourism. This framework is in the early stages of development and, at present, has but one example of a theoretical application. This thesis argues that it is an option that should be explored further. ATOS is logical and has potential to be developed into a framework that will facilitate the design and management of archaeological sites in the future.

The next step in developing ATOS is to create a publishable version so that it may be received by experts in the tourism and archaeological fields for peer review. Any new approach will have its critics and advocates. Critiques are an invaluable tool as they expose any weaknesses. ATOS will inevitably need to be developed further as this thesis has only produced the first of what will have to be several iterations before it is a functional framework. Once ATOS is at that stage, it will require a management and design team who would be willing to experiment with a framework while developing a new site or making changes to an existing site. When ATOS has become established through successful results in a real world application, it will hopefully join the ranks of the other established opportunity spectrums and become a standard framework for archaeological tourism development.

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