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Nature and Ecotourism Experience Classification Schema

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ABSTRACT

Public land managers, destination planners and entrepreneurs who work with natural and cultural resources require tools to guide their management and marketing strategies in order to ensure sustainability. A Nature and Ecotourism Experience Classification Schema (NEECS) is proposed as a means of assisting the aforementioned in achieving their goals. The framework categorizes nature and ecotourism experiences in a manner that allows empirical testing of theories related to the continua proposed by a number of researchers. The indicators in NEECS allow for the comparing and contrasting of experiences. Land and destination managers that use ROS, TOS or ECOS can use NEECS to evaluate experiences in light of community and sustainable management goals. Entrepreneurs can use the tool to identify opportunities for the development of new experiences, to contrast their offerings with those of competitors, and to create a competitive advantage.

Key Words: Ecotourism, Nature and Ecotourism Experience Classification Schema, natural resources, tourism planning and development, NEECS

INTRODUCTION

Pressure on natural and cultural resources has increased with market demand for nature and ecotourism experiences. Public land managers charged with the responsibility of protecting resources while offering a range of recreation opportunities must respond to requests from entrepreneurs seeking to use the resource for commercial purposes. Sustainability goals require management that achieves a balance of economic opportunities, ecological integrity, social equity and cultural veracity. To achieve these goals land managers, destination planners and entrepreneurs require tools to evaluate options and opportunities. The U.S. Forest Service has used the Recreation Opportunity Spectrum (ROS) as a regional planning and management approach to managing a broad range of recreation opportunities (Clarke & Stankey, 1979). This tool, while very useful, has not been widely adopted by other agencies and is limited in scope. Two others tools have been proposed in the realm of tourism management. The Tourism Opportunity Spectrum (TOS) is an adaptation of ROS that provides a conceptual approach to tourism planning on a continuum from ecotourism to urban environments. It is designed to provide an overview of tourism opportunities to facilitate a comprehensive planning approach for a broad array of tourism opportunities (Butler & Wallbrook, 1991; Dawson, 2001). The Ecotourism Opportunity Spectrum (ECOS) is a more specialized tool that describes the participant. The framework classifies ecotourists along a continuum from ecospecialist to ecogeneralists on seventeen criteria in eight categories (Boyd and Butler, 1996). Another classification system designed by Mehmetoglu (2006) classifies nature-based tourists along a continuum based on their travel motivations.

Various sets of differentiating criteria are used in the spectra. ROS is a macro inventory tool that categorizes characteristics of public land areas. TOS classifies characteristics of a region or tourist destination. ECOS and Mehmetoglu’s model describe characteristics of tourists. A holistic approach to management suggests that a tool that assists entrepreneurs, planners and managers in understanding the characteristics of experiences offered to tourists would be useful. Yet, there is no tool for classifying the experiences tourists undertake in public...
lands or tourism destinations. This paper proposes a classification schema for nature and ecotourism experiences useful for determining the potential for and appropriateness of experiences.

**LITERATURE REVIEW**

Confusion arises when entrepreneurs use the term ecotourism to describe tourism activities in natural areas. Some classify any tour that visits a natural area as ecotourism while others insist that an eco-tour must meet specified standards. The term ecotourism has created significant controversy since its inception and researchers have been attempting to clarify the term ever since (Blamey, 1997; Buckley 1994; Orams 1995, Weaver 2002). The original definition of ecotourism emphasized natural areas, enjoyment and conservation (Ceballos-Lascurin, 1983). The definition by the International Society of Ecotourism is focused on responsible travel in nature with a sustainability caveat. Some insist that ecotourism must contribute to preservation and conservation and take place in remote areas. In a thorough analysis of an operational definition of ecotourism, Blamey (1997) explains that the confusion results from a lack of a clear distinction between normative versus descriptive perspectives and whether ecotourism characteristics are measured from a supply, demand, intention or outcome perspective.

While the debate over what constitutes an ecotourism experience continues, most researchers agree that ecotourism has three core criteria – nature-based attractions, learning opportunities, and sustainable management practices (Chirgwin & Hughes 1997; Fennell and Weaver, 2005).

Within these three core principles of ecotourism, different types of ecotourism experiences and different types of ecotourists exist. Mowforth (1992) identified four types of alternative tourism activities related to ecotourism, i.e. eco/nature, cultural, adventure and specialist. Similarly, other research identified two significantly different types of visitors to natural areas based on motivation. Specialists traveled mainly to appreciate nature while the generalists were visiting the natural areas as part of a larger package (Mehmetoglu, 2005). In a later study visitors to natural areas were segmented into three types based on their activities: “culture and pleasure activity oriented”, “nature activity oriented”, and “low activity oriented” (Mehmetoglu, 2006).

One dichotomy of ecotourism contrasts deep and shallow ecotourism based on the values of the participant (Acott, La Trobe and Howard, 1998). Theoretically, tourists with anthropocentric values participate in shallow tourism while those with ecocentric values participate in deep tourism. The difference between the two poles is the extent to which nature is viewed as having intrinsic value versus nature being valued for its usefulness to humans. The authors admit to the difficulty in operationalizing the conceptual framework particularly in the evaluation of ecotourism sites and experiences. Similarly, a study by Higham and Carr (2002) concluded that different ecotourism experiences appeal to different niche markets based on environmental values.

Miller and Kaæe (1993) proposed a continuum based on the extent to which humans were responsible for contributing to conservation or negatively impacting the natural environment. Orams (1995) reviews a number of definitions of tourism and presents them on a continuum based on human responsibility. At one end all tourism is ecotourism and at the other end ecotourism is impossible. Human responsibility ranges from passive activity that seeks to minimize damage to active activity that contributes to resource preservation.

In a cluster analysis Weaver and Lawton (2002) uncovered three types of ecotourism experiences which they named harder, softer and structured. In one cluster strong environmental commitment appeared related to long trips and physical activity. However, in a second cluster strong environmental commitment was shown to be related to short trips and larger groups. The differentiating factors appeared to be physical activities, services expected and activities versus interpretation. Harder ecotourists reflect a high level of environmental commitment and affinities with wilderness type experiences. They prefer undisturbed and obscure destinations and enjoy risk and challenge. They are the least likely to express preference for service, mediated experiences or for spending time at a beach. The largest difference from other groups is a willingness to engage in hardship. On the other hand the softer ecotourists
were less committed to environmental conservation and more interested in escorted tours, infrastructure, interpretation and time at the beach. Structured ecotourists also preferred tours and comfortable infrastructure but were more likely to travel in groups and return to a favored destination.

Subsequent research identified comprehensive and minimalist dimensions within the hard and soft ecotourism spectrum (Weaver, 2005). The extended spectrum proposes a correlation among environmental commitment, specialized versus multi-purpose visits, length of trip, size of group, physical activity and difficulty level, extent of infrastructure/services, extent of interaction with nature, and travel arrangement type. It places ecotourists on a continuum of ecotourism experiences based on the number of components that make up the experience. A holistic experience integrates many components while an elemental experience focuses on one particular type of flora or fauna. Experiences that incorporate geographical features with biological and cultural factors are considered holistic because they integrate components of ecosystems and human activity.

The varying types of nature- and eco-tourists require a range of management structures to accommodate their needs. Natural areas must be managed to ensure sustainability of the resource while meeting the needs of the users. A long standing tool used by the US Forest Service defines six classes of environments, activities and experience opportunities arranged along a continuum from primitive to urban landscapes. Each class is described based on the nearness to or distance from roads, the degree of naturalness, the amount of developed facilities, the amount of contact participants have with other people, the amount of noticeable evidence of other users, the amount of visitor management, land management practices, and conveyance methods (Clarke & Stankey, 1979; Driver & Brown, 1978).

The basic concept of ROS was adapted by Butler and Waldbrook (2003) to create the Tourism Opportunity Spectrum (TOS), a tool for developing a comprehensive planning approach for managing tourist activities in natural environments so that a wide range of tourism opportunities could be evaluated as a destination becomes increasingly popular. Continua were identified for six basic factors with several sub factors. Basic factors are closely related to the factors used in ROS: access, other non-adventure uses, tourism plant, social interaction, acceptability of visitor impacts and acceptability of regimentation. The sub factors in TOS are more complex than those in ROS. For example, the access component of ROS is the nearness to roads while that of TOS includes degree of difficulty, access transportation, marketplace, means of conveyance transportation, and information channels. Three levels of adventure were identified as hard, medium and soft with an implication that hard adventure was difficult, used non-motorized conveyances, took place in an undeveloped area with no facilities, little contact with hosts and no interparty contacts. TOS implies hard adventure has no impacts and minimum regimentation.

Dawson (2001) further refined TOS by defining characteristics in 5 settings of tourism management: ecotourism, nature-based tourism, rural tourism, rural-urban tourism and urban tourism. Ecotourism was defined as having similar characteristics to the hard adventure in Butler and Waldbrook’s study (2003). Ecotourism incorporated difficult or controlled access, minimal user impacts, limited infrastructure, infrequent interactions and non-motorized conveyances. On the other end of the spectrum the features of urban tourism included easy access, higher impacts, extensive infrastructure, extensive user interactions and motorized conveyances. While Dawson’s spectrum is highly intuitive it may be difficult to apply universally. For example, Huang and Confer’s (2009) study found that the nature-based category characteristics did not correspond to the characteristics of the nature-based area under study. Instead a range of characteristics typified the study region. In Dawson’s (2001) model the accessibility of nature-based tourism was “difficult or controlled” while access in the Florida Preserve sites in Huang & Confer’s (2009) work was identified “easy access by paved road”, a characteristic of urban tourism in Dawson’s model.

Another spectrum was designed for marine environments. The basic components of other opportunity spectra (environmental/resources, intervention and outcomes) were applied to marine environments by Orams (1999 in Huang and Confer, 2009) in the creation of the Spectrum of Marine Recreation Opportunities (SMRO).
A specialized recreation opportunity spectrum was devised for ecotourists. The Ecotourism Opportunity Spectrum (ECOS) places ecotourists on a continuum based on relative positions on a number of characteristics (Boyd and Butler, 1996). At one end of the continuum ecospecialists are described as tourists who “participate as an individual or in small groups, immersing themselves in the local natural and cultural environment, requiring minimal infrastructure and generally having minimal environmental impact” (p.560). The framework implies that an ecospecialist participates in arduous activity, uses waterways and trails by non motorized conveyances, gets information by word of mouth and experience, avoids contact with other ecotourists and has a high skill level. On the other end of the proposed continuum the ecogeneralists participate without the need for skills in larger groups as part of organized eco-tour packages. Their impact on the environment is greater because of a preference for comfortable accommodations that require considerable infrastructure. They use large tour companies to organize experiences, are in frequent contact with other ecotourists and focus their activities on cultural and urban aspects. Intermediate ecotourists are described as traveling in small groups, using basic forms of transportation and local infrastructure and services rather than a motor coach and relying on prearranged facilities and tour services. ECOS suggests a correlation among seventeen elements. For example, it implies a relationship among the degree of difficulty, the type of transportation used, the source of information and the amount of contact with other tourists.

The classification typologies and schema have been developed as tools for reducing the threat of increased pressure on natural and cultural resources. Studies provide insight into methods for classifying resources and evaluating sustainability. Batta (2006) evaluated the success of three Himalayan destinations based on six indicators of successful facilitation of tourism development: 1) minimizes negative impacts on the environment and local people; 2) involves people in natural and cultural systems; 3) contributes to conservation; 4) maximizes local participation; 5) provides direct economic benefits to local people; and 6) provides special opportunities to employees and local people to learn more about the area. Another study classified national parks in Finland according to three dimensions: the natural characteristics of the a national park, the recreation services inside the park, the tourism services in the surrounding communities, and the number of visitors (Puustinen, Pouta, Neuvonen & Sievanen, 2009).

The classification continua reviewed here offer insight into nature- and eco-tourists and the settings in which their experiences take place. Much of the work is conceptual with few empirical studies that demonstrate relationships among the factors used to classify tourists or settings. To date data points have not been established so that features that differentiate one type of tourist or setting from another can be measured and tested. This paper presents a classification schema for nature and ecotourism experiences that has data points so that experiences can be compared on a range of features. The goal is to provide a tool for identifying the appropriateness of experiences for setting categories such as those identified in ROS and TOS.

THE NATURE AND ECOTOURISM EXPERIENCE CLASSIFICATION SCHEMA (NEECS)

The concepts presented by the previously discussed research formed the basis for the development of a classification schema for experiences. The extent to which an experience focuses on nature, the type of learning that occurs and the physical characteristics of the setting in which the experience takes place form the core criteria within the schema. The Nature and Ecotourism Experience Classification Schema (NEECS) displayed in Table 1 differs from other classification systems because it identifies measurable data points for each criterion. For example, participant skill level is classified as extensive = 1, intermediate = 2 or minimal to none = 3. The assignment of specific data points makes it possible to examine relationships among characteristics. The identification of measurable factors allows researchers to compare the characteristics of one experience with another and determine where relationships among factors exist.
NEECS classifies experiences according to three core components – nature, learning and physical characteristics. The nature component defines the scope and orientation of an experience while the learning component defines experiences by level of involvement, source of learning and participant skill level. Physical characteristics describe an experience based on its nearness to roads, degree of naturalness of the setting, facilities available, transportation, degree of difficulty, number of days, size of the group, and cost per person. The development and characteristics of the components outlined in Figure one are explained in the following segments of the paper.

Nature
The concept of nature is measured by two factors – scope and orientation. Scope quantifies the number of integrated components included in the experience. Each topic category is counted as one component. Sample components are geography, geology, ecology, anthropology, biology, history, culture, and land use management. The inclusion of scope in the classification schema is based on the elemental to holistic continuum in Weaver’s (2005) comprehensive and minimalist dimensions of ecotourism where an experience that integrates various components of an ecotourism experience is contrasted with an experience that focuses on a particular type of flora or fauna. The concept is further supported by the continuum related to the number and type of attractions offered in the Ecotourism Opportunity Spectrum where an eco-specialist is described as the tourist who is oriented to the natural environment while the eco-generalist includes other aspects such as cultural attractions (Boyd & Butler, 1996). NEECS describes experiences according to the number of components included from 1 to 5 or more. Experiences that incorporate geographical features with biological and cultural factors are considered more holistic because they integrate components of the ecosystem and human activity. For example, a program called Sedona and the Grand Canyon includes presentations by an ecologist, geologist, archaeologist, naturalist and a member of an indigenous culture (NAU Elderhostel (a), 2009). In contrast the Door County Experience in Wisconsin focused solely on the geography of the area (Elderhostel, 2006). In the classification schema presented in this work the former program is classified with the number 5 because it offers five integrated components while the Door County Experience is classified with the number 1. An experience that includes more components is closer to the holistic end of Weaver’s (2005) continuum and the eco-generalist end of Boyd and Butler’s ECOS (1996). The participants in the former experience would be considered comprehensive tourists according to Weaver’s (2005) typology while those participating in the latter program are considered minimalist. In ECOS the Sedona and the Grand Canyon tour theoretically appeals to the eco-generalist while the eco-specialist prefers the Door County Experience.

The inclusion of a factor that differentiates experiences based on the content of natural and cultural components is based in Boyd and Butler’s ECOS (1996). While the ecospecialist experience focused solely on nature, the ecogeneralist included cultural as well as natural components in their experiences. Therefore, orientation was added to the classification system to segment experiences based on the extent to which the experience focuses on nature. A number of experiences were analyzed to derive the five orientation data points where 1 = nature only; 2 = nature mixed with culture; 3 = cultural experience with some learning about the natural environment; 4 = purely cultural learning in a natural environment; and 5 = neither culture nor nature, e.g. wellness. For example: Latest Discoveries in Astronomy & Space is classified as nature only (1) because the entire focus of the program is on natural phenomenon (NAU Elderhostel (b), 2006). The Exploring Escalante program focuses on the geology of the Grand Staircase Escalante National Monument but includes some discussions of the cultural history of the region and is therefore classified as nature mixed with culture (2) (MNA 2006). The Colorado River and Lake Powell: Jewels of the American Southwest includes some geology in a natural setting but the focus of the tour is on natural history, Native American culture, and modern engineering (NAU Elderhostel (d)). Consequently, this tour is classified as mostly cultural with some learning about the natural environment (4).
<table>
<thead>
<tr>
<th>Core criteria</th>
<th>Factor</th>
<th>Classified by</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nature-based</strong></td>
<td>Scope-Holistic to Elemental</td>
<td>Number of integrated components</td>
<td>1 component</td>
<td>2 components</td>
<td>3 components</td>
<td>4 components</td>
<td>5 or more components</td>
</tr>
<tr>
<td>Orientation</td>
<td>Extent the experience focuses on nature</td>
<td>Nature only</td>
<td>Nature mixed with culture</td>
<td>Cultural experience with some learning about nature</td>
<td>Purely cultural learning experience in a natural environment</td>
<td>Neither nature nor culture, e.g. wellness</td>
<td></td>
</tr>
<tr>
<td><strong>Learning</strong></td>
<td>Involvement</td>
<td>Extent of participant involvement</td>
<td>Involved – engage in conservation/preservation activities</td>
<td>Active learning – engage in activities related to learning</td>
<td>Passive learning – lectures, talks, observations</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education source</td>
<td></td>
<td>Expert-led</td>
<td>Guided</td>
<td>Tour leader</td>
<td>Self-guided</td>
<td>Incidental learning</td>
</tr>
<tr>
<td>Participant skill level</td>
<td>Level of skill and prior knowledge needed to participate</td>
<td>Extensive</td>
<td>Intermediate</td>
<td>Minimal to none</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Physical characteristics</strong></td>
<td>Nearness to/distance from roads</td>
<td>Modified from ROS</td>
<td>Greater than 3 miles from all roads</td>
<td>At least ½ mile from all roads</td>
<td>Near or on 4WD roads but at least ½ mile from all improved roads</td>
<td>Near or on roads drivable by autos but at least ¼ mile from highways</td>
<td>On or near primary highways</td>
</tr>
<tr>
<td>Degree of Naturalness</td>
<td>Modified from ROS</td>
<td>Unmodified natural environment</td>
<td>Largely unmodified natural appearing environment</td>
<td>Resource modification evident but harmonious with a natural appearing environment</td>
<td>Substantially modified environment having both natural and manmade features, rural or agricultural landscapes</td>
<td>Naturally appearing background in a substantially urbanized environment</td>
<td></td>
</tr>
<tr>
<td>Facilities</td>
<td>Adapted from ECOS and ROS</td>
<td>Few or no facilities</td>
<td>Some rustic facilities, harmonious with the land for resource protection and visitor safety (e.g. picnic tables, pit toilets, fire grates), camps and outposts</td>
<td>Moderate number of facilities to manage use, accommodate considerable numbers of people and facilities for specialized activities</td>
<td>Modest accommodations with few faculties, restaurant meals mixed with picnic fair, some comforts</td>
<td>Many comforts, full service lodging, restaurant meals, shopping opportunities,</td>
<td></td>
</tr>
<tr>
<td><strong>Physical characteristics</strong></td>
<td>Transportation</td>
<td>Adapted from ECOS and ROS</td>
<td>Non-motorized: Foot, canoes, horses</td>
<td>Mixed (more non motorized)</td>
<td>Mixed (more motorized)</td>
<td>Group vehicles Motor coach and 15 or less passenger vans, jeeps or 4wd</td>
<td>Individual motorized vehicles</td>
</tr>
</tbody>
</table>
Table 1 Nature and Ecotourism Classification Schema

<table>
<thead>
<tr>
<th>Core criteria</th>
<th>Factor</th>
<th>Classified by</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of difficulty</td>
<td>Adapted from Exploritas</td>
<td></td>
<td>Participants must be able to handle their own luggage, carry a buffet tray, climb a few stairs, stand up for one hour and get on and off a motor coach easily</td>
<td>Participants must be able to climb a few flights of stairs and walk up to two miles over uneven surfaces</td>
<td>Participants must be in good health, mobile, able to participate in three to five hours of physical activity per day and walk three to five miles at a 2.5-mile-per-hour pace over uneven ground</td>
<td>Participants must be in excellent health, extremely mobile and used to an active lifestyle. Program activities may require up to six hours of strenuous, moderate-to-fast-paced activity per day, equivalent to hiking six miles at a three-mile-per-hour pace over varied terrain</td>
<td>Participants must have a high level of physical fitness and minimum levels of expertise in the program activities and should expect full days of fast-paced, strenuous physical challenges</td>
</tr>
<tr>
<td>Size of group – recorded in maximum number</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Cost per person</td>
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<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Number of times tour is offered annually</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Label</td>
<td>Marketing label</td>
<td></td>
<td>Generic or not labeled = 0</td>
<td>Ecotourism</td>
<td>Adventure tourism</td>
<td>Nature tourism</td>
<td>Education</td>
</tr>
</tbody>
</table>

Learning

Learning is an important component in nature and ecotourism experiences. It forms the basis for a large portion of tourism in natural areas. Three criteria were considered critical in assessing the educational nature of an experience: the level of participant involvement, the educational source and the skill level of the participant.

Involvement: Experiences are classified by the extent to which participants are involved in their learning experience based on the work of Miller and Kaæe (1993, in Orams, 1995) that placed ecotourism definitions on a continuum related to the impacts of tourism on the natural environment. At one pole all tourism is ecotourism and at the other pole ecotourism is impossible because all tourism negatively impacts the environment. However, between these extremes there is a continuum of passive ecotourism that seeks to minimize damage and active ecotourism that contributes to resource protection. Three data points were created to characterize the participation level of the educational component of the experience:

- Involved – participants engage in conservation or preservation activities
- Active learning – participants engage in activities related to learning
- Passive learning- participants listen to lectures, view presentations, and/or learn by observations

Involved experiences actively engage participants in conservation or preservation efforts. For example, the Plateau Restoration and Conservation Adventures is identified as involved (1) because participants are engaged in activities...
including trail building and maintenance, fencing, replanting disturbed areas with native species, controlling exotic species as well as research and monitoring. An active learning experience is characterized by participation in an activity that furthers learning. The Fiery Furnace Hike at Arches National Park during which the visitors experienced the geology and natural features of Arches through participation and lectures is an example of an experience classified as active learning (2) because participants hike and build geological features in the sand while listening to a naturalist explain the natural surroundings. The third category describes experiences that are comprised of mostly passive learning where participants listen to talks and observe. An example of a program that is largely comprised of passive learning is The Grand Canyon: in Depth and on the Edge in which visitors “discover geology, natural history, and the status of the endangered and oft-seen California condor through presentations and rim walks” (Elderhostel (b), 2006: par 3). The Latest Discovery in Astronomy and Space (NAU Elderhostel (b), 2006) program is also designated as a passive experience because it consists of lectures and observation.

**Education Source:** Nature or ecotourism experience learning occurs from a variety of sources ranging from expert instruction to incidental learning. Theoretically, deeper understanding is achieved by comprehensive ecotourists who learn from an expert. At the other end of the continuum, minimalist ecotourists achieve shallow or superficial understanding from observation or superficial explanations (Weaver, 2005). NEECS differentiates learning experiences based on the educational source. The indicator 1 is assigned to an experience that is led by an expert; 2 when it is led by a knowledgeable guide who is not considered an expert in a specified scientific field; 3 when participants acquire knowledge from a leader who provides superficial information; 4 when participants acquire knowledge through guide books or self-guided interpretive signage; or 5 through incidental learning from observation and experience. An expert is someone trained in a scientific field relative to the experience such as a geologist, archeologist, or naturalist. For example, the Fiery Furnace Hike is placed in the level 1 classification because it is led by a trained naturalist. A guide is one trained on information related to the experience theme such as a river runner who has knowledge of the flora, fauna, history and geology of the area in which the experience takes place. For example, The Grand Canyon and Colorado Float Trip is classified as a 2 because the guide, while knowledgeable about the Colorado River, its history, geology, flora and fauna and more, is not considered a scientifically trained expert. When participants learn from guide books, pamphlets or trail markers the experience is assigned to category 4.

**Skill Level:** The skill level factor in NEECS is based on Boyd and Butler’s (1996) ECOS continuum that identified three skill levels: professional and extensive, extensive to limited, and minimal to no knowledge. Similar levels were adopted to indicate the level of skill and prior knowledge needed to participate in the experience: 1) extensive; 2) intermediate; & 3) minimal to none. Multi-level experiences are put in category 4. An ecotourism experience is classified as extensive (1) when the tour is designed for experts in a particular discipline or those qualified as experts in a skill. Extensive knowledge of geology is needed for participation in the California State University Bakersfield Geology Club’s Gem-O-Rama and Trona Pinnacles tour (CSUB Geology Club, 2006). An example of an intermediate skill level experience (2) is the Watercolor Intermediate and Advanced program that requires an intermediate skill level (NAU Elderhostel (e)). A common type of program such as Navajo Culture, Trading Post Tales and Movie Lore requires no skills or prior knowledge (NAU Elderhostel (c)). Some programs such as the Traditional Appalachian Basketry, For All Skill Levels (Elderhostel (c), 2006) are designed for various skill levels and will therefore be classified as multi-level experiences (4).

**Physical characteristics**

The Recreation Opportunity Spectrum (ROS) provides the foundation for the development of physical characteristics that describe nature and ecotourism experiences in NEECS. ROS is a framework that presents varying classes of recreational development from primitive to modern, identifying characteristics that influence opportunities for recreation (Clark & Stankey, 1979; Driver & Brown, 1978). While ROS describes landscape features that are constant, experiences may take place in more than one type of setting. Consequently, ROS characteristics are modified in NEECS but the underlying concepts are retained.
Nearness to/distance from roads: Experiences are placed in the first category if the main component takes place in an area greater than 3 miles from all roads after leaving the origination point and arriving at the place where the experience transpires. When the same conditions are met except that the distance is at least ½ mile but no more than 3 miles from all roads, the experience is classified in category 2 and in category 3 when the experience takes place near or on 4 wheel drive roads and at least ½ mile from all improved roads. Category 4 is reserved for experiences in which some components take place near or on roads drivable by automobiles. When the entire experience takes place near or on roads drivable by automobiles it is classified in the 5th category. For example the Fiery Furnace Tour is classified in the second category because it is located at least ½ mile but not more than 3 miles from all roads. On the other hand, the Grand Canyon and Colorado River Float Tour is categorized as a 5 because it takes place on and near primary highways.

Degree of Naturalness: In a similar manner the degree of naturalness was adopted from ROS where 1 = an experience that takes place in an unmodified natural environment; 2 = an experience where the majority takes place in a largely unmodified or natural appearing environment; 3 = an experience that partially takes place in areas that have been modified but in a manner that is harmonious with a natural appearing environment; 4 = an experience where the majority takes place in a substantially modified environment having both natural and manmade features; and 5 = an experience that takes place in a substantially urbanized environment. An indicator of 1 can be assigned to the Fiery Furnace Tour because it takes place in its entirety in a natural environment with no facilities once the participants leave the information center. On the other hand the Grand Canyon and Colorado River Float Tour is assigned a 4 since much but not all of the tour takes place in a substantially modified environment with both natural and manmade features.

Facilities: The categories used to define facilities evident in the experience were adapted from ROS, TOS and ECOS. At one end of the Ecotourism Opportunity Spectrum ecotourists use no facilities while at the other end many comforts including hotels and cottages are used. Mid points are identified as rustic accommodations such as campgrounds (Boyd & Butler, 1996). The Tourism Opportunity Spectrum describes the tourism place similarly with four divisions each containing a number of classes of facilities (Butler and Waldbrook, 2003). Both spectrums follow closely the categories described in ROS. NEECS incorporates the same ideas. In the first category there are very few or no facilities used in the experience. Experiences that incorporate some rustic facilities that blend with the natural environment such as pit toilets and fire grates are put in group 2. Group 3 includes experiences that are more rural in nature with a moderate number of facilities that accommodate considerable numbers of people as well as facilities for specialized activities such as boat ramps. Restaurants, modest accommodations and some comforts are found in experiences placed in group 4. The last group (5) includes experiences that offer full service lodging and meals with opportunities for shopping and recreation in built environments.

Transportation: Similar to the facilities and degree of naturalness, transportation categories were adopted from ROS to describe the means of conveyance as it relates to the impact on the environment where 1= non-motorized conveyance (foot, canoes horses); 2 a mix of motorized and non motorized conveyances with more non-motorized than motorized; 3 = mixed with more motorized than non-motorized; 4 = group vehicles (motor coach, passenger vans, jeeps or 4 wheel drive vehicles); and 5 = individual motorized vehicles.

Degree of difficulty – The degree of difficulty is included in the access descriptor in ECOS and the description hard and soft nature tourists (Butler & Waldbrook, 2003; Weaver & Lawton, 2002; Weaver, 2005). The descriptor in NEECS was adapted from Elderhostel’s (now known as Exploritas) degree of difficulty scale (Elderhostel (d), 2006). The first level (1) requires participants to be able to handle their luggage, carry a buffet tray, climb a few stairs, stand for an hour and get on and off the motor coach. The second level requires participants to be able to climb a few flights of stairs and walk up to two miles over uneven surfaces. Level 3 is assigned to experiences that expect participants to be in good health, mobile and able to participate in three to five hours of physical activity per day and walk three to five miles at 2.4-miles-per-hour pace over uneven ground. Experiences
categorized as four require participants in excellent health who are extremely mobile and used to an active lifestyle. Program activities may require up to six hours of strenuous, moderate-to-fast-paced activity per day, equivalent to hiking six miles at a three-miles-per-hour pace over varied terrain. The most strenuous experiences (5) require the fitness level of level 4 along with minimum levels of expertise in the program activities and the ability to participate in fast-paced, strenuous physical challenges.

Length, size, and cost are recorded as exact figures. The length of a tour is recorded in days. Partial days are computed as a portion of 24 hours. For example, an 8 hour tour would be recorded as .33 days. The size of the group is recorded as the maximum number of people allowed on the excursion. Cost is recorded as the double occupancy cost per person.

Two other descriptors that differentiate experiences are frequency of offering, recorded in times offered annually and the marketing label used in the promotion of the tour. A tour with a generic or no label is recorded as 0, ecotourism = 1, adventure = 2, nature = 3, education = 4, and volunteer = 5.

**IMPLICATIONS**

The development of a classification schema that can be used to describe experiences so that they can be analyzed for similarities and differences may be of significant scientific value. Researchers have proposed a number of continuums to describe ecotourists - hard to soft, minimalist to comprehensive, ecospécialist to ecospecialist, specialists to generalists, deep to shallow, passive activity to active contribution, holistic to elemental. While the theories appear intuitively valid, few are designed to empirically test hypothesized relationships. The classification schema proposed in this paper may be useful for validating some of the theories. For example, ECOS theorizes a relationship among the level of difficulty, the type of transportation, the facilities used, the focus of the attractions (nature versus cultural and urban aspects) the size of the group and the level of skill required (Boyd and Butler, 1996). According to this theory, an ecospécialist will prefer an experience where access is arduous and hard, non-motorized means of conveyance are use, there are no facilities, the participant will travel alone as opposed to being in a group, and the participant will have extensive skill and knowledge. The classification schema being proposed may validate the hypothesized relationships in ECOS by demonstrating that the aforementioned features are commonly grouped within an experience. In the same manner NEECS can be used to determine if the components of hard and soft tourism can be found in experiences. By recording the features of a number of experiences, a scientist may reveal a correlation among specialized versus multi-purpose visits and length of trip, size of group, physical activity and difficulty level, extent of infrastructure/services, and the extent of interaction with nature as proposed by Weaver (2005). Additionally, NEECS may be used to evaluate the availability of opportunities that match specified criteria.

New types of nature and ecotourism may be revealed through an analysis of currently available opportunities. Experiences that focus exclusively on nature can be contrasted with those that provide a mix of cultural and natural features. It may be interesting to learn if expert-led experiences take place in settings that are different from guided experiences. Any number of scientific analyses of experiences can be derived using NEECS to learn more about nature and ecotourism experiences.

The scientific value of the schema is enhanced by its commercial value. Tour operators can use it to compare their offerings to those of their competitors and identify niche markets that are not being served. The schema may be used to identify the features of an experience that make one tour more popular than another.

Another group that may find this classification system useful is public land managers who must make decisions related to the appropriateness of activities that take place in their management area. As a planning tool, NEECS may assist managers in identifying experiences that are best suited to specific recreation settings by enabling a rational and comprehensive overview for assessing experiences within an area. The framework may provide the basis for the development of indicators that can be created to monitor usage patterns. Consequently, an analysis of
experiences taking place within the resource may expose information helpful in the achievement of sustainable management goals.

Finally, tourism destination planners and managers may use NEECS to monitor and evaluate experiences offered within the destination region. Successful maximization of resources requires an understanding of elements that make a destination unique so that specific action plans can be developed to enhance that uniqueness (Rosenow & Pulsipher, 1979). The use of the Nature and Ecotourism Experience Classification Spectrum can provide justification for management controls that direct the development of tourism to complement community goals. Furthermore, NEECS allows for the comparison of a tourist destination’s offerings with those of a competing destination to inform marketing strategy.

CONCLUSION

This paper proposes a framework to categorize and evaluate nature and ecotourism experiences that may be useful for empirically testing theories related to the continuum of ecotourists and ecotourism experiences as proposed by a number of researchers (Acott, La Trobe and Howard, 1998; Boyd and Butler, 1996; Mehmetoglu, 2005; Weaver, 2005). The indicators in NEECS allow for comparing and contrasting experiences. Specific knowledge of the characteristics of nature and ecotourism experiences is useful for planners, managers and marketers seeking to adjust offerings to meet market demands within the constraints of available resources. Land and destination managers that use ROS, TOS or ECOS can use NEECS to evaluate experiences in light of community and sustainable management goals. Entrepreneurs can use the tool to identify opportunities for the development of new experiences, to contrast their offerings with those of competitors, and to create a competitive advantage.

NEECS can be used to answer a number of research questions. For example, it can be used to validate theorized relationships among factors such as size of group and use of facilities or determine which of the four types of eco-nature-based tourism activities described by Mowforth (1992) (eco/nature, cultural, adventure and specialist) are preferred by the hard, soft and structured tourists identified by Weaver and Lawton (2002). What factors differentiate nature oriented experiences from culture oriented experiences? What roles do the values of deep and shallow ecotourists play in the selection of a specific tour? Can niche markets for tours with specific characteristics as proposed by Higham and Carr (2002) be identified? How do the nature, learning and physical characteristics of the experiences of comprehensive ecotourists compared with those of the minimalist?

While useful, NEECS is incomplete. Sustainable management requires the assessment of the impacts of activities within natural areas. The impact may be implied by some of the factors in the schema but it is not specifically measured. A system for identifying impact indicators of nature and ecotourism experiences is needed to enhance the usefulness of the Nature and Ecotourism Experience Classification Schema. A means for measuring economic, social and environmental impacts on the resource or the community is needed to give the tool a greater ability to assess the effect of an experience on the sustainability of the resource being used. A number of other categories could be added to the schema such as length of stay or expenditures to meet other research goals.
REFERENCES


