

USERS' RATINGS OF EXPERIENCES ASSOCIATED WITH THE USDA FOREST
SERVICE TRAIL CLASS MATRIX ON THE FLORIDA NATIONAL SCENIC TRAIL

By

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To my family

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LIST OF ABBREVIATIONS

EVT	Expectancy Valence Theory
FNST	Florida National Scenic Trail
FTA	Florida Trail Association
NEPA	National Environmental Policy Act
NST	National Scenic Trail
OFM	Outcomes-Focused Management
REP	Recreation Experience Preference
ROS	Recreation Opportunity Spectrum
TCM	Trail Class Matrix
USDA FS	United State Department of Agriculture Forest Service
WROS	Wilderness Recreation Opportunity Spectrum

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By

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The purpose of this research was to gain a better understanding of what experiences users seek when recreating on the Florida National Scenic Trail (FNST) and if those experiences relate to the trail class where they are recreating.

The FNST spans the entire state of Florida and is one of 11 congressionally designated national scenic trails. This study analyzed data gathered from members and lapsed members of the Florida Trail Association (FTA) who recreated on the FNST in the most recent four months of participating in the survey.

The study revealed that there is little difference in which experience attributes users feel are important across three trail classes. Significant differences were found across trail classes in regards to respondents rating the level of importance of having the opportunity to experience solitude and to use their own equipment while recreating. There were also notable differences in the importance of certain setting attributes across trail classes, especially in regards to the importance of natural setting attributes in trail class 1 areas, and development and access in trail classes 3 and 5 areas. In regards to the importance of certain experiences and setting attributes and their level of

attainment, the research found that some users attained setting attributes that involved a natural setting less than their stated level of importance.

Implications of this study will give the trail administrators, the USDA FS, a better idea of what attributes users find important and what managerial actions can be taken to provide an optimal experience.

CHAPTER 1 INTRODUCTION

Study Background

Recreation managers strive to provide optimal recreation opportunities in a wide variety of environments. One of the main objectives of recreation management is to oversee an environment that provides a range of quality recreation experiences (Manfredo et al., 1983).

In 2008, the U.S. Forest Service (USDA FS) developed a Trail Class Matrix (TCM) that aims to classify different sections of trail by applying a set of standards. This matrix was created based on the Recreation Opportunity Spectrum (ROS), which is intended to help manage large protected areas (Driver & Brown, 1978). The TCM ranges from trail class 1, minimally developed trail, to trail class 5, fully developed trail. These standards are based on tread and traffic flow, obstacles, constructed features, trail elements, signs and the typical recreation environs and experience (USDA Forest Service, 2008). According to the TCM, each of the five trail classes provides for a different recreation experience that correlates to ROS experiences. Although the classes are said to offer certain experiences, some experiences can be attained in more than one setting (USDA Forest Service, 2008).

In a study by Lynn and Brown (2003) on the effects of recreational impacts on the hiking experience, it was found that impacts to the natural setting caused by recreation has a negative impact on the user's experience. The authors noted that understanding the user is key to providing a quality recreation experience and that management needs to consider a variety of things when enhancing the user experience (Lynn & Brown, 2003). The Recreation Experience Preference (REP) scale is a tool

used to measure what attributes or outcomes of an experience the user is looking for. The REP scale has been applied to a variety of different types of recreation, but has very little research and application towards trails and the TCM.

Recreation managers are required to make decisions that satisfy several involved parties' needs. Optimal trail location, agency policies, trail and structure analysis and levels of trail infrastructure are among many. Not every type of user is looking for the same experience or setting. Determining what users are looking for is integral to determining trail locations, where funding should be focused and what is considered "scenic". The TCM is used to help managers make decisions based on the needs that fit the particular trail class and for users to have a better understanding of the type of trail they are recreating on and what they can expect.

Research has been done on the FNST, especially in regards to assessments of visitors on the trail (Wan et al., 2011). No published research has been conducted on the TCM and the FNST, although the TCM has been modified to better fit the needs of the FNST. Applying the TCM is an opportunity to understand users of the FNST in a different context. Are the users who are recreating on a Trail Class 3 trail looking for a different setting or experience than users recreating in a Trail Class 1? Are their expectations being met?

Research Setting

The research setting is the Florida National Scenic Trail (FNST), which was designated in 1983 by the US House and Senate (National Park Service, 2011). The approximately 1,300-mile national scenic trail is one of 11 congressionally designated trails in the country. The trail spans from Gulf Islands National Seashore in North Florida to Big Cypress National Preserve in South Florida. The location of the trail

enables it to be less than 120 miles from the majority of Florida residents (Albritton & Stein, 2007). Because the trail goes through federal, state, local government, and private lands, a collaborative resource management approach is necessary (US Forest Service, 2012). The FNST is legally administered by the USDA Forest Service. The trail goes through a variety of settings, from deep Florida hammock and wetland wilderness to social urban settings, and the various ecosystems offer a multitude of sights, sounds and experiences. While certain sections of the trail offer multi-use activities, which include bicycling and horseback riding, the majority of the trail was created solely for foot traffic (US Forest Service, 2012).

Albritton & Stein (2007) found that the majority of hikers walk five miles or less each time they visit the FNST. The study also showed that more than half of the users visited the trail seven or more times the previous year. In 2010-2011, there were over 350,000 visitors to the FNST (Wan et. al., 2011). There are many “gap” sections of the FNST that run along roads and through private property. This is not meant to be a permanent location for such segments of trail. The guidelines provided by the National Trails System Act requires that national scenic trails be located “to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass” (USC, vol. 16, Section 3).

Statement of the Problem

“Our challenge is to manage (the Florida National Scenic Trail’s) diversity while creating a distinct brand for the entire trail. A careful analysis of the Trail determined that it can be classified into five distinct classes to better facilitate trail planning. Each

class is defined by natural resource condition and the desired recreation experience we wish to provide” (US Forest Service, 2012).

Research has been previously conducted on outdoor experience preferences and settings, yet neither has been substantially researched for trail settings, especially on the FNST. The ROS has been applied and used in several research studies, but the TCM has not been applied in relation to experiences and setting attributes. In order for trail administrators to efficiently make managerial decisions based on the TCM, understanding what experiences and setting attributes users feel are important needs to be researched and considered. Outcomes-focused Management (OFM) identifies potential positive outcomes from a particular recreation setting or experience (Driver, 2008). By looking at the type of experience users feel are important, managers will be able to more accurately identify specific management actions. For instance, trail building, relocation or decisions on facility and infrastructure placement.

The Purpose of the Study

The purpose of the study was to understand what experiences and setting attributes users feel are of importance and whether or not they are attaining them. In addition, where or what trail class are they recreating on. It has not been researched as to whether or not users get a certain experience based on a particular trail class where they are recreating, in terms of the TCM. There have been several studies that use or study the effectiveness of ROS and REP and user desired experiences in settings such as campsites and outdoor recreation in general (Yuan & McEwen, 1989), off-highway vehicles (Kil, et al., 2011), floaters on rivers (Vogelsong et al., 1998) and state parks (Schreyer and Roggenbuck, 1978). There are limited studies done in the United States that look specifically at trails using the TCM and the experience users are looking for in

a particular setting. This thesis will add to the literature on what experiences and settings users feel are of importance in a particular trail setting utilizing the TCM. It will assist trail administrators when making decisions based on trail setting and recreational opportunities.

This study takes a behavioral approach to recreation. There is a need to define specifically what users want in a specific trail class they are recreating on. Driver (1976) defines a behavioral approach as a way to define goods and services and analyze the demand. By using this approach, this study has disaggregated various setting attributes and experience preferences to identify what specifically users are looking for in regards to the trail class they are in. This study has identified a specific sub- population, members and lapsed members of the non-profit organization that builds and maintains the trail, the Florida Trail Association, and has asked specifically what these users feel are of importance regarding trail attributes and experiences. This is important to note because FTA members are a specialized group that are focused on hiking and the FNST likely to a greater degree than the general public or non-member trail hikers.

One of the goals of the USDA FS in regards to the FNST 5-Year Strategic Plan (2012) is to work towards completion of the FNST. This will require deciding where to move or add certain sections of trail, how to maintain trail and infrastructure, all while attempting to maintain the scenic value. This research assists with decisions related to providing optimal recreation areas and adjusting sections of the trail, as it is based on current trail resources and what users are looking for.

Research Questions

The purpose of this study was to better understand what experiences and setting attributes users feel are important. This was determined by using REP items in addition

to desired setting preferences according to the TCM. This was assessed with guidance from the following questions: (I) Are users who feel that a particular experience is important getting that experience when on the trail? (II) Are users who feel a particular setting attribute is important getting that setting attribute when on the trail? (III) What is the relationship between what experiences users feel are important and the trail class where they are recreating? (IV) What is the relationship between which setting attributes users feel are important and the trail class where they are recreating?

CHAPTER 2 LITERATURE REVIEW

Related literature can be categorized into different areas: definition and history of trails and the National Scenic Trail System, applications of the recreation experience preference scale (REP), the foundation and applications of the expectancy valence theory, and the applications of the recreation opportunity spectrum (ROS) and USDA Trail Class Matrix (TCM).

Definition and History of Trails and the National Scenic Trail System

The term trail has a wide-variety of meanings. In 1990, a cooperative agreement was made between the non-profit organization, American Trails, and the U.S. Department of the Interior, National Park Service, to define trails as “a linear corridor, on land or water, with protected status and public access for recreation or transportation” (American Trails, U.S. Department of the Interior, National Park Service, 1990).

Moore and Ross (1998) segregate trails into five different categories. (1) “Traditional” Backcountry Trails, which are basically one-lane, primitive trails. They typically have natural surfaces, narrow tread and are carefully planned out when built or follow long existing traditional walking routes. (2) Recreational Greenways are natural open-space corridors that contain a trail. (3) Multiple-Use Recreation Trails are trails that are well-developed, typically paved, and allow for uses such as walking, bicycling and other non-motorized uses. (4) Rail-Trails are trails that are created on abandoned railroad corridors, typically paved. (5) Water Trails, are any open corridor of water used for recreation. For the purpose of this thesis, the term trail was used broadly to include types 1-4 terrestrial based trails.

Many of the trails that we think of today were created by outdoor groups and clubs years ago. For instance the Appalachian trail was started by Benton Mackaye, a forester and government analyst who envisioned a series of work, study and farming camps that would span the Appalachian mountains. Hiking wasn't the original motive for his idea, but eventually hikers took up the cause and made it become what it is today (Appalachian Trail Conservancy, 2013). The Pacific Crest Trail was put on the ground by Clinton C. Clarke and his federation of hiking clubs in the 1970's and 80's, after being planned in the 1930's. (Pacific Crest Trail Association, 2013). The Florida Trail came to fruition after Jim Kern and several volunteers planned on building 500-miles of continuous trail in 1966, and is now a 1,300 mile system of trails that spans the state of Florida (The Florida Trail Association, 2013).

Today those trails, among several others, have been designated as national scenic trails. A national scenic trail is "100 miles or longer, continuous, primarily non-motorized routes of outstanding recreation opportunity. Such trails are established by Act of Congress" (National Park Service, 2011). There are 11 national scenic trails, which are administered by different federal agencies such as the National Park Service, USDA FS and the Bureau of Land Management (American Trails, 2013). The FNST was designated by congress in 1983 (USDA Forest Service, 2012).

The FNST is administered by the USDA Forest Service. It is primarily an unpaved (with occasional bridges and boardwalks) footpath, but also utilizes paved areas that are open to multi-use recreation. The trail has few through hikers, and is frequented mostly by day-users (Wan et al., 2011).

Theoretical Framework: The Expectancy Valence Theory

The Expectancy Valence Theory's (EVT) view on motivation is founded on the idea that recreational activities are the result of behavioral goals, which are engaged in to attain some kind of goal, whether psychological or physical (Ajzen & Fishbein, 1980). One approach to understanding the recreation process was built upon this theory, which posits that users come to particular recreation areas with the expectation and desires for a certain type of outcome or satisfaction. The theory has a background of motivation in the workplace, but has also been applied to marketing techniques, which look at the motivations of buyers (Klenosky et al., 1993). This theory can be compared to the original expectancy theory, defined by Victor H. Vroom (1964). Vroom defined motivation as a process of choices, where the individual makes those choices based on expected results or desired outcomes. The expectation that effort will lead to some kind of performance produces the motivation. The action taken to achieve the results, and the desirability of that result, is the valence.

The theory is based on three core elements: expectancy, instrumentality, and valence. Expectancy being the thought that effort will result in the attainment of a desired goal, instrumentality, the belief that the outcome will be achieved and valence being the value that is placed on that goal or outcome, which initiates the motivation to fulfill it (Vroom, 1964). The EVT explains how users choose action based on desired outcomes. The expectancy portion of the EVT is formed around the idea that human behavior is goal-directed and based on intention. The valence portion focuses on the concept that when people participate in a certain behavior, they are expecting a positive outcome and the probability of behavior depends on that outcome (Lawler, 1973). In past research, user satisfaction has been measured by using this theory (Vroom 1964,

Lawler 1973). Manning (2011), by compiling several past studies, has noted that satisfaction is rather a vague concept to measure and can pose challenges when clearly trying to identify the level of satisfaction.

The theory fits the idea that unconstrained choice is a part of the expectation that efforts put forth to recreate will lead to performances, which will in turn lead to valued outcomes (Manfredo et al., 1996). In other words, having the ability to choose to go on a hike, the efforts that go into that hike (i.e., time or money spent), and actually hiking, will then lead to certain desired or undesired outcomes. Visitors come to sites with expectations for a desired outcome or satisfaction. They participate in the activity at the site where the combination of physical, social and managerial conditions helps them achieve that desired outcome (Brown, 1979; Driver 2008).

An example of the EVT can be seen in the use of the means-end approach by Klenosky et al., (1993) which looked at the factors that influence the choice of ski destinations. The authors were able to use the theory to link concerns about the ski area's attributes to the user's personal values to learn more about what the users were looking for when choosing a particular area to ski in. Another example of motivational theory used in a recreational setting is seen in a study done by Fluker and Turner (2000). The study looked at the motivations and expectations of commercial whitewater rafting experiences.

This theory is used to help define satisfaction with recreation users (Vroom 1964; Fishbein and Ajzen, 1975). Visitor satisfaction studies are often based of this theory (Manning, 2011). Many times the level of satisfaction attained by a particular user depends on the individual's interpretation of a specific element or recreation opportunity.

This was seen in a study that looked at the situational factors of marine fishing (Graefe and Fedler, 1986). The theory has also been applied to studies that look at quality of life and leisure (Field, 2011).

These ideas were the core behind the thought that recreation professionals should consider activities, settings, recreation experience outcomes or motivations and enduring personal and social benefits as demands for recreation (Driver & Brown, 1975). These ideas lead to the creation of the Recreation Opportunity Spectrum (ROS), which will be further explained later in this literature review. Past surveys on recreation utilizing this theory have looked at satisfaction, crowding and desired experiences (Stewart & Carpenter, 1989; Webb & Worchel, 1993). The EVT and core demands previously noted have not been applied often to hiking trails or in using the TCM as definitions of a recreational setting.

Outcomes-Focused Management

Outcomes-focused management (OFM) looks deeper into settings or activities to find the potential positive outcomes a certain recreation opportunity may provide, and what it would take to accomplish those outcomes (Driver, 2008; Lee and Driver 1999). Management techniques are likely to be more successful if users' experiences and setting desires are known and acted upon.

OFM evolved from two past management techniques. Activity-focused management, which looked at the type of activity opportunities and facilities that are offered as management objectives, and experience-focused management, which focuses on the idea that users view a recreation opportunity as a choice of activity at a chosen or preferred setting (Anderson et al, 2000; Stein and Lee, 1995).

The recreation opportunity spectrum is typically used to identify settings and the

experiences within those settings. Since the TCM is a scale specifically targeted toward trails, this matrix was used to compare desired experiences within a particular trail class.

OFM looks at positive outcomes that occur during and after a chosen recreation activity (Anderson et al, 2000; Driver 2008). For instance, if a user experiences getting away from the usual demands of life, they experience something that is beneficial even after they leave the recreation setting. If they improve their cardiac function through regular walking or hiking, that health benefit extends beyond the walking trail. By using OFM, managers can specifically identify objectives to create positive recreation experiences and benefits for users. This study will help managers use OFM to better provide for recreation opportunities that are likely to provide user benefits on the FNST.

Measuring Recreation Experiences

Recreation Experience Preference Scale (REP)

Providing high-quality outdoor recreation opportunities is the responsibility of outdoor recreation professionals and their many partners (Moore & Driver, 2005). According to Moore & Driver, three strategies are appropriate to help understand visitor behaviors. One being, “what types of satisfying experiences and other benefits are desired and expected by the users...” If managers can’t answer this, then they can’t effectively make managerial decisions that best fit the user’s desired experience and outcomes. The REP scales were initially developed to shed light on those experiences and stemmed from motivation theory (Manfredo et al., 1996).

The REP scales (Appendix E) correlate with an experiential approach and are used to measure the different types of specific goal states desired by recreationists (Manfredo et al., 1996). Multiple domains make up the scale, some of which are enjoy

nature, risk taking, learning, exercise and meeting new people. It has been used as a tool in many previous studies to measure experience preferences in outdoor recreation settings. The development of REP scales occurred in a series of phases. Items were identified by looking at personality traits and motivation literature, such as EVT, to determine the motivations that might influence recreation choices. The actual item development was attained through open-ended qualitative discussions of motives with recreation participants and by reviewing past recreation literature. Cluster analysis was then used to narrow down groupings (Driver, Tinsley & Manfredi, 1991) into specific dimensions, which include achievements/stimulation, autonomy/leadership, risk taking, equipment, family togetherness, similar people, new people, learning, enjoy nature, introspection, creativity, nostalgia, physical fitness, physical rest, escape personal-social pressures, social security, escape family, teaching-leading others, risk reduction, and temperature. In studies using REP, it has been found that experiences most users prefer are ones that provide nature, physical and mental health and social bonding (Anderson et al., 2008; Stein & Anderson, 2002).

REP has been questioned in terms of being able to capture experience preference in a non-static recreation experience. Hull, Stewart & Yi (1992) pointed out that people do not necessarily desire a single outcome, but rather are looking for an extended sequence of feelings. A trail is a dynamic experience, so this idea is worth noting. The use of the TCM will assist with this because it will measure the experience based on one particular class and will provide answers as to whether the user is recreating in a particular class, or across more than one class.

Two different methods can be used to measure REP. The first method employs REP scales that consist of 83 statements regarding the reasons that users participate in a particular recreation activity, the scale score strategy (Tinsley et al., 1981). Each of the statements is placed in Likert format, which range from 1-not important to 6-very important. The second method, the domain score strategy, groups 69 of the statements with 13 new statements by means of cluster analysis to create 41 two-item scales. These two-item scales were then further grouped into 18 preference domains, which produced 44 items to analyze (Driver, 1979).

Tinsley et al., (1981), performed a study that measured the reliability and concurrent validity of the two REP scales. It was determined that both methods are deemed acceptable when it comes to reliability and concurrent validity. The domain score strategy, which uses 44 items rather than 69, was preferred for field-use settings due to the reduced response time, even though the scale score strategy yields a slightly higher degree of concurrent validity (Tinsley et al., 1981).

Recreation Settings

To have a better understanding of the Trail Class Matrix (TCM), it is helpful to start with the Recreation Opportunity Spectrum (ROS), which was used to create the TCM.

Recreation Opportunity Spectrum (ROS)

The idea of recreation opportunity planning was created to assist resource managers in inventorying, classifying and managing outdoor recreation resources by using an established planning framework (Brown, Driver and McConnell, 1978). In regards to the creation of ROS, the USDA FS established the framework based on the idea that “people must make choices about activities in which to engage, settings in

which to recreate, and kinds of recreation experiences to seek,” (Clark & Stankey, 1979, p. 1). In many cases, it has been found that settings have more of an effect on the positive outcomes users attain rather than the actual activity they are participating in (Pierskalla et al., 2004).

The ROS is a framework used to understand the setting-activity-experience relationship. The tool is meant to be applied in a management setting and includes the role management serves within the areas of recreation opportunities. This framework defines recreation settings as an incorporated relationship between physical, biological, social and managerial settings that inevitably give a particular place value (Clark & Stankey, 1979).

The concept of ROS has been applied in a variety of settings; recreational boating in marine-protected areas (Gray et al., 2010), national park management in Japan (Yamaki et al., 2003) and even as a tool to assess projects involving the National Environmental Policy Act (NEPA) (Cervený et al., 2011). The application of the ROS indicates a need for a comprehensive inventory of setting characteristics as part of recreation planning in order to understand how setting characteristics define the specific opportunities available within a given area (Yuan & McEwen, 1989). The framework uses six defining opportunity factors; access, other non-recreational resource uses, onsite management, social interaction, acceptability of visitor impacts and acceptable level of regimentation (Clark & Stankey, 1979). The original ROS, which has been slightly altered to fit the needs of various agencies, identifies six classes where users can attain recreation opportunity; primitive, semi-primitive non motorized, semi-primitive

motorized, roaded natural, rural and urban (USDA Forest Service, 1982). Under these classes, a set of activities, settings and experience opportunities are then identified.

ROS has been adapted to meet the needs of various recreational opportunities. An example of this is seen with the Wilderness Recreation Opportunity Spectrum (WROS), which was developed to meet the needs of wilderness recreation areas (Flanagan and Anderson, 2008). WROS identifies four classes of opportunities; Transition, Semi-Primitive, Primitive, and Pristine. Users recreating in a Transition setting can expect more campsites, a larger square feet of vegetation loss around campsites and an increased number of encounters. Users recreating in a Pristine setting can expect very little vegetation loss around campsites and a small number of encounters (Manning, 2012).

Researchers have attempted to measure the validity of the ROS and have come up with varying results. For example, in a study done on campsites using the ROS, the results were inconclusive, perhaps due to the fact that ROS settings didn't accurately follow the campground settings (Yuan & McEwen, 1989). The study surveyed 560 campers in the three middle ROS class settings. The results found that the visitors' experience preferences did not differ between the ROS classes as much as expected (Yuan & McEwen, 1989). Yuan and McEwen (1989) determined that ROS may not be able to be applied to all recreation activities and settings, and recommended that research be done that includes the ROS classes at the far ends of the spectrum. A similar finding by Manning (1985) concluded that ROS implementation could be limited and noted that some facility developments, such as lodges in National Parks, were incongruent with ROS ideal settings.

The spectrum has been questioned in areas where experience and setting are not stagnant. Many recreation opportunities are offered in a range of classes. For example, this can be seen in a trail setting that changes from a Class 1 to a Class 5 over a short distance such as when a primitive trail merges into a paved road in an urban setting. It has been noted that recreationists do not necessarily report changes in experience as they recreate through the different ROS classes (Schreyer, 1985). Researchers find operationalizing activities that vary across multiple classes (like hiking or scenic driving) to be a challenge, and suggest finding a way to present setting changes on maps (Pierskalla et. al., 2000). Since the USDA FS has applied ROS to trails, as seen in the TCM, this is assumed not to be an issue for trails where this has been done. In a study done by Vogelsong (1999) on the spatial integration of ROS, the results supported ROS in a non-static setting. The findings showed that the combination of setting and activity produces different outcomes and although at times user desires seem general and do not always vary in relation to non-static settings and activity, it is still there. In addition, there have been past studies that look at experiences and settings and those relationships within. Brown and Ross (1982) explored relationships between motivations and settings and found that there were stronger relationships between users participating in the same activity.

At the time the ROS framework came to fruition, the spectrum concept had been applied in the National Trails Act, which establishes three different classifications of national trail, varying in purpose, permitted uses and adjacent development. These include national recreation trails, national scenic trails and connecting or side trails, which makes up the national trail system. The spectrum idea was being used in the

USDA FS for forest recreation settings, which were broken into five categories. These ranged from those offering challenge, solitude and demanding high skills, to those with extensive facilities and few skills (Clark & Stankey, 1979). The latter use of the spectrum is more of what is seen in the TCM. Driver et al. (1987) suggest that further research be applied to ROS to gather a better understanding of the relationships between the ROS components of activities, settings and experience.

Trail Class Matrix (TCM)

Originally, ROS was designed to better manage large protected natural areas, and specifically camping areas. The USDA FS created the TCM to categorize trail types in the national forest system to better manage established trail segments (USDA Forest Service, 2008). The five different trail classes are based on the ROS framework, which originally ranged from primitive to urban settings (USDA FS, 2008). The TCM was then updated in 2012 to be more applicable to the FNST. For instance, in trail class 1, users can expect minimal structures, limited route identification, limited interpretation, single lane, and predominately native materials. In trail class 3, users can expect an obvious tread, structures and bridges as needed, and signage. In trail class 5, users can expect a wider, firm tread, no obstacles, frequent structures, and frequent signage. According to the USDA FS TCM, each of the five trail classes provides for a particular recreational environment and experience that the recreationist can expect, which correlate to the ROS or WROS environments. For example, trail class 1 correlates to ROS primitive to roaded natural of ROS and primitive to semi-primitive of WROS. Trail class 3 correlates to primitive to roaded natural of ROS and semi-primitive to transition of WROS. Trail class 5 correlates to roaded natural to urban ROS and is not present in WROS (USDA FS, 2008).

The FNST's TCM provides a slightly more descriptive recreation environment. In a trail class 1, users can expect to be recreating in a natural, unmodified setting. In trail class 3, they can expect a semi-natural environment with visible human impacts, and in trail class 5 a highly modified, potentially urban environment. The FNST's TCM also provides the typical recreation experience within each trail class. Trail class 1 requires advanced planning and a great degree of self-sufficiency and the high likelihood of wildlife encounter and native ecosystems. Trail class 3 users can expect some preparation and self-sufficiency. Users may find directional signing and interpretation of key local spots. In addition, they can expect good wildlife and natural landscape viewing opportunities with a greater chance of encountering other users. Trail class 5 users can expect an experience that requires little to no self-sufficiency, a high level of infrastructure and multiple uses, less of a natural environment, although aesthetically pleasing and accessible, and are very likely to encounter other users (USDA FS, 2012).

In a study on place attachment on the FNST in regards to wildland-urban areas, it was found that zones (or in this case classes) should be used to help with management practices. For example, it may be more important for developed areas to have certain facilities in some areas, and more important for natural settings to have a stronger emphasis on wildlife (Kil et al., 2012).

In a study done by Schreyer and Roggenbuck (1978), they looked at motive domains in recreation on rivers and found that these experiences could be related to other preferences, like group size or campsite development. Not long after, Graefe et al. (1981) took these findings and compared them to similar findings on other rivers. The findings showed that users preferred learning about and experience nature, stress

release, and solitude. The research noted that they may have to do with managerial and other resources, which lead them to compare the findings by wilderness and non-wilderness. This is similar to comparing REP domains and setting preferences to the TCM.

In a study by Vogelsong et al. (1998), the researchers looked at relationships between activities, settings and motivations within the Delaware state park system. The study found that visitors at the historical parks rated nature/learning higher than the visitors rated this experience at the other parks that may not have historical emphasis. Although this study places emphasis on setting attributes within the various trail classes, it illustrates that past studies have looked at these variables within different types of settings.

Some studies have shown motivation domain differences within different settings (Vogelsong et al., 1998), but there are studies that have not shown significant differences between domain motivations and settings. In a study about protected areas in Costa Rica, Wallace and Smith (1997) found little association between motivation and setting preferences.

There has not been an extensive amount of research done applying user-desired experiences in relation to classes or zones based on trails. In one trail user study, which looked at trail preferences and visitor characteristics at a National Park in Spain, the author found that the types of visitors did play a role in what type of trails they preferred (Torbidoni et al., 2005). For example, 'casual visitors' chose short trails more often, while 'adventurous visitors' preferred longer trails or trails that ended at a peak. McCool et al., (1984), suggest that why people choose settings and how managerial

activity influences these settings needs to be studied more. Overall, there has been very little application of ROS and limited application of the TCM in studies that look at the experiences users feel are important or attain in specific trail settings.

CHAPTER 3 STUDY SITE AND METHODOLOGY

Study Site

The study site is the Florida National Scenic Trail (FNST). The FNST is about 1,300-miles and extends from Big Cypress National Preserve on the southern peninsula to Gulf Islands National Seashore in the northwestern Florida panhandle. The trail is administered by the USDA FS, but runs through several different properties, which are managed by different land managing agencies. The land managers include, but are not limited to, state parks, state forests, the National Park Service, wildlife and water management areas, county parks, and other private and public land owners. The Florida Trail Association (FTA) is the leading volunteer organization that maintains and promotes the FNST. The Association works with land managing agencies and volunteers to monitor and maintain the condition of the trail (USDA Forest Service, 2012; The Florida Trail Association, 2012).

Physically surveying visitors along the entire length of the trail would be difficult due to geographic distance, time and budget limitations. An on-line survey was implemented to reach more people and the trail class the respondent was recreating in was determined by providing maps from the USDA FS 2012 State of the Trail Report. Trail classes were determined in a joint effort of the volunteers of the FTA, FTA staff and the USDA FS. Using characteristics provided by the TCM, FTA volunteer regional chapter trail coordinators identified the trail classes on the section of trail they maintain. This was determined based on the descriptions of the USDA FS Trail Class Matrix and the TCM developed specifically for the FNST (Appendix D), in addition to information provided by the trail coordinators. In brief, a trail class 1 area tends to be more primitive

and less developed, while a trail class 5 section is often hardened in some way or paved and fully developed. Since the trail is more than 1,000 miles and trails flow between classes, for the purpose of this study, the sections of trail were placed into a class based on the average for each section and then compiled into trail classes 1, 3, and 5 based on that average.

Sample

An e-mail list of current and recently lapsed members was obtained from the Florida Trail Association in the spring of 2013. The email list contained 2,866 email addresses. A link to the questionnaire was sent out via email on May 1, 2013 through May 15, 2013. The questionnaire was aimed towards FNST users who hiked on a section of the FNST in the past four months. Those who had not hiked the trail in the previous four months were not included in the analysis. A total of 689 surveys were completed. This self-selected sample consisted of 90.0 percent active Florida Trail Association members. The final set of respondents also included 2.4 percent lapsed members, and 7.6 percent who did not reveal their membership status.

The Florida Trail Association is a non-profit organization that consists of hiking enthusiasts and trail maintainers that create a unique sample. The FTA “develops, maintains, protects and promotes a network of hiking trails throughout the state, including the unique Florida National Scenic Trail. Together with our partners (the FTA) provide opportunities for the public to hike, engage in outdoor recreation, participate in environmental education and contribute to meaningful volunteer work” (The Florida Trail Association, 2013). Due to the sample chosen, the results are primarily representative of this special interest group.

Assumptions

1. It is assumed that the questionnaire was answered truthfully and accurately. Specifically, with reference to their assertion that they had hiked a specific section of the trail recently and that they were able to recall their experiences of hiking on those sections of trail.
2. It is assumed that the respondents were more or less representative of other members of the Florida Trail Association.
3. It is assumed that the FTA member, to whom the e-mail invitation was addressed to, is the person who completed the survey and that they did not forward the invitation to non-members to participate.

Survey Instrument

One questionnaire (Appendix B) was developed to measure user demographics, visitor characteristics, the experiences users feel are important and if they were attained, the setting attributes users feel are important and if they were attained. The questionnaire was approved by the University of Florida IRB.

Demographics and Visitor Characteristics

Sociodemographic questions included gender, age, education, and income. Also, visitor characteristics, which included first time or repeat visitor, the number of visits over the last year, hiking experiences and proximity to trail from place of residence. Determination of what trail class the respondent was recreating on was done by providing maps in the survey that were narrowed down by specific sections (Appendix C). The maps were taken from the 2012 USDA FS State of the Trail Report (2012).

Importance of Experiences

The REP scale items, adopted from Driver (1977), were included to measure the experience preferences of the users. Items were placed on a 5-point Likert scale ranging from 'not important' to 'very important'. The 44-item domain score strategy was

used rather than the 69-item scale score strategy because it takes less time and was more conducive for asking experience questions up to four months post hike (Tinsley et al., 1981). Following this, another 5-point Likert scale was used to measure experience preferences and whether or not they were attained. The scale ranged from 'not attained' to 'completely attained'.

Settings of Importance

The questionnaire included questions that operationalize the TCM and the ROS. Setting attribute items were measured on a 5-point Likert scale, which ranged from 'not important' to 'very important'. A second 5-point Likert scale followed that asked the same setting attributes and ranged from 'not attained' to 'completely attained'. The items consisted of physical, social and managerial setting attributes. The survey was formatted using Qualtrics[®] survey software for on-line administration.

Data Analysis

After reviewing the literature and previous research done surrounding the topic of users' recreational experience preferences based on settings, applying it to a trail setting should be a meaningful contribution to current literature and research, especially on the FNST.

Following the gathering of data via an on-line questionnaire, the coded data was downloaded from Qualtrics[®] and SPSS-21 statistical analyses were performed. Descriptive statistics that included frequencies, means and standard deviations were conducted for basic data analysis. A nonparametric Wilcoxon Signed Rank Test was performed to find the median potential significance between experience preferences and their attainments, in addition to setting preferences across respondents. Means were used to determine the relationships between experiences users felt are important

and if they were attained, and the setting attributes users felt are important, and if they were attained. The level of importance of certain experiences and settings means were compared by trail class using Tukey's test to see if the level of importance between experience and setting differed among trail classes. Means were used to summarize REP scale items and setting attributes. Pearson's rho was applied to analyze users within a trail class in regards to two particular setting attributes.

Most of the data are presented using frequency tables. Descriptive comparisons of the respondents are presented, and the results of the findings are textually reported and discussed.

CHAPTER 4 RESULTS

The analysis of the survey results and findings are presented in several sections in this chapter. These sections include user profiles, statistical comparisons, descriptive information concerning the respondents' preferences, and hypothesis test results.

The Survey

A link to the on-line survey was sent to 2,866 email addresses available on the Florida Trail Association membership list. Of those, 689 surveys were collected over a 15-day period in May 2013. This was a 24 percent response rate. From the 689 initial responses, 266 were eliminated due to not having hiked (or not knowing if they had or not hiked) on the FNST in the past four months, leaving 423 as useable. The survey invitation was distributed via email, with one reminder email message after one week. Due to the anticipated low number of respondents if an on-site intercept had been employed, it was decided to solicit survey respondents by e-mail invitation to participate in an on-line survey.

Demographics

Of the 423 useable surveys, 22.7 percent of the respondents were recreating on a trail class 1, 62.4 percent on a trail class 3 and 14.9 percent on a trail class 5 (Table 4-1). The distribution of respondent ages ranged from 21-87, and the mean age was 58.2 years of age (Table 4-2). When segmenting the demographic variables into trail classes 1, 3 and 5, the mean ages vary only very slightly. In trail class 1 areas, the mean age is 57.4. Users recreating in trail class 3 areas had a mean age of 57.99 and for class 5 areas, 58.0 (Table 4- 3). The average age of Florida residents is among the highest of the 50 states (40.7 years, median age in the 2010 census).

The number of male participants (62.2%) was higher than the number of female participants (37.8%) (Appendix A-1). In a 2010-2011 FNST visitor assessment, 71 percent of participants were identified as male (Wan et al., 2011). Although the ratio of male to female is similar, the sample population for this survey is different in that these demographics are for an avid hiking interest group. When looking at the percentage of male and female respondent's by class, there is a higher percentage of females recreated in trail class 5 areas. The lowest percentage of females is seen in trail class 1 settings (Table 4-4). Over 75 percent of the respondents surveyed held a college degree. Of those, 36.5 percent held a graduate degree or higher (Appendix A-2). Over 75 percent of the respondents had an annual family income of US \$50,000 or higher (Appendix A-3). Taking in consideration the age range and level of education of the respondents, this is not surprising.

Of the 423 respondents surveyed, 20.3 percent have been FTA members for a year or less. Ninety-four of the respondents (23.8%) have been FTA members for more than 10 years. The most common time span as a FTA member was 2-5 years (36.5%) (Table 4-5). Of the 423 respondents who were recently on the FNST, 288 (71.1%) were recreating in a group of 1-5 people. The group size (including the respondent) with the highest frequency was groups of two members with 120 (30%) of the respondents indicating they were in a group of that size. The largest group number on the trail was a group of 70 (Table 4-6).

The respondents indicated that the most frequent type of group they recreated with on the trail was an "established club or group" with 142 (33%). The least mentioned group type mentioned was "family in addition to spouse" with 29 (7.1%)

(Table 4-7). The results vary when looking at the type of group the respondent was traveling with in regards to trail class. In trail class 1, the respondents most frequently traveled with friends. In trail class 3 and 5, users were more frequently with an established club or group (Table 4-8). From the 423 respondents, 150 (36.4%) traveled on the trail for 5-10 miles. The second most frequent distance was over 10 miles (28.4%) (Table 4-9). In 2007, Albritton & Stein found that the majority of hikers travel five miles or less each time they visited the FNST. In this study, which is looking at a special interest group who are avid hikers, we see that the majority travel five miles or more. The difference is not surprising due to the difference in population samples. When segmenting miles recreated on trail by trail class, the results vary slightly. In the trail class 1, we see users were more likely to be on the trail for over 10 miles. Whereas, in trail class 3 and 5, users were more likely to be on the trail for 5-10 miles (Table 4-10).

Actual time spent on the trail by class also reveals differences between users within classes. For trail class 5, a majority of users recreated on the trail for a few hours. For trail classes 1 and 3, most users were on the trail for a half a day (Table 4-11). The entire sample of 423 respondents had previously been on the FNST. In the three trail classes, the highest number of respondents reported having been on the trail 1-5 times (Table 4-12). Of the 423 respondents who had been on the trail in the last four months, 397 (94.8%) indicated that they were hiking. The second most frequent activity was wildlife viewing at 49.3 percent (207). Some of the categories indicated in the other category included trail maintenance, bird watching, plant identification, geocaching, swimming, backpacking, and canoeing/kayaking (i.e., using the trail to

access water bodies). Respondents had the option of selecting more than one activity (Table 4-13). When asking the respondents what their hiking skill level was the most frequently reported response for all three classes was proficient, the highest percent being in a trail class 1. Trail class also had the lowest percent of expert hikers (Table 4-14).

The FNST can be identified by four different regions: southern, central, northern and panhandle. For this sample, the respondents' most recent visit to the FNST showed that the most frequented region was the central region with 174 (40.5%) respondents. The northern region was the least visited with 15.6% (67) of respondents (Table 4-15). The southern region comprises 24 percent, central region 32 percent, northern region 15 percent and the panhandle region 29 percent of the geographic length of the FNST.

Importance of Experiences and Setting Attributes

Trail classes were determined in a joint effort of the USDA FS and the volunteers of the FTA and FTA staff. Using the TCM, FTA volunteer regional chapter trail coordinators identified the trail classes on the section of trail they maintain. Since the trail is more than 1,000 miles and trails flow between classes, the sections of trail have been placed into a class based on the average for each section and then compiled into trail classes 1, 3, and 5 for purposes of comparison in this study. This was determined based on the descriptions of the USDA FS Trail Class Matrix and the TCM developed specifically for the FNST (Appendix D). In brief, trail class 1 tends to be more primitive and less developed, while trail class 5 is often hardened in some way or paved and surrounded by more developed environs.

Overall, when asked if users had the trail experience they expected, only a few reported that they did not (Table 4-16). When asked was something missing that could have improved their experience, there was a larger percentage of users who reported yes. Over 13 percent of respondents in trail class 1 reported that there was something missing that could have improved their experience. In trail class 3, 25.1 percent of respondents reported that something was missing and in trail class 5, 24.1 percent (Table 4-17). The respondents were then asked to identify attributes that were missing that could have improved their experience. The main themes involved fewer road walks and pavement, more natural settings (especially near water), better blazing of trails, improved signage and trail identification, and access to drinking water sources (Appendix A4).

The respondents' mean level of importance for the 23 experience preferences across all trail classes are represented in Table 4-18. The experiences that are most important, to enjoy scenery (mean importance score 4.6), to experience nature (mean importance score 4.6), to be close to nature (mean importance 4.5), to enjoy the smells and sounds of nature (mean importance 4.4) are all considered to fit under the benefit domain enjoy nature. The next highest means, to get exercise (mean importance 4.4) and to feel healthier or improve my health (mean importance 4.3) fit under the domain physical fitness. The least important experience, to meet new people (mean importance score 2.7) is under the benefit domain new people (Table 4-18).

Users' importance means for the 13 setting preferences across all trail classes are represented in Table 4-19. The setting attributes that were most important are natural area with few signs of human development (mean importance score 4.9), and no

sights or sounds of human activity (mean importance score 3.9). The least important setting was encountering other visitors (mean importance score 2.2) (Table 4-19).

Research Questions

(I) Are users who feel a particular experience is important getting that experience when on the trail?

By looking at the highest eight mean level of importance scores for experience preference, we can compare these levels of importance with their levels of attainment. These results are seen in Table 4-20. A Wilcoxon nonparametric test was run to find the median significance between the importance level and attained experience. Four of the eight were considered not significantly different as related samples. Those four were to enjoy scenery, to enjoy the smells and sounds of nature, to be close to nature and to feel healthier and improve my health. A majority of the experiences that were considered very important were attained at a similar, or higher mean score. To enjoy scenery (mean importance 4.6) was attained at an exact same mean, as well as to experience nature (mean importance 4.6), to be close to nature (mean importance 4.5), and to enjoy the smells and sounds of nature (mean importance 4.4). Thus, on average, the respondents reported achieving these four important attributes during their trail experience. Similar findings can be seen in past studies. In a study that measured motivations on four different rivers, they found that there were similar motivations at each area, like view scenery, but then differed on others (Knopf and Lime, 1984). Not one of the categories had an attained mean that was less than the mean level of importance. Three experiences, to get exercise, to get away from usual demands of life, and to feel healthier or improve health, scored higher attainments than their mean importance levels (Table 4-20).

(II) Are users who feel a particular setting attribute is of importance getting that setting attribute when on the trail?

By looking at the highest eight mean desirability scores for desired setting attributes, we can compare these desires with their mean levels of attainment. In addition, a nonparametric Wilcoxon Signed Rank Test was run to find the median significance between the desired and attained setting preferences. Two out of the eight were shown to be not significantly different as related samples. Those were, a trail that requires a map or route finding, and limited amount of modified vegetation. Users' mean attainment was less than their mean desired level for four of the eight settings. These were natural area with few signs of human development, no sights or sounds of human activity, the appearance of visitor impacts, and a trail that may require a map. The setting attribute the appearance of visitor impacts is a reverse coded and possibly ambiguous attribute. It is possible that the respondents reported the level of importance as the lack of the appearance of visitor impacts while others may have had the presence of visitor impacts in mind when they responded. The highest mean attained setting was easily accessible parking lot to get to trail (mean attainment 4.3). The least attained of the eight highest desired setting was the appearance of visitor impacts (mean attainment 3.7), which is a positive outcome (Table 4-21). The fact that the setting attribute the appearance of visitor impacts was the least attained of the eight may reflect a problem of ambiguity. This varied interpretation of experiences has been seen in past studies, notably in a study on Juniper Prairie Wilderness and users interpreting challenge as both positive and negative (Patterson et al., 1998).

Tables 4-22 through 4-25 illustrate how the users in different classes distributed their ratings for the two experience preferences that were rated with high importance but fell short with significantly lower levels of attainment. The 1 to 5 ratings for tables 4-22 and 4-24 range from not important to very important, while the 1 to 5 ratings for tables 4-23 and 4-25 range from not attained to completely attained. Table 4-26 shows that 199 users felt that a natural setting with few signs of human development was very important. We then see in table 4-23 that only 122 users completely attained this setting attribute. Similarly, in table 4-24, 118 users felt that no sights or sounds of human activity were very important, but only 86 completely attained that condition (Table 4-25).

(III) What is the relationship between what experiences users feel are important and the trail class where they are recreating?

For the majority of the experiences which users expressed higher levels of importance, there was not a statistically significant difference between the experiences and trail classes. Only two of the 23 were found to be statistically different. Significant differences were found with the experiences use my own equipment ($p=.012$) and to experience solitude ($p=.037$). To use my own equipment differed between trail classes one (mean importance 3.4) and five (mean importance 2.7). To experience solitude differed between trail classes one (mean importance 4) and three (mean importance 3.6) (Table 4-26).

(IV) What is the relationship between which setting attributes users feel are important and the trail class where they are recreating?

Out of the 13 setting attributes, five show significant differences between trail classes. The setting attribute developed facilities saw a difference ($p=.001$) in trail classes 1 (mean importance 2.2) and 5 (mean importance 2.9) and trail classes 3 (mean importance 2.4) and 5 ($p=.015$). Ability to see different recreational activities differ between trail classes 1 (mean importance 2.0) and 3 (mean importance 2.4) ($p=.042$). Trail classes 1 (mean importance 4.1) and 5 (mean importance 3.5) also showed significant difference with the experience no sights or sounds of human activity item ($p=.008$). There were differences between more than one pair of classes with the setting attribute a trail that may require a map or route finding, which was in trail classes 1 (mean importance 3.8) and 3 (mean importance 3.3) ($p=.006$) and 1 and 5 (mean importance 3.1) ($p=.001$). There was also more than one class difference with the attribute a natural area with few signs of human activity, which was in trail classes 3 (mean importance 4.3) and 5 (mean importance 3.9) ($p=.038$) and 1 (mean importance 4.4) and 5 ($p=.009$) (Table 4-27). All of these differences are consistent with what we would expect given the different levels of development between the trail classes. For example, it makes sense that developed facilities were of lowest importance to trail class 1 hikers, a little more important to trail class 3 hikers and higher yet for trail class 5 hikers.

This concludes the presentation of results. Conclusive findings, implications and discussion of the results follow in the next chapter.

Table 4-1. Percentage of respondents in each class

	Class 1 (%)	Class 3 (%)	Class 5 (%)
Percent	22.7	62.4	14.9
n	96	264	63

Table 4-2. Frequency distribution of age of respondents

Age	N	%
21-25	4	1.1
26-30	9	2.4
31-35	11	3.0
36-40	12	3.2
41-45	26	7.0
46-50	25	6.8
51-55	46	12.4
56-60	48	13.0
61-65	71	19.2
66-70	60	16.2
71-75	43	11.6
76-80	8	2.2
81-85	3	.8
86-90	1	0.3
No Response	53	

n=423

Table 4-3. Mean age by class

	Mean Age
Class 1	57.4
Class 3	58.0
Class 5	58.2

Table 4-4. Male/female by class

	Class 1 (%)	Class 3 (%)	Class 5 (%)
Male	64.6	63	55.4
Female	35.6	37	44.6
n=	96	264	63

Table 4-5. Frequency distribution of respondents duration as FTA member

Duration as FTA Member	n	%
1 year or less	80	20.3
2-5 years	144	36.5
6-10 years	67	17.0
More than 10 years	94	2.5
No Response/not a member	35	

n=423

Table 4-6. Number of people in respondent's group on FNST (including respondent)

Number of People	n	%
1-5	288	71.1
6-10	59	14.6
11-15	30	7.4
16-20	13	3.2
21-25	9	2.2
26-30	6	1.5
31-35	2	0.5
36-40	2	0.5
41-45	0	0
46-50	0	0
50+	4	1
No Response	18	

n=423

Table 4-7. Type of group respondent was traveling with

Group Type	N	%
Family in addition to spouse	29	7.1
Spouse only	49	11.4
Friends	101	23.5
Established club or group	142	33
Other	87	20.2
No Response	22	

n=423

Table 4-8. Type of group respondent was traveling with by class

	Class 1 (%)	Class 3 (%)	Class 5 (%)
Family in addition to spouse	6.5	8.5	1.8
Spouse only	12	10.8	18.2
Friends	30.4	24.7	16.4
Established Club or Group	26.1	35.9	43.6
Other	25	20.1	20
n=	96	264	63

Table 4-9. Miles on trail

Distance	N	%
Less than a mile	1	0.2
1-3 miles	41	10.0
4-5 miles	103	25.0
5-10 miles	150	36.4
Over 10 miles	117	28.4
No Response	18	

n=423

Table 4-10. Miles on trail by class

	Class 1 (%)	Class 3 (%)	Class 5 (%)
Less than a mile	0.0	0.4	0.0
1-3 miles	3.2	10	21.1
4-5 miles	22.3	26.3	24.6
5-10 miles	34.0	39.4	28.0
Over 10	40.4	23.9	26.3
n=	96	264	63

Table 4-11. Time spent on trail by class

	Class 1 (%)	Class 3 (%)	Class 5 (%)
One hour or less	1.1	2.7	3.5
A few hours	19.1	23.8	50.8
Half a day	31.9	44.2	21.1
One entire day	20.2	11.5	12.3
More than one day	27.7	17.7	12.3
n=	96	264	63

Table 4-12. Number of times on trail in past year by class

	Class 1 (%)	Class 3 (%)	Class 5 (%)
1-5	45.3	34.4	34.0
6-10	25.3	25.5	20.3
11-15	12.6	10.8	18.6
15-20	4.2	8.1	3.4
21 or more	12.6	21.2	23.7
n=	96	264	63

Table 4-13. Activities

Activity	n	%
Hiking	397	94.7
Wildlife Viewing	207	49.3
Nature Photography	151	35.7
Picnicking	101	24.5
Primitive Camping	83	21.1
Other	58	13.4
Campground Camping	38	8.6
Bicycling	10	2.7
Jogging/Running	11	2.7
Group Tour	9	2.0
Horseback Riding	2	0.5
Mountain Biking	1	0.5

n=423

Table 4-14. Skill level of hikers by class

	Class 1 (%)	Class 3 (%)	Class 5 (%)
Beginner	3.1	2.3	9.5
Competent	27.1	33.7	31.7
Proficient	55.2	44.7	38.2
Expert	14.6	19.3	20.6
n=	96	264	63

Table 4-15. Region location of respondents

Region	n	%
Panhandle	120	27.9
Northern	67	15.6
Central	174	40.5
Southern	69	16.0

n=423

Table 4-16. Did overall experience meet expectation

	Class 1 (%)	Class 3 (%)	Class 5 (%)
Yes	98.9	94.8	96.5
No	1.1	5.2	3.5
n=	96	264	63

Table 4-17. Was something missing that could have improved your experience

	Class 1 (%)	Class 3 (%)	Class 5 (%)
No	86.8	74.9	75.9
Yes	13.2	25.1	24.1
n=	96	264	63

Table 4-18. Importance of experience means (all classes)

Experience	n	Mean*
To enjoy scenery	413	4.6
To experience nature	405	4.6
To be close to nature	397	4.5
To enjoy the smells and sounds of nature	391	4.4
To get exercise	409	4.4
To feel healthier or improve my health	397	4.3
To explore the area	393	4.1
To get away from usual demands of life	362	4.1
To relax physically	388	3.9
To learn more about nature	366	3.8
To be with people who enjoy the same things I do	367	3.7
To experience new and different things	352	3.7
To experience solitude	339	3.7
To be with members of my group	331	3.4
To learn about natural history of the area	351	3.4
To test my skills and abilities	342	3.4
To be away from people	333	3.3
To do something with my family	272	3.2
To be on my own	334	3.2
To use my own equipment	317	3.1
To share my skills and knowledge with others	325	2.9
To have thrills and excitement	313	2.8
To meet new people	300	2.7

*1=Not important, 2=Somewhat important, 3=Neutral, 4=Important, 5=Very important

Table 4-19. Setting preference means (all classes)

Setting Attribute	n	Mean*
Natural area with few signs of human development	389	4.3
No sights or sounds of human activity	366	3.9
Easily accessible parking lot to get to trail	384	3.7
The appearance of visitor impacts (graffiti, trash, fire pit ashes etc...)	340	3.5
Limited amount of modified vegetation	356	3.5
A trail that may require a map or route finding	347	3.4
Human-made construction to help with trail access	367	3.4
Interpretive and informational/directional signs	367	3.4
Narrow passageway/obstacles	333	2.9
Posting of rules and regulations	334	2.8
Developed facilities	334	2.4
Ability to see different types of recreational activities	298	2.3
Encountering other visitors	294	2.2

*1=Not important, 2=Somewhat important, 3=Neutral, 4=Important, 5=Very important

Table 4-20. Importance of experience and level of attainment means (all classes)

Experience	Mean Importance	Mean Level of Attainment**	W value
To enjoy scenery	4.6	4.6	-.470
To experience nature	4.6	4.6	-1.963*
To be close to nature	4.5	4.5	-.166
To enjoy the smells and sounds of nature	4.4	4.4	-.826
To feel healthier or improve my health	4.3	4.4	-1.513
To get exercise	4.3	4.6	-5.233*
To explore the area	4.1	4.1	-4.460*
To get away from usual demands of life	4.1	4.3	-3.983*

*Significant median sample sizes

**1=Not attained, 2=Somewhat attained, 3=Neutral, 4=attained, 5=completely attained

Table 4-21. Setting preference and level of attainment means (all classes)

Setting Attribute	Mean Importance	Mean Level of Attainment**	W value
Natural area with few signs of human development	4.3	3.9	-5.771*
No sights or sounds of human activity	3.9	3.6	-3.420*
Easily accessible parking lot to get to trail	3.7	4.3	-8.773*
Limited amount of modified vegetation	3.5	3.7	-1.508
The appearance of visitor impacts (graffiti, trash, fire pit ashes etc...)	3.5	3.2	-3.063*
Interpretive and informational/directional signs	3.4	3.7	-3.976*
A trail that may require a map or route finding	3.4	3.3	-1.362
Human-made construction to help with trail access	3.4	3.8	-5.366*

*Significant median sample sizes

**1=Not attained, 2=Somewhat attained, 3=Neutral, 4=Attained, 5=Completely attained

Table 4-22. Number of users in ratings of importance

Trail Class	Rating of Importance				
	1	2	3	4	5
Class 1	3	1	6	24	54
Class 3	4	6	30	82	124
Class 5	1	4	13	14	21
Total	8	11	49	120	199

Chi-Square-18.833

Table 4-23. Number of users in ratings of attainment

Trail Class	Rating of Attainment				
	1	2	3	4	5
Class 1	1	5	14	32	36
Class 3	3	18	49	78	76
Class 5	4	4	20	12	10
Total	8	27	83	122	122

Chi-Square- 23.469

Table 4-24. Number of users in ratings of importance

No Sights or Sounds of Human Activity					
Trail Class	Rating of Importance				
	1	2	3	4	5
Class 1	3	2	16	28	37
Class 3	9	21	35	91	72
Class 5	2	4	19	18	9
Total	24	27	70	137	118

Chi-Square-21.769

Table 4-25. Number of users in ratings of attainment

No Sights or Sounds of Human Activity					
Trail Class	Rating of Attainment				
	1	2	3	4	5
Class 1	1	6	22	32	27
Class 3	9	31	60	65	49
Class 5	4	5	15	12	10
Total	14	42	97	109	86

Chi-Square-10.968

Table 4-26. Comparison of experience means by trail class

Experience	Overall Mean	Class 1 (n=96)	Class 3 (n=264)	Class 5 (n=63)	ANOVA F-test	Tukey Post Hoc
To enjoy scenery	4.6	4.7	4.6	4.5	1.5	1,3,5
To experience nature	4.6	4.7	4.6	4.6	0.7	1,3,5
To be close to nature	4.5	4.5	4.5	4.5	0.0	1,3,5
To enjoy the smells and sounds of nature	4.4	4.4	4.4	4.3	0.3	1,3,5
To get exercise	4.4	4.5	4.3	4.5	2.1	1,3,5
To feel healthier or improve my health	4.3	4.3	4.3	4.3	0.0	1,3,5
To get away from usual demands of life	4.1	4.2	4.0	3.0	1.4	1,3,5
To explore the area	4.1	4.2	4.1	4.0	1.0	1,3,5
To relax physically	3.9	3.9	3.8	3.7	0.7	1,3,5
To learn more about nature	3.8	3.8	3.8	3.9	0.1	1,3,5
To be with people who enjoy the same things I do	3.7	3.8	3.7	3.6	0.6	1,3,5
To experience new and different things	3.7	3.8	3.7	3.5	1.8	1,3,5
To experience solitude	3.7	4.0	3.6	3.6	3.3	1>3, 5
To learn about natural history of the area	3.4	3.3	3.4	3.5	0.8	1,3,5
To test my skills and abilities	3.4	3.6	3.3	3.3	2.4	1,3,5
To be with members of my group	3.4	3.3	3.5	3.2	1.6	1,3,5
To do something with my family	3.3	3.2	3.3	3	0.9	1,3,5
To be away from people	3.3	3.6	3.2	3.2	2.5	1,3,5
To be on my own	3.2	3.5	3.1	3.2	2.4	1,3,5
To use my own equipment	3.1	3.4	3.0	2.7	4.5	1>5, 3
To share my skills and knowledge with others	2.9	3.0	3.0	2.7	1.2	1,3,5
To have thrills and excitement	2.8	2.9	2.8	2.7	0.4	1,3,5
To meet new people	2.7	2.7	2.7	2.7	0.0	1,3,5

1=Not important, 2=Somewhat important, 3=Neutral, 4=Important, 5=Very important

Table 4-27. Comparison of setting means by trail class

Setting Attribute	Overall Mean	Class 1 (n=96)	Class 3 (n=264)	Class 5(n=63)	ANOVA F-test	Tukey Post Hoc
Natural area with few signs of human development	4.3	4.4	4.3	3.9	4.5	1>5, 3>5
No sights or sounds of human activity	3.9	4.1	3.9	3.5	4.5	1>5, 3
Easily Accessible parking lot to get to trail	3.7	3.7	3.6	3.6	0.3	1,3,5
The appearance of visitor impacts (graffiti, trash, fire pit ashes etc...)	3.5	3.5	3.5	3.5	0.0	1,3,5
Limited amount of modified vegetation	3.5	3.6	3.5	3.4	0.4	1,3,5
Interpretive and informational/directional signs	3.4	3.1	3.4	3.6	3.5	1,3,5
A trail that may require a map or route finding	3.4	3.8	3.3	3.1	7.3	1>3, 1>5
Human-made construction to help with trail access	3.4	3.1	3.4	3.5	2.7	1,3,5
Narrow passageway/obstacles	2.9	3.0	2.9	2.9	0.1	1,3,5
Posting of rules and regulations	2.8	2.6	2.8	2.9	1.7	1,3,5
Developed facilities	2.4	2.2	2.4	2.9	6.4	5>3, 5>1
Ability to see different types of recreational activities	2.3	2.0	2.4	2.4	3.2	3>1,5
Encountering other visitors	2.2	2.0	2.3	2.3	1.3	1,3,5

1=Not important, 2=Somewhat important, 3=Neutral, 4=Important, 5=Very important

CHAPTER 5 FINDINGS AND DISCUSSION

Findings

Overall, this study revealed that over 95% of FNST users in this self-selected sample had their expectations mostly met, on average. The study revealed that all of the experiences and setting preferences that were considered to be more important by respondents were attained to some extent but that a few were not completely attained or attained a lower level than desired, on average.

Limitations

This study was conducted with the understanding of the following limitation conditions.

1. Length of survey may have discouraged participation or completion.
2. Survey administration was limited to email addresses provided by the Florida Trail Association and does not include everyone who has hiked the trail.
3. The sample was limited to members and lapsed members of the FTA, to the best knowledge of the researcher.

Delimitations

The study was delimited to users of the FNST during late winter and early spring months of 2013.

Demographics Discussion

Of the 423 useable surveys, the highest number of respondents were recreating in a trail class 3 setting. In all three trail classes, there were more males than females, but the highest percentage of females were recreating in trail class 5 areas. In regards to the hiking skill level of respondents, the highest percentage of beginners were recreating in trail class 5 areas and the highest number of proficient hikers were recreating in trail class 1 areas. This parallels with the trail class setting's attributes.

The type of facilities and recreation experience in trail class 1 areas could be considered as more appealing for a user that has more experience. The trail class 5 setting attributes could be considered more appealing to someone with little to no experience. In addition, in trail class 3, there was the highest percentage of users who had been on the trail over 21 times. In regards to the type of groups users were recreating with, in trail class 1, the highest percentage of respondents were recreating with friends, whereas in trail classes 3 and 5, the highest percent were recreating with an established group. It is interesting to find that users in trail class 1 areas more frequently were hiking with friends. Perhaps the users are looking for a more intimate experience, rather than an experience with a larger group of people. Although, it's not surprising that this pool of respondents were frequently recreating with an established small group of friends since the users were FTA members. Trail class 1 settings had a higher percentage of users recreating on the trail for the longest distance. In addition, the trail class 1 and 3 settings had the highest percentage of users on the trail for a longer amount of time than respondents in trail class 5. This agrees with the respondents' level of hiking experience and reveals that users in trail class 1 are more likely to want a more advanced experience, on average.

Research Questions Findings and Discussion

(I) Are users who feel a particular experience is important getting that experience when on the trail?

Of the eight experiences that were rated with the higher levels of importance, all of them had a mean level of attainment higher than 4 (attained). This leads one to believe that users, on average, are experiencing the experience domains they feel are important. It is important to note that the two highest rated experience preferences to

enjoy scenery and to experience nature were also two of the three highest attained experience preferences. The other highest attained experience preference was to get exercise. This preference was rated as a 4.3 in importance, but a 4.6 on the level of attainment. It is a positive benefit that the FNST provides the opportunity to get exercise, even beyond the importance level users, on average, mentioned for recreating on the trail.

In regards to the most frequently preferred experiences, there have been similar findings in other REP studies. Past studies have found that users prefer the REP domains that provide nature, physical and mental health, and social bonding (Anderson et al., 2008; Stein & Lee, 1995). Here we find that the experiences that involve nature and physical health have been preferred the most. Perhaps the older clientele that responded to the survey are more attuned to health aspects, since they are older?

The experiences with the highest importance level fit in two domains, nature and physical health. Looking at these domains from a distance, one can assume that they can be achieved on a trail with minimal managerial effort. When it comes to the attributes of another domain, such as view scenery, it is apparent that the ability to experience nature in that respect may require more planning and management actions.

It is interesting to find that some of the experience preferences with the lowest ratings of importance, to share my skills and knowledge with others, and to meet new people, have to do with the social aspects of an experience. This is interesting because of the sample population being a social, hiking organization where a portion of what they do is to plan hikes for other members, as well as the general public, on the trail. At first glance it seems like joining an organization would be a social experience, although

perhaps that is not why people join, but more to support opportunities to experience nature on the trail? This may be a cue to the FTA organization to highlight nature experiences more.

Overall, this research shows that most users are attaining the experience domains they are looking for when getting out on the trail. The fact that each domain is being attained at the same level of importance or higher, on average, is a positive finding and shows that the FNST is providing the experience most users feel are important.

(II) Are users who feel a particular setting attribute is of importance getting that setting attribute when on the trail?

Contrary to the experience preferences, the setting attributes attained had a slightly different outcome. Of the eight setting attributes, only one had a mean attainment of over 4 (attained). The rest were between 3 and 4 (neutral to attained). This could partially be due to one of the setting attributes highlighting a negative aspect, and not fully attaining that attribute is a good thing for the user. There was also the possibility of ambiguous interpretation of the wording of the attribute. For example, the appearance of visitor impacts wouldn't necessarily be a setting attribute a user would want to attain, but in the instance of it being considered an important setting attribute, respondents may read it in a way where, yes it is important that there is no appearance of visitor impacts. Of the eight setting preferences most frequently rated as important, this was the only one that could be read that way.

Although this attribute had the ability to be read in a potentially ambiguous manner, the level of attainment overall was still less than the level of attainment for

some the experience preferences. Perhaps users have a stronger opinion on setting attributes, or it's easier for them to measure their attainment due to the fact they are less abstract than experiences. In addition, because the users were segmented by the trail class they hiked through, which is tied to setting attributes, their outcome would be different from the importance of experiences. This has been seen in previous studies as well. In a study on visitor preferences and their relation to ROS, Yang (1992) found that physical attributes were more reliable in classifying settings than social attributes. It is also difficult to know if displacement is occurring where those who don't expect to find a certain experience don't even attempt certain sections of trail (to avoid being disappointed) and thus are not being included in this sample, since they did not hike the FNST, or at least some segment of it they live closer to that they thought would not fulfill their desires. Perhaps they are finding their preferred alternate experience on another trail?

There were a few setting attributes that were rated with a level of high importance, but attained at a statistically significant lower mean level. For instance, the setting preference natural area with few signs of human development had a 4.3 mean level of importance, which was the highest of the eight, and was attained at a mean of 3.9. Although a mean 3.9 is very close to being "attained", it was still attained at a lower mean than its level of importance. When looking at the level of importance and attainment by trail class, we see that in trail class 1, 54 users reported the attribute as being very important and only 36 users reported that they completely attained that attribute. In trail class 3, 124 users felt the setting attribute was very important and only 76 reported that they completely attained the attribute. In addition, in trail class 5, 21

users reporting the attribute as very important and only 10 completely attained the attribute. This is worth noting due to trail class 5 users still looking for a level of natural area and they are attaining it at a lower level than users in the other trail classes, to a statistically significant degree. For the other setting attribute that users feel is important, no sights or sounds of human activity, we see a similar outcome in some ways and different in others when breaking it down into the trail class hiked. In trail class 1, 37 users feel this setting attribute is very important and 27 users reported that they completely attained the attribute. In trail class 3, 72 users reported the attribute as very important and 49 are completely attaining the attribute. In trail class 5, 9 users felt the attribute was very important and 10 are completely attaining it. It's interesting to see that in this case, users are attaining that more typical "wilderness" attribute in a trail class 5. It is important to note that in trail class 5, one user rated the setting attribute natural area with few signs of human development as not important but 4 users reported that they did not attain the attribute. In addition, in trail class 5, 2 users rated the setting attribute no sights or sounds of human activity as not important, but 4 reported that they did not attain the attribute. Overall based on the number of users and their ratings of importance, this seems to indicate that users in class 5 don't necessarily mind the appearance of human activity, but many do mind when the actual trail setting looks unnatural with human development.

Overall, the setting attributes that users feel are important are being attained at a lower mean level than experience preferences. This shows the importance of setting attributes and managerial decisions that plan and establish those.

(III) What is the relationship between what experiences users feel are important and the trail class level where they are recreating?

As previously noted, there were only two experiences that differed significantly across the three trail classes. This reveals that in most cases, users desire a similar level of a particular experience in every trail class. Users recreating on developed trails appear to prefer similar experience domains as users recreating on minimally developed trails. Perhaps the level of trail they utilized was selected more based on proximity to home, ease of access or physical ability, rather than custom selected for type of experience sought? The two that did differ, which were to use my own equipment and to experience solitude, are worth noting.

The experience use my own equipment is understandable given that more advanced equipment might be necessary or appropriate for minimally developed, or primitive trail sections compared to more developed sections of trail. For this experience preference, there was a statistically significant difference in trail class 1 (mean importance of 3.4) and trail class 5 (mean importance 2.7). This finding also fits with the idea that users in trail class 1 areas are more likely to hike a longer distance than users in trail class 3 and 5 areas. Longer distances may require more advanced equipment or users recreate in that class because they prefer to have the opportunity to use that equipment.

The fact that users in trail class 1 areas desired solitude more than users in trail class 5 areas is not surprising but worth pointing out that the survey results are exhibiting a degree of validity here. Trail class 1 users rated the level of importance as a mean of 4.0, which differed statistically from trail class 3 with a mean of 3.6. This

shows that although users in all of the trail classes prefer to experience solitude, there is a stronger preference among users recreating in trail class 1 areas. This should be taken in consideration when development occurs on minimally developed trails.

Keeping in mind that some users hold value to those more natural settings and recreate there in hopes of experiencing solitude should be respected when managing minimally developed trails.

Neither of those items was among the most important experience preferences. The highest mean importance in trail class 1 areas was to enjoy scenery (4.7) and to experience nature (4.7). This was the highest mean importance of any setting attribute in any trail class, indicating that these are of high importance to most of those recreating on minimally developed trails. For trail class 3 users, these two setting attributes were also of the most importance, but with a mean of 4.6. Users in a trail class 5 rated to experience nature on average at 4.6, the highest level of importance, with to enjoy scenery, to be close to nature, and to get exercise (4.5) as the next most important, on average. This shows those experiences and their importance ratings all high across the trail classes. This emphasizes the fact that even though a trail may in most ways be considered moderately or fully developed; managers should still strive to provide a natural and scenic experience.

(IV) What is the relationship between which setting attributes users feel are important and the trail class where they are recreating?

Of the 13 setting attributes measured, five held statistically significant differences, a majority of which have to do with the natural setting and development and

trail accessibility. The study does reveal that although some settings are desired across all trail types, there are a few that are desired more in one class over others.

The setting attribute natural area with few signs of human development differed significantly between trail classes 1 and 5 and between classes 3 and 5. Users in trail class 1 had a statistically significantly higher rating of importance compared to users in trail class 5. This tells us that most users on minimally developed trails really desire a setting that is to an extent untouched by humans, or at least desire that perception. It should be noted that although there was a statistically significant difference, trail class 5 users still feel that the attribute is of a fairly high mean importance, higher than any other setting attribute. This reveals that the setting attribute is important to focus on as a manager across all trail settings, and very important, especially in trail class 1 settings.

The setting attribute no sights or sounds of human activity also held a statistically significant difference between users in trail classes 1 and 5. Again, users in trail class 1 felt that this setting attribute was more important than users in trail class 5 did. This setting attribute holds a high mean importance across all of the settings, but significantly higher in trail class 1. Staying true to that scenic, natural, 'wilderness' –type setting in trail class 1 should be a core goal for the FNST managers. The setting attribute a trail that may require a map or route finding held significantly different mean levels of importance for trail classes 1 and 3 and classes 1 and 5. Users in trail class 1 areas desired this recreation experience significantly more than users in trail class 3 and 5 areas. Users recreating in trail class 1 settings feel that an experience that provides challenge or risk-taking is important. They are recreating on that trail to experience

natural, primitive conditions. Another setting attribute that held a significant difference among more than one class setting was developed facilities. This setting attribute included things such as bathrooms, benches and pavilions. This setting attribute differs significantly between classes 5 and 3 and classes 5 and 1. Unlike other setting attributes, this attribute achieved a higher mean level in class 5. This tells us that users in trail class 1 do not feel that developed facilities are an important attribute to making their experience better. Although in trail class 5, it is something that should have more focus on from managers. In a study on trail classifications in national parks, findings were similar. Oishi (2013) found that the type of visitor that preferred a natural environment also preferred accessibility. The study explains how ROS does not really encompass a classification that includes this common finding.

Finally, the last setting attribute that held a statistically significant difference was the ability to see different types of recreational activities, which differed between classes 3 and 1. Users in trail class 1 areas do not feel that experiencing different recreational activities is important. Considering the fact they also prefer no sights or sounds of human activity, this does seem to be a consistent theme.

Of the 13 setting attributes, users in trail class 1 settings did not feel that encountering other visitors, or the ability to see other recreational activities was important, and provided them with the lowest importance mean ratings in all settings and in all trail classes. Overall, there were several similarities between what setting attributes users felt were important to making their experience successful, but there were also several significant differences. Setting attributes play a large role in the user experience and should be inventoried and analyzed on a trail class by trail class basis.

As previously noted, although respondents reported that their expectations are being met, there were a high percentage of respondents who felt their experience could have been better. Several of the open-ended responses regarding how it could be better followed the main themes of less road walks and pavement, more natural settings (especially near water), better blazing of trails, improved signage and trail identification, and access to drinking water sources. These responses echo several of the other findings and are key attributes that, if addressed, could provide a better experience for some users.

These findings do not necessarily agree with the Expectancy Valence Theory, which says that users will participate in a certain activity or setting to achieve a particular outcome. The results show users recreating in trail class 5 areas even though they desire a more natural setting. Perhaps this is a result of the label “National Scenic Trail”. Given that label, it probably comes as a surprise to novice hikers or those hiking the FNST for the first time (which may occur frequently given the number of tourists in the state), that there are class 5, and maybe even class 4 areas on a “National Scenic Trail”. Some of these sections of trail are gaps and will eventually be relocated, but is it unreasonable that persons hiking on a trail with that label have expectations of seeing mostly natural areas with less indications of human development? Perhaps the idea of having class 4 and 5 areas included as part of such a trail needs to be reconsidered? Alternatively, as mentioned previously, perhaps users are utilizing class 5 areas merely for convenience or proximity but still prefer more natural environs? Or, perhaps, some inner city residents who are hikers that are even more surrounded by urban development at home find even the slightly less developed

class 5 trail areas that have some natural features at least comparatively scenic contrasted with their home settings?

Implications for the Florida National Scenic Trail and Managers

Because the FNST is Florida's only congressionally designated national scenic trail that spans the state of Florida, additional research should be considered when it comes to future planning and management. The FNST is not complete and only reaches end to end by gap trails (temporary connecting segments that in most cases are not designated FNST and may utilize existing roads or private lands (with permission)) that are maintained by volunteers. In order to complete the FNST as originally envisioned, many sections need to be acquired by public agencies, built, relocated or reconsidered. What experiences and setting attributes users feel are important should be thought through when making these changes.

This research reveals several applicable items that should be taken into consideration when making decisions towards the building and maintaining of the FNST. In regards to the findings based on what experiences and setting preferences users feel are important and if they are attained, there are a few areas managers should focus on. The fact that a few of the setting attributes are being attained at a lower level than their level of importance to the users reveals that this is an area that should be a priority. A natural area with few signs of human development is one of these lesser attained attributes. This was also the setting attribute with the highest level of importance among each trail class, which emphasizes its contribution to the user experience. Clark and Stankey (1979) suggest that subtle techniques, for instance site design (such as screening vegetation), the level of interpretive or posted rules information provided to users on the trail or legal sanctions, if needed, can affect this.

The ROS recommends when it comes to posted regulations in a more primitive setting, or minimally developed trail, only the necessary information for that particular area should be provided.

The other lesser attained setting attribute, no sights or sounds of human activity, should also be an aspect to focus on for improvement. This setting attribute had the second highest level of importance across trail classes 1 and 3, and ranked third in trail class 5. Again, being able to provide feelings of solitude and the perception of a lack of human activity is very important to the user experience, even in moderately to fully developed trails. Clark and Stankey (1979) indicate that management can have a large effect on interaction levels. They suggest that variations in vegetation patterns and standards of user density can be applied to control what users are experiencing.

The study also revealed that users in trail class 5 areas value a natural experience, but also value facilities. The best way to meet the needs of users in trail class 5 areas is to maintain and provide facilities where needed, while also keeping in mind the need for naturalness and solitude. Overall, the best way to meet the expectations of various users in each trail class is to analyze the trail class of the particular section of trail and apply various managerial techniques to provide the maximal natural experience possible for that area. Managers should not dedicate materials and money on structures or facilities along minimally developed trails when users desire natural settings there. Those resources should be focused on fully developed trails or on some parts of moderately developed trails. Providing a sense of natural environment and the feeling of remoteness should be applied to all trail classes to the extent possible. Putting a class 5 trail in a location that has screening natural

vegetation to block sounds and sights of being in an urban or more developed area is worth considering. If infrastructure is needed in trail class 1 areas, materials should be utilized that give a natural appearance and will endure in the outdoors damp environment. It should also be realized that adding substantial infrastructure to a class 1 area, is likely to result in it being reclassified into a class 2-4 area, and there would be a decrease in the distance of class 1 trails for that region.

With the ROS, Clark and Stankey (1979) reveal that inconsistencies, for instance a paved parking lot in a trail class 1, do occur and should be reevaluated. Consider if the benefits outweigh the costs or the level of users' satisfaction and objectives are being met by such additions

Clark and Stankey (1979) suggest four elements in regards to site management. In regards to making modifications to a recreation area, they suggest managers look at the extent of the modification, the apparentness of the modification, the complexity of the modification and the presence of facilities. Is the change in more than one area? Are the materials contributing to the sense of naturalness and are native materials being used? Can the infrastructure be a simple task or does it requiring engineering? Are the added facilities for convenience or for safety, what level of facility is needed and is the facility appropriate there? Managers should ask these questions on a class-by-class, section-by-section basis.

Managers should take into consideration the attributes that the respondents identified when asked was something missing that could have improved their experience. As previously noted, the main themes involved less road walks and pavement, more natural settings (especially near water), better blazing of trails,

improved signage and trail identification, and access to drinking water sources (Appendix A4). These should be developed into concrete attainable action items. The themes could potentially be the basis to produce additional standards incorporated into the TCM, specific to the FNST. According to Lime, Anderson, and Thompson (2004, p. iv), standard is defined as the “minimally acceptable condition of indicator variables.” Before the themes could be developed into various standards, they would have to be developed into indicators. Indicators are “specific, measurable variables that reflect the conditions of an overall park resource or management zone,” (Lime, Anderson and Thompson (2004, p.iii). An inventory of a particular section of trail would be performed that identified specific variables that indicate quality. For example, the number of FNST signs per 5-miles within a specific trail class. The standard would then be developed based on the number of FNST signs that would create the desired outcome. According to the data, users on trail class 5 areas reported a higher mean level of importance in regards to the attribute interpretive and informational/directional signs than trail class 1 and trail class 3 users. This means, the standard, or number of FNST signs, should be higher in trail class 5 areas. As of now, the FNST TCM provides trail parameters, which specifically focus on trail and tread attributes and does not include parameters for things such as blazing or signs.

Managers should be empowered to share the TCM classification system with the public and inform users of the various trail classes present on the FNST and what they can expect on that particular trail segment. Well-informed users can then choose the most appropriate location for their activity based on what outcomes they are looking for. Providing users with this information and the opportunity to choose a section of trail

based on what experience they are looking for will also help managers better understand the demand for various types of trails (Clark and Stankey, 1979).

Recommendations for Future Research

This study provided insight into the users of the FNST and what they are looking for when it comes to particular recreation experiences and settings on the FNST. It showed the desired experience in relation to the trail class the user was recreating in. It also examined trail setting preferences and whether or not those are being fulfilled.

Similar research could provide useful information on other trails, and potentially other trails that the FTA maintains. Perhaps users on the various loop and side trails that the FTA maintains are different than FNST users? In the future, more specific questions might be targeted as to whether the respondent utilized the main spine FNST or primarily access loop or side trails.

As noted in the discussion of results, there was a potential for ambiguity in the interpretation of the importance and attainment of the appearance of visitor impacts item. In future studies, a more clearly worded version of this item should be used, such as how important is it to you that there is no evidence (little evidence?) of visitor impacts. And, on the attainment side, did you encounter evidence of visitor impacts or no (little?) evidence of visitor impacts was observed.

In addition, often times in Florida, trails that go through a primitive or wilderness setting have the potential to be soaked or flooded and require some form of boardwalk or bridge infrastructure. Research based on what type of structures users prefer to provide them with access to natural, wilderness environments may be beneficial to meeting user needs and expectations

More research should be focused on the USDA FS and FNST Trail Class Matrix. Most current research regarding setting and experience is based on the ROS and WROS framework. According to the FNST TCM, users recreating in trail class 1 areas can expect a natural unmodified setting with low to no human impact on the environment. They can also expect a recreation experience that requires advanced planning, a great degree of self-sufficiency, a high likelihood of wildlife encounters, and native ecosystems. More detail could be provided in regards to the recreation experience and further research should be done to develop the matrix even further. The TCM classification system is now being applied towards trails across the country, and more research should be applied towards the effectiveness and correlation to various types of trails and users desired outcomes.

There is additional need for further research on the FNST. The Trail is very different from other national scenic trails in many ways. Most other trails have substantial elevation changes and often more wide open, elevated vistas, in cooler environments. The FNST is not complete and there are non-FNST designated gaps that run along roads and through private property. Those segments are not always meant to be permanent locations, but assist users in getting from one end to the other. Giving trail administrators the tools they need to make the most informed decisions when maintaining, altering or and choosing trail locations is important.

The guidelines provided by the National Trails System Act requires that national scenic trails be located “to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass” (USC, vol. 16,

Section 3). The research conducted in this study and the additional studies recommended should assist the administrators of the Florida National Scenic Trail in understanding how to more effectively reach those goals based on hiker's perceptions.

APPENDIX A
TABLES AND RESPONSES

Table A-1. Respondents: male or female

FNST Status	N	%
Male	245	62.2
Female	149	37.8
No Response	36	

N=423

Table A-2. Frequency distribution of respondent educational background

Education Level	n	%
High school graduate or GED	14	3.5
Some college	72	18.2
College graduate	123	31.1
Some graduate school	42	10.6
Graduate degree or higher	144	36.4
No Response	35	

n=423

Table A-3. Frequency distribution of respondent annual household income level

Income Level	n	%
Less than \$10,000	5	1.2
\$10,001 to \$19,999	7	1.6
\$20,000 to \$29,999	15	43.5
\$30,000 to \$39,999	22	5.1
\$40,000 to \$49,999	30	7.0
\$50,000 to \$59,999	28	6.5
\$60,000 to \$69,999	30	7.0
\$70,000 to \$79,999	43	10.0
\$80,000 to \$89,999	25	5.8
\$90,000 to \$99,999	23	5.3
\$100,000 to \$129,999	55	12.8
\$130,000 or more	62	14.4
No Response	85	

n=469

Appendix A-4

Users' Response to Question: Was there anything missing that could have made your experience more enjoyable?

No detour at Oak Park Bridge

Better trail signage

Bridges useable by my dogs. Some of the single 4"x4" bridges over protected wetlands are two (sic) narrow for a dog

More streams/ rivers/ lakes

More hills

Footbridge over Blount Creek and Alaqua Creek or marked high water trail

More time in the woods alone

Any day in the woods is perfect

Avoid clear cuts and forest or logging roads

Trail in better condition

Better trail blazing in a few areas, and full access to Eglin section

More interpretive signage

Better blazing

To view more wildlife.

More blazes

Way too much road walk on some dangerous roads. Crossing over in the panhandle

In NE many others to interact on trail. In Florida, nobody is ever out there.

I didn't encounter any other hikers, meeting some hikers would have been nice.

Move the trail off of the roads.

There was some broken glass and litter

More connecting trails and less road hiking

Better bridges, board walks overlooking wetlands (sic)

More frequent trail maintenance and trash abatement education

Access to treatable water

Restroom and drinking water facilities that were open.

Updated data book, less road walk

Reroute it into natural environment.

Plant identification signs would be nice

Yes we need a branch of the florida trail into jacksonville or ne florida (sic)

Some Parking

Availability of topographic maps for the area

More wildlife

More of trail routed back into woods

A parking area on SR20

Allow limited hunting in this WMA during non-handicap hunting times

We attended this area after a hard freeze which affected the blooming season

For parts of the trail not to be closed but open.

More remote, fewer rules, fewer people

Fewer ATV trails in Ocala Nat Forest. Remove the Rainbow Gathering

A couple more "This many miles till this point" signs would have been ok
Fewer burned down trees and plants
Mountains - ;)
Less encroachment by horses and ATVs
Less dogs on road walks
More consistent access to resupply.
Less road walk
Accurate documentation of available water, and more frequent availability of water.
Easy to get lost in hammocks and open prairies, markings missing or poorly visible
Better map of access areas and facilities
Short on primitive campsites away from the forest roadways and within range of the FT
Bathroom at parking
Better signage
More river over looks
Would like more access to the trails during hunting season
Southern 2 miles of tosohatchee could use some maintenance
Interpretive and directional signage
Better information for non Florida Trail members.
Better blazes
More accurate mapping on the trail and trail location/mile markers.
More trees in Orlando wetlands park along the trail
From the Van Fleet trail to Kisseme (sic) there are very few signs that the trail exists
Did not enjoy paved part of trail that was previously dirt footpath
Did not like hiking on or next to highways and roads
More periodic water sources, natural or manmade.
More trail access to the Wekiva River
Less people, less pavement
More natural (sic) walking surface
Better water crossings
Trees, haha, they had clear cut some of the timber :)
Fewer shared buggy trails
More standing water
Waist high boots
Less road walking
A loop trail so that we didn't have to go out and back
Shade
More solitude and less man-made stuff
Permission by Federal park system to allow physical geocaches
Water pumps for drinking
More Native Vegetation (sic)
Easier access, but we made it anyway
Water and privies

APPENDIX B
FNST USER SURVEY

1 Have you ever hiked on the Florida National Scenic Trail (FNST)?

Yes

No

I don't know

2 How often do you hike on natural trails in general?

Once a week

More than once a week

Once a month

More than once a month

Once a year

Less than once a year

3 How would you describe your skill level as a hiker?

Beginner

Competent

Proficient

Expert

4 Have you been hiking in Florida in the past four months?

Yes

No

5 Were those hikes on the Florida National Scenic Trail?

Yes

No

I don't know

6 Approximately how long ago was your last hike on the Florida National Scenic Trail?
(weeks)

7 In what year did you take your first hike on the Florida National Scenic Trail?

8 Over the past year, how many times have you hiked on the Florida National Scenic Trail?

The following questions relate to your most recent hike on the Florida National Scenic Trail.

10 Where was the location of the FNST section of trail you were on most recently?
(MAP)

Panhandle

Northern

Central

Southern

11 Panhandle Region (MAP)

- 1-St. Marks National Wildlife Refuge & St. Marks Rail Trail
- 2-Apalachicola National Forest
- 3-Blountstown Greenway
- 4-Econfina Creek Water Management Area
- 5-Pine Log State Forest
- 6-Lafayette Creek & Nokuse Plantation
- 7-Eglin Air Force Base
- 8-Gulf Islands (GUINS, Santa Rosa County Navarre Beach, Pensacola Beach)
- 9-Blackwater Side Trail

12 Northern Region (MAP)

- 1-Rice Creek Conservation Area
- 2-Etoniah Creek SF to Keystone Airpark & Palatka-Lake Butler State Trail
- 3-Plum Creek
- 4-Osceola National Forest & Olustee Battlefield State Park
- 5-Deep Creek & Suwannee Valley Conservation Areas
- 6-Forest Service Tracts & Stephen Foster State Park
- 7-Swift Creek & Camp Branch Conservation Areas
- 8-Suwannee River Farms Management Area
- 9-Holton Creek & Lower Alapaha Conservation Area
- 10-Suwannee River State Park
- 11-Twin Rivers State Forest

12-Aucilla River

13 Central Region (MAP)

- 1-Three Lakes Wildlife Management Area
- 2-Forever Florida
- 3-Herky Huffman/Bull Creek WMA
- 4-Tosohatchee Wildlife Management Area
- 5-Seminole Ranch Conservation Area
- 6-C.H. Bronson State Forest & Chuluota Wilderness
- 7-Mills Creek & Greene Property
- 8-Little Big Econ State Forest & Flagler Rail Trail
- 9-Cross Seminole & Seminole-Wekiva Trails
- 10-Lower Wekiva Preserve State Park
- 11-Seminole State Forest
- 12-Ocala National Forest
- 13-Cross Florida Greenway North

14 Southern Region (MAP)

14-South Region

- 1-Big Cypress National Preserve
- 2-Miami Canal Levee, L1, & L2
- 3-Lake Okeechobee
- 4-Kissimmee River Lands
- 5-Avon Park Air Force Range

6-KICCO Wildlife Management Area

11 Where did you travel from to get to that section of trail? City, State, Zip:

12 Including yourself, how many people were with you?

13 What type of group were you traveling with?

Family in addition to spouse

Spouse only

Friends

Established club or group

Other _____

14 About how long did you spend on the trail that day?

One hour or less

A few hours

Half a day

One entire day

More than one day (number of days) _____

15 Approximately how many miles did you travel on the trail during that visit?

Less than a mile

1-3 miles

4-5 miles

5-10 miles

Number of miles (if over 10) _____

16 From the list of activities below, which did you participate in that day? (Check all that apply):

Hiking

Picnicking

Sports & games

Jogging/running

Primitive camping (near trail)

Campground camping (off trail)

Nature photography

Bicycling

Mountain biking

Wildlife viewing

Horseback riding

Group tour

Other _____

17 Recreation Experience Preferences: People go to particular areas and participate in recreation activities for any number of reasons. Please slide the bar to the number seen on the top of the graph to indicate how important each experience was for you to have during your most recent visit to the FNST. (Likert Scales)

- _____ To enjoy the scenery
- _____ To relax physically
- _____ To do something with my family
- _____ To get exercise
- _____ To explore the area
- _____ To experience nature
- _____ To be on my own
- _____ To use my own equipment
- _____ To learn about natural history of the area
- _____ To be away from people
- _____ To have thrills and excitement
- _____ To learn more about nature
- _____ To meet new people
- _____ To test my skills and abilities
- _____ To enjoy the smells and sounds of nature
- _____ To get away from usual demands of life
- _____ To share my skills and knowledge with others
- _____ To be with members of my group
- _____ To be close to nature
- _____ To be with people who enjoy the same things I do
- _____ To experience new and different things
- _____ To experience solitude
- _____ To feel healthier or improve my health

18 Recreation Experience Attainment: Now that we know what experiences are important to you, we would like to know if you attained these experiences on your most recent hike on the FNST. Please slide the bar to indicate the number based on the level of attainment.(Likert Scales)

- _____ Enjoy the scenery
- _____ Relax physically
- _____ Do something with my family
- _____ Get exercise
- _____ Explore the area
- _____ Experience nature
- _____ Be on my own
- _____ Use my own equipment
- _____ Learn about natural history of the area
- _____ Be away from people
- _____ Have thrills and excitement
- _____ Learn more about nature
- _____ Meet new people
- _____ Test my skills and abilities
- _____ Enjoy the smells and sounds of nature
- _____ Get away from usual demands of life
- _____ Share my skills and knowledge with others
- _____ Be with members of my group

- _____ Be close to nature
- _____ Be with people who enjoy the same things I do
- _____ Experience new and different things
- _____ Experience solitude
- _____ Feel healthier or improve my health

19 Site Preferences: Different people might expect different things when they visit a natural area. When choosing where to go on your last hike on the FNST, please tell us how important the presence of each of the following site attributes were in your decision by sliding the bar to the number on top of graph (Likert Scale).

- _____ Easily accessible parking lot to get to trail
- _____ Interpretive and informational/directional signs
- _____ Posting of rules and regulations
- _____ Developed facilities (i.e., bathrooms, benches, pavilions, etc...)
- _____ Ability to see different types of recreational activities
- _____ Encountering other visitors
- _____ The appearance of visitor impacts (i.e., graffiti, trash, fire pit ashes, etc...)
- _____ No sights or sounds of human activity
- _____ A trail that may require a map or route finding
- _____ Limited amount of modified vegetation
- _____ Human-made construction to help with trail access (i.e., bridges over wetlands)
- _____ Narrow passageway/obstacles
- _____ Natural area with few signs of human development

20 Site Preferences Attainment: Now that we know what experiences are of importance to you, we would like to know if you attained these preferences on your most recent hike on the FNST. Please slide the bar to a number on top of the graph to indicate the number based on the level of attainment (Likert Scales).

- _____ Easily accessible parking lot to get to trail
- _____ Interpretive and informational/directional signs
- _____ Posting of rules and regulations
- _____ Developed facilities (i.e., bathrooms, benches, pavilions, etc...)
- _____ Ability to see different types of recreational activities
- _____ Encountering other visitors_____ The appearance of visitor impacts (i.e., graffiti, trash, fire pit ashes, etc...)
- _____ No sights or sounds of human activity
- _____ A trail that may require a map or route finding
- _____ Limited amount of modified vegetation
- _____ Human-made construction to help with trail access (i.e., bridges over wetlands)
- _____ Narrow passageway/obstacles
- _____ Natural area with few signs of human development

21 Did your hiking experience meet your expectations on your most recent hike?

- Yes
- No, because... _____

22 Was there anything missing that could have made your experience more enjoyable?

No

Yes (please explain) _____

23 On a scale of 1 to 10, with 10 being the perfect experience, how would you rate your experience for the most recent section of trail you hiked?

_____ Your Experience

24 Was inclement weather a major detractor from having a good experience?

Yes

No

We would like to ask a few questions about you, your background, and experiences. This information will be used for statistical analysis and in summary tables, and all individual information will remain anonymous.

26 Are you a member of the Florida Trail Association?

Yes

No

27 If yes, how long?

1 year or less

2-5 years

6-10 years

More than 10 years

I'm not a member

28 Are you...

Male

Female

29 Which of the following best describes your status

Married

Divorced

Single

In a relationship

Widowed

30 What is the highest level of education you have completed? (Please mark one)

Eighth grade or less

Some high school

High school graduate or GED

Some college

College graduate

Some graduate school

Graduate degree or higher

31 Which of the following are you presently?

Employed full time
Full time homemaker
Retired
Full time student
Employed part time
Part time student
Unemployed

32 What is your profession or occupation?

33 What year were you born?

34 What race or ethnic group(s) would you place yourself in? (Mark all that apply)

African American
Native Hawaiian or Pacific Islander
Hispanic or Latino
American Indian or Alaskan Native
Asian American
White
Other _____

35 What was your approximate total household income, before taxes this past year?

Less than \$10,000
\$10,001 to \$19,999
\$20,000 to \$29,999
\$30,000 to \$39,999
\$40,000 to \$49,999
\$50,000 to \$59,999
\$60,000 to \$69,999
\$70,000 to \$79,999
\$80,000 to \$89,999
\$90,000 to \$99,999
\$100,000 to \$129,999
\$130,000 or more

36 What is the zip code of your primary residence?

37 Are you a member of an interest group related to the management of this area?

Yes

No

38 If yes, which group(s) do you belong to?

I am a part of... _____

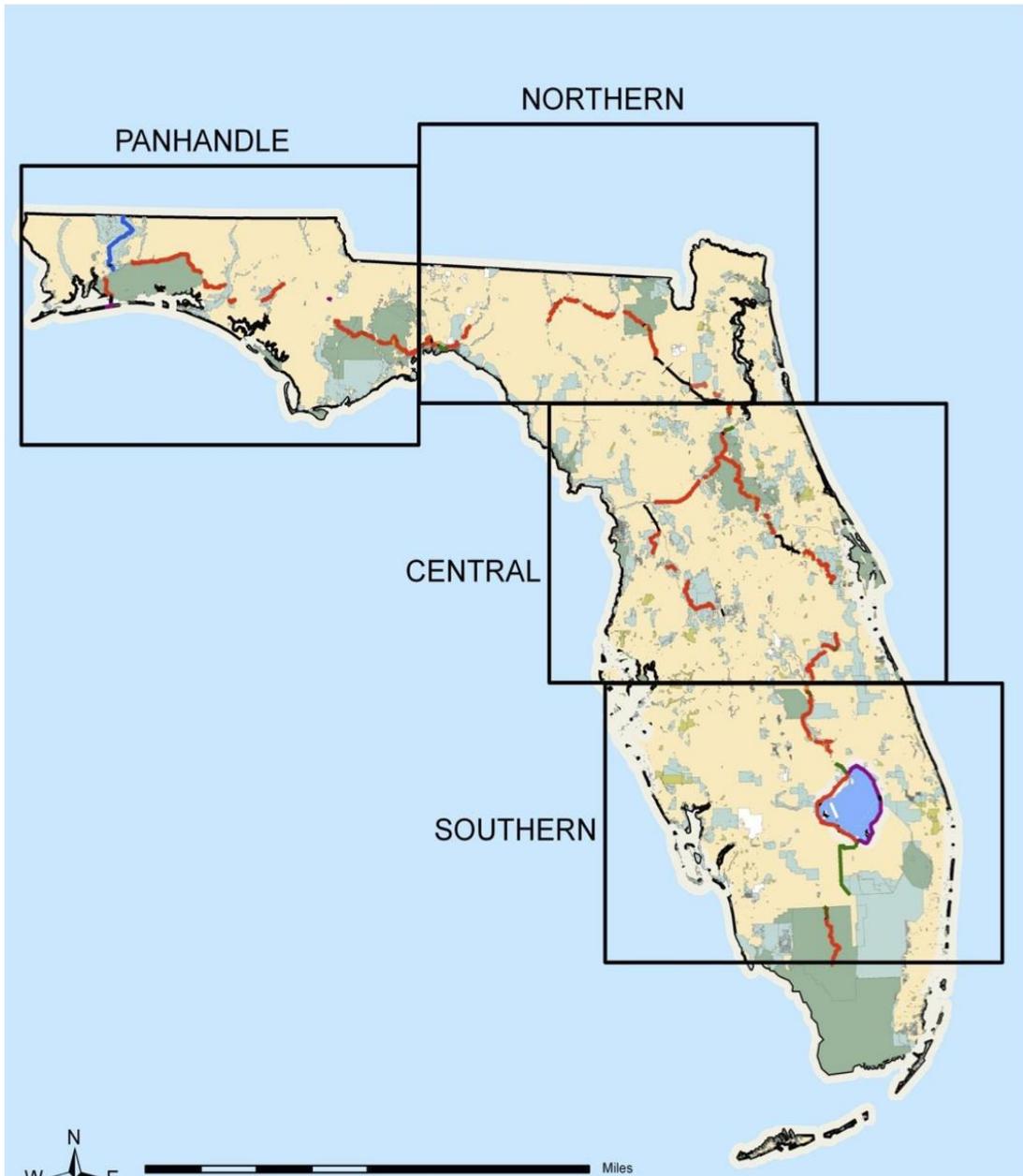
I am not a part of an interest group

39 Do you have any other comments you would like us to know related to hiking on the FNST?

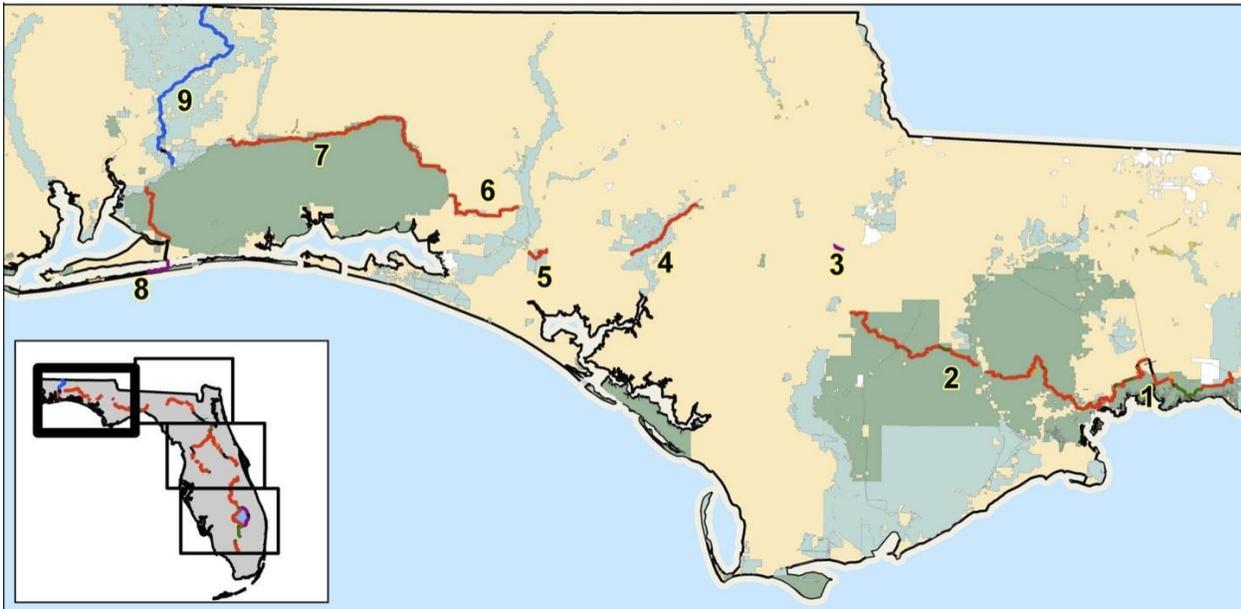
Q45 Thank you for taking the time to take this survey. For more information about the Florida Trail Association, visit www.floridatrail.org.

APPENDIX C
FNST MAPS

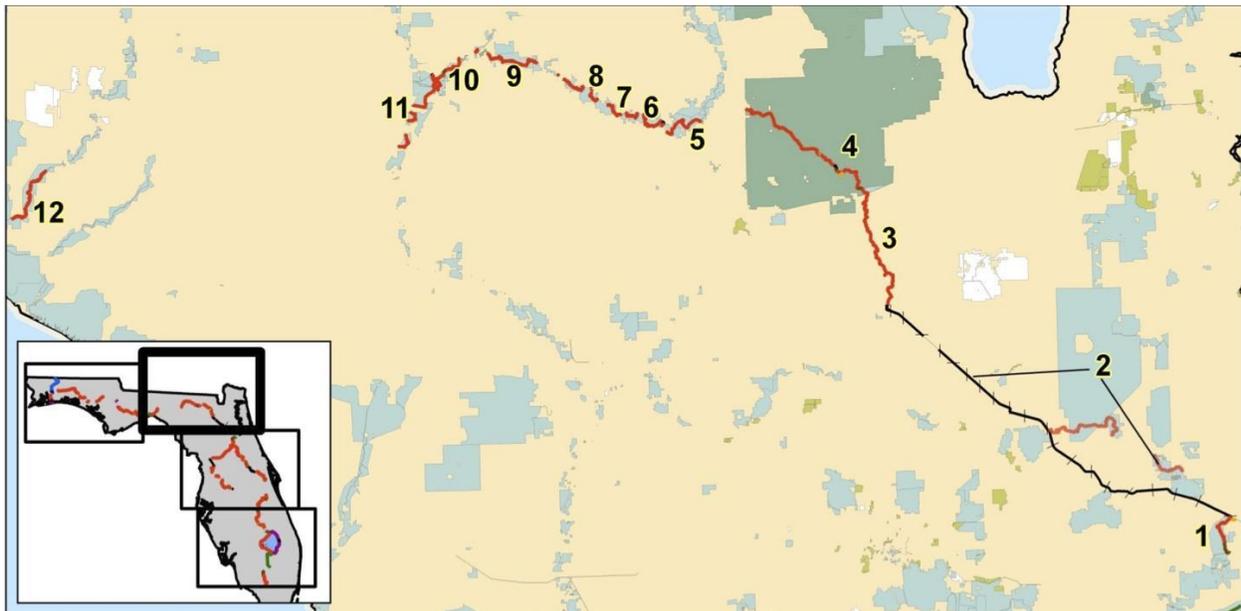
Reproduced from the USDA FS 2012 State of the Trail Report



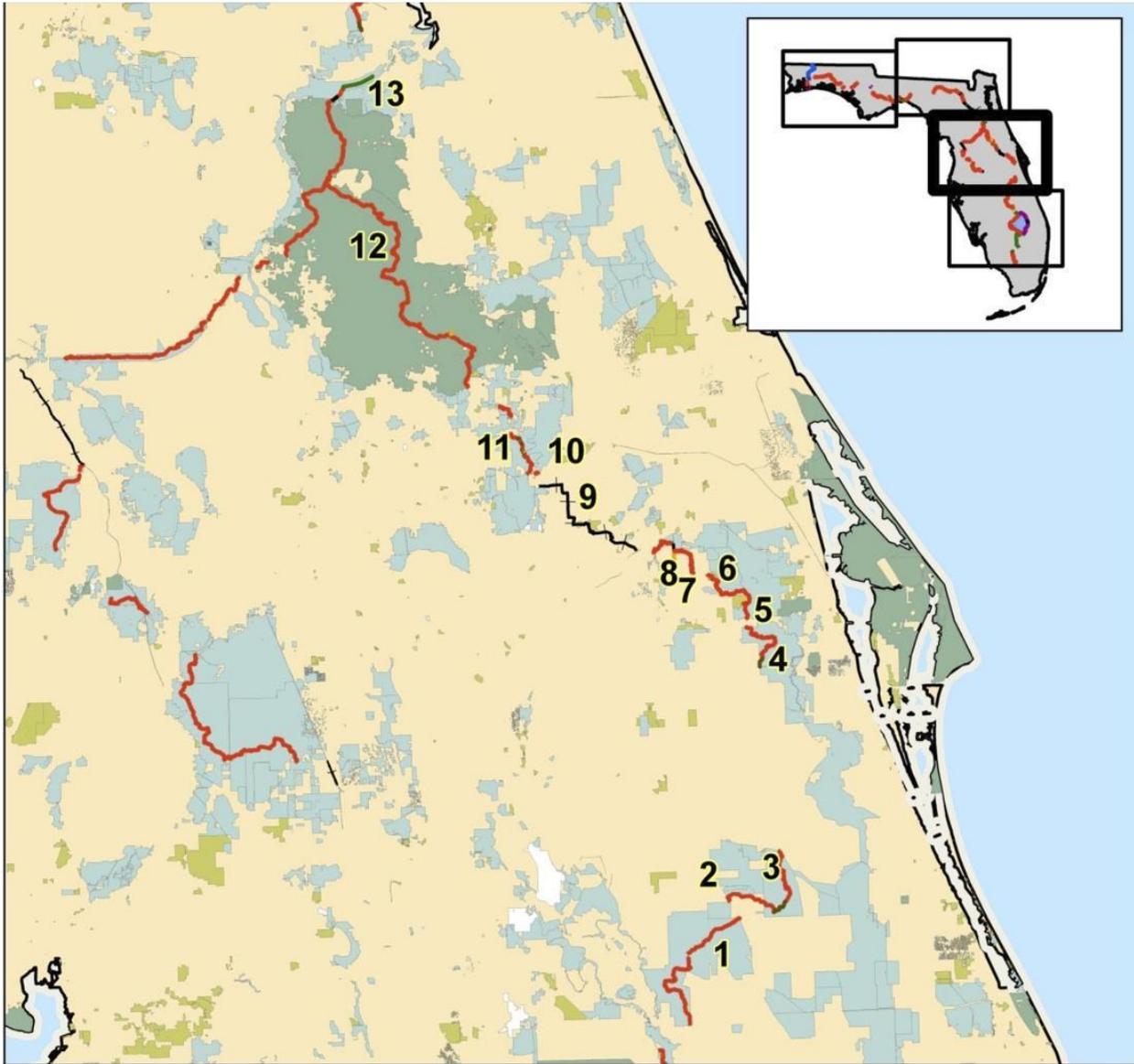
Panhandle



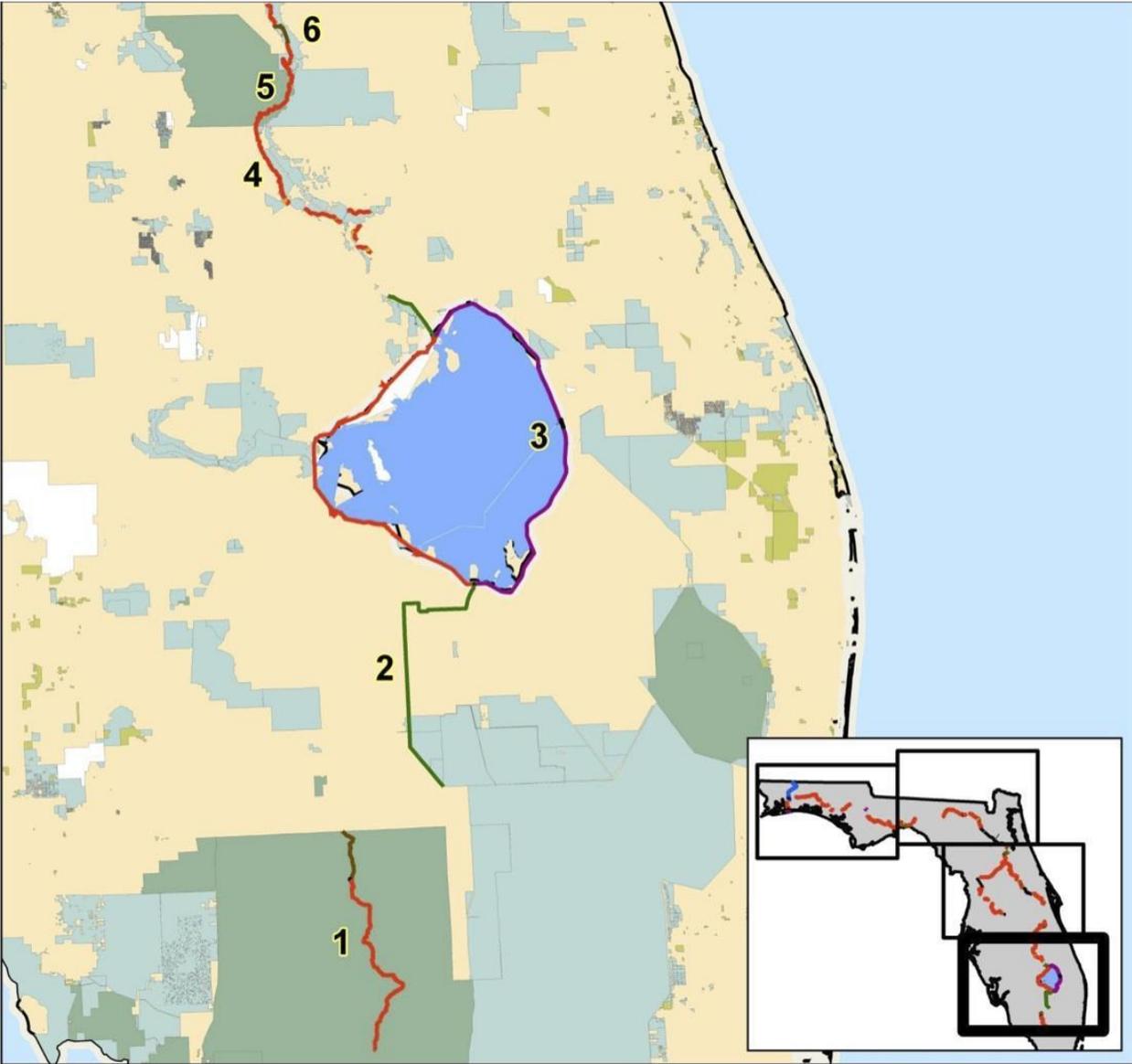
Northern



Central



Southern



APPENDIX D
FLORIDA NATIONAL SCENIC TRAIL- TRAIL CLASS MATRIX

Trail Classes are general categories reflecting trail development arranged along a continuum. The Trail Class identified prescribes its development, representing its intended design and management standards.

Identify and apply the appropriate Trail Class for each Trail segment based on the management intent, which may or may not reflect the current condition of the Trail.

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
<p>Tread & Traffic Flow</p>	<ul style="list-style-type: none"> ◆ Tread intermittent and often indistinct ◆ May require route finding ◆ Single lane with no allowances constructed for passing ◆ Predominantly native materials 	<ul style="list-style-type: none"> ◆ Tread continuous and discernible, but narrow and rough ◆ Single lane with minor allowances constructed for passing ◆ Typically native materials 	<ul style="list-style-type: none"> ◆ Tread continuous and obvious ◆ Single lane, with allowances constructed for passing where required by traffic volumes in areas with no reasonable passing opportunities available ◆ Native or imported materials 	<ul style="list-style-type: none"> ◆ Tread wide and relatively smooth with few irregularities ◆ Single lane, with allowances constructed for passing where required by traffic volumes in areas with no reasonable passing opportunities available ◆ Double lane where traffic volumes are high and passing is frequent ◆ Native or imported materials ◆ May be hardened 	<ul style="list-style-type: none"> ◆ Tread wide, firm, stable, and generally uniform ◆ Single lane, with frequent turnouts where traffic volumes are low to moderate ◆ Double lane where traffic volumes are moderate to high ◆ Commonly hardened with asphalt or other imported material

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
Structures	<ul style="list-style-type: none"> ◆ Structures minimal to non-existent ◆ Drainage typically accomplished without structures ◆ Natural fords ◆ Typically no bridges 	<ul style="list-style-type: none"> ◆ Structures of limited size, scale, and quantity; typically constructed of native materials ◆ Structures adequate to protect trail infrastructure and resources ◆ Natural fords ◆ Bridges as needed for resource protection and appropriate access 	<ul style="list-style-type: none"> ◆ Structures may be common and substantial; constructed of imported or native materials ◆ Natural or constructed fords ◆ Bridges as needed for resource protection and appropriate access 	<ul style="list-style-type: none"> ◆ Structures frequent and substantial; typically constructed of imported materials ◆ Constructed or natural fords ◆ Bridges as needed for resource protection and user convenience ◆ Trailside amenities may be present 	<ul style="list-style-type: none"> ◆ Structures frequent or continuous; typically constructed of imported materials ◆ May include bridges, boardwalks, curbs, handrails, trailside amenities, and similar features

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
Signs	<ul style="list-style-type: none"> ◆ Route identification signing limited to junctions ◆ Route markers present when trail location is not evident ◆ Regulatory and resource protection signing infrequent ◆ Destination signing, unless required, generally not present ◆ Information and interpretive signing generally not present 	<ul style="list-style-type: none"> ◆ Route identification signing limited to junctions ◆ Route markers present when trail location is not evident ◆ Regulatory and resource protection signing infrequent ◆ Destination signing typically infrequent outside of wilderness; generally not present in wilderness ◆ Information and interpretive signing not common 	<ul style="list-style-type: none"> ◆ Route identification signing at junctions and as needed for user reassurance ◆ Route markers as needed for user reassurance ◆ Regulatory and resource protection signing may be common ◆ Destination signing likely outside of wilderness; generally not present in wilderness ◆ Information and interpretive signs may be present outside of wilderness 	<ul style="list-style-type: none"> ◆ Route identification signing at junctions and as needed for user reassurance ◆ Route markers as needed for user reassurance ◆ Regulatory and resource protection signing common ◆ Destination signing common outside of wilderness; generally not present in wilderness ◆ Information and interpretive signs may be common outside of wilderness ◆ Accessibility information likely displayed at trailhead 	<ul style="list-style-type: none"> ◆ Route identification signing at junctions and for user reassurance ◆ Route markers as needed for user reassurance ◆ Regulatory and resource protection signing common ◆ Destination signing common ◆ Information and interpretive signs common ◆ Accessibility information likely displayed at trailhead

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
Typical Environment Description	<ul style="list-style-type: none"> ◆ Natural, unmodified setting with low to no human impact on the environment. ◆ Example: designated wilderness areas. 	<ul style="list-style-type: none"> ◆ Natural appearing environment, essentially unmodified setting with nominal site controls or landscape alterations. ◆ Example: typical managed forest. 	<ul style="list-style-type: none"> ◆ Semi-natural environment with visible human impacts or manipulated landscapes. ◆ Example: wildlife refuges managed for a specific habitat or for recreation. 	<ul style="list-style-type: none"> ◆ Semi-natural environment which is culturally modified yet attractive. ◆ Example: agricultural lands or county parks. 	<ul style="list-style-type: none"> ◆ Highly modified, potentially urban environments where vegetation is often planted and maintained. ◆ Example: rail trails or paved trails that traverse communities.
Typical Recreation Experience	<ul style="list-style-type: none"> ◆ Requires advanced planning and a great degree of self sufficiency. ◆ High likelihood of wildlife encounter and native ecosystems. 	<ul style="list-style-type: none"> ◆ Natural characteristics and recreation experience similar to Class 1 but more moderately challenging. 	<ul style="list-style-type: none"> ◆ Requires some preparation and self sufficiency. Users may find directional signing and interpretation of key local spots. ◆ Good wildlife and natural landscape viewing opportunities with a greater chance of encountering other users. 	<ul style="list-style-type: none"> ◆ Natural characteristics and recreation experience similar to Class 3 but with more developed infrastructure and access to services. 	<ul style="list-style-type: none"> ◆ Requires little to no self sufficiency. Users can expect a high level of infrastructure and multiple uses. ◆ Less of a natural environment, although aesthetically pleasing and accessible. Very likely that you will encounter other users.

APPENDIX E
RECREATION EXPERIENCE PREFERENCE DOMAIN SCALES (REP)

(Driver, B. 1983)

1983 Master List of Items for Recreation Experience Preference Scales and Domains (incorporating findings by Roggenbuck, results of the 1980 Fort Collins area study, analysis done at Yale by Gregoire, and attempts to resolve questions raised by Cooksey in the 1977 Item Pool List.

A: ACHIEVEMENT/STIMULATION

1. Reinforcing Self-image
 - a. *To gain a sense of self-confidence.
 - b. *To develop a sense of self-pride.
 - c. To increase your feelings of self-worth.
 - d. To show yourself you could do it.
 - e. To help you feel like a better person.
 - f. To increase your feelings of self-importance.
 - g. To feel like a better person for doing it.
 - h. To test the extent to which I can do it.

2. Social Recognition
 - a. *To have others think highly of you for doing it.
 - b. *To show others you can do it.
 - c. To have others recognize and admire you for doing it.
 - d. To have others see you do things you are good at.
 - e. To do something that impresses others.
 - f. To make a good impression on others.
 - g. To do something impressive.
 - h. To be recognized for doing it.
 - i. To receive compliments on my skills and abilities.
 - j. To be seen by others doing it.

3. Skill Development
 - a. *To become better at it.
 - b. * To develop your skills and abilities.
 - c. To improve your skills.
 - d. To be challenged.
 - e. To feel like I have achieved something when through.
 - f. To remind myself that I have the skills to do it.
 - g. To try to achieve a high standard in it.
 - h. To see if I could do it.

4. Competence Testing
 - a. *To test your abilities.
 - b. *To learn what you are capable of.

5. Excitement

- a. *To have thrills.
- b. *To experience excitement.
- c. To experience a lot of action.
- d. To have a stimulating and exciting experience.
- e. To experience the fast paced nature of things.
- f. To feel exhilaration.
- g. To get all charged up.
- h. To experience the exciting events that always happen here.
- i. To cause things to happen.

6. Endurance

- a. ***To test your endurance.
- b. ***To rely on your wits and skills.
- c. ***To gain a sense of accomplishment.

7. Telling Others

- a. ***To tell others about the trip.
- b. ***To have others know that you have been there.

B: AUTONOMY/LEADERSHIP

1. Independence

- a. *To feel my independence.
- b. *To be on my own.

2. Autonomy

- a. *To be my own boss.
- b. *To be free to make your own choices.
- c. **To be obligated to no one.
- d. **To do things your own way.
- e. To think for myself.
- f. To be at a place where I can make my own decisions.

3. Control-Power

- a. *To control things.
- b. *To be in control of things that happen.
- c. To have a chance to have control over things.
- d. To be more in control here.
- e. To be in charge of what's happening.
- f. To have a chance to feel in charge of what's happening.
- g. To be in command of a situation.
- h. To put yourself in a position of power or authority.
- i. To manipulate things.

C: RISK TAKING

1. Risk Taking

- a. *To take risks.
- b. *To chance dangerous situations.
- c. To experience the uncertainty of not knowing what will happen.
- d. To experience the risks involved.

D: EQUIPMENT

1. Equipment

- a. *To use your equipment.
- b. *To talk to others about [your/our] equipment.
- c. To test and use your equipment.
- d. To compare my equipment with others.

E: FAMILY TOGETHERNESS

1. Family Togetherness

- a. *To do something with your family.
- b. *To bring your family closer together.
- c. To do something the family could do together.
- d. To get the family together more.
- e. To realize a good experience for the family.
- f. To do what my children wanted me to.
- g. To do something the entire family would like.
- h. To get the family together for awhile.
- i. To do something so the family could spend more time together.
- j. To do something my spouse or associate wanted me to.

F: SIMILAR PEOPLE

1. Being with Friends

- a. *To be with members of [your/our] group.
- b. *To be with friends.
- c. To do things with your companions.
- d. To enjoy the company of people who came with me.

2. Being with similar people

- a. *To be with [others/people] who enjoy the same things you do.
- b. *To be with people having similar values.
- c. To be with people who have similar interests.
- d. To be with people who are enjoying themselves.

G: NEW PEOPLE

1. Meeting New People

- a. *To talk to new and varied people.
- b. *To meet other people in the area.
- c. To meet new people.
- d. To meet other people.
- e. To build friendships with new people.
- f. To see new faces.

2. Observing Other People
 - a. *To be with and observe other people using the area.
 - b. *To observe other people in the area.
 - c. To observe the other people.

H: LEARNING

1. General Learning
 - a. *To develop [your/my] knowledge of things [here/there].
 - b. *To learn more about things [here/there].
 - c. To find out about things here.
 - d. To understand things here better.
2. Exploration
 - a. *To experience new and different things.
 - b. *To discover something new.
 - c. To find out about things.
 - d. To explore the area.
 - e. To explore things.
 - f. To see new and different things.
 - g. To experience the unknown.
 - h. To experience a sense of discovery involved.
3. Geography of Area
 - a. *To get to know the lay of the land.
 - b. *To learn about the topography of the land.
4. Learn About Nature
 - a. *To study nature.
 - b. *To learn more about nature.
 - c. To learn more about natural settings.
 - d. **To gain a better appreciation of nature.

I: ENJOY NATURE

1. Scenery
 - a. *To view the scenery.
 - b. *To view the scenic beauty.
 - c. To enjoy the scenery.
 - d. To observe the scenic beauty.
 - e. To take in the scenic beauty.
 - f. To look at the pretty view.
 - g. To observe the scenic beauty.
2. General Nature Experience
 - a. *To be close to nature.
 - b. *To enjoy the smells and sounds of nature.

- c. To take in the natural surroundings.
- d. To be in a natural setting.
- e. To be where things are natural.
- f. To obtain a feeling of harmony with nature.

J: INTROSPECTION

1. Spiritual

- a. *To develop personal, spiritual values.
- b. *To grow and develop spiritually.
- c. To reflect on personal religious values.
- d. To reflect on your religious or other spiritual values.
- e. To be in closer touch with higher spiritual values.
- f. To get a greater sense of spiritual being.

2. Introspection

- a. *To think about your personal values.
- b. *To think about who you are.
- c. To help you understand better what your life is all about.
- d. To learn about yourself.
- e. To learn more about yourself.
- f. To rebuild the world in my mind.
- g. To think about how I would like the world to be.
- h. To think new thoughts.
- i. To paint things in my mind like an artist.

K: CREATIVITY

1. Creativity

- a. *To be creative.
- b. *To do something creative such as sketch, paint, take photographs.
- c. To put some thoughts or ideas together.
- d. To create something new or different.
- e. To gain a new perspective on life.

L: NOSTALGIA

1. Nostalgia

- a. *To think about good times you've had in the past.
- b. *To bring back pleasant memories.
- c. To reflect on past memories.
- d. To recall past satisfactions.
- e. To gain an experience I can look back on.

M: PHYSICAL FITNESS

1. Exercise-Physical Fitness

- a. *To get exercise.
- b. *To keep physically fit.
- c. To improve [my/your] physical health.

- d. To help keep you in shape physically.
- e. To feel good after being physically active.
- f. To tone up my muscles.

N: PHYSICAL REST

1. Physical Rest

- a. *To relax physically.
- b. *To rest physically.
- c. To take it easy physically.
- d. To give my body a rest.

O: ESCAPE PERSONAL-SOCIAL PRESSURES

1. Tension Release

- a. *To help get rid of some clutched-up feelings.
- b. *To help release or reduce some built up tensions.
- c. To help reduce some frustrations [I/you] have been feeling.
- d. To release or reduce tension.
- e. To help get rid of some anxieties.
- f. To help get rid of some up-tight feeling.

2. Slow Down Mentally

- a. *To have your mind move at a slower pace.
- b. *To give your mind a rest.
- c. To recover from [my/your] usual hectic pace.
- d. To have your mind slow down for a while.
- e. To have a break from being too busy mentally.

3. Escape Role Overloads

- a. *To get away from the usual demands of life.
- b. *To avoid everyday responsibilities for awhile.
- c. To reduce the feeling of having too many things to do.
- d. To get away from some of the expectations people have of me back home.
- e. To rest awhile from the feeling of being overloaded at home or work.
- f. To get away from the demands of other people.
- g. To feel less tied down for awhile.

4. Escape Daily Routine

- a. *To have a change from your daily routine.
- b. *To have a change from everyday life.
- c. To do something different from what [I/you] do back home.
- d. To have a change of pace from everyday life.
- e. To add some variety to my daily routine.
- f. To have a change from your everyday self.

P: ESCAPE PHYSICAL PRESSURE

1. Tranquility
 - a. *To experience tranquility.
 - b. *To experience solitude.
 - c. To experience the peace and calm.
 - d. To experience surroundings that are soothing.
 - e. To experience the calming and healing setting.
 - f. To sense a feeling of balance in things around me.
 - g. To enjoy the quietness and beauty.
 - h. To be where it is quiet.

2. Privacy
 - a. *To feel isolated.
 - b. *To be alone.
 - c. To get away from other people.
 - d. To have more privacy than you have back home.

3. Escape Crowds
 - a. *To be away from crowds of people.
 - b. *To experience more elbow room.
 - c. To get away from crowded situations for awhile.
 - d. To experience the open space.
 - e. To [seek/enjoy] distant or unobstructed views.
 - f. To get away from civilization for awhile.
 - g. I thought there would be less confusion here.

4. Escape Physical Stressors
 - a. *To get away from the clatter and racket back home.
 - b. *To get away from noise back home.
 - c. To get away from the ugly scenes back home.
 - d. To get away from the bright lights back home for awhile.
 - e. To escape the pollution back home for awhile.
 - f. To get away from other people.

Q: SOCIAL SECURITY

1. Social Security
 - a. *To be near considerate people.
 - b. *To be with respectful people.
 - c. To be with considerate people.
 - d. To be with fairly honest people
 - e. To be where things are fairly safe.
 - f. To be with people who are nice to each other.

R: ESCAPE FAMILY

1. Escaping Family
 - a. *To be away from the family for awhile.
 - b. *To escape the family temporarily.

- c. To be without the family for awhile.

S: TEACHING-LEADING OTHERS

1. Teaching-Sharing Skills (Sharing Knowledge/Directing Others)
 - a. *To teach your outdoor skills to others.
 - b. *To share what you have learned with others.
 - c. To share your skill and knowledge with others.
 - d. To help others learn about things here.
 - e. To teach others about things here.

2. Leading Others (Sharing Knowledge/Directing Others)
 - a. *To help direct the activities of others.
 - b. *To lead other people.
 - c. To show others what to do.

T: RISK REDUCTION

1. Risk Moderation
 - a. *To be near others who could help if you need them.
 - b. *To know others are nearby.

2. Risk Avoidance
 - a. *To be sure of what will happen to you.
 - b. *To avoid the unexpected.

U: TEMPERATURE

3. Temperature
 - a. *To get away from the heat.
 - b. *To experience a nicer temperature.
 - c. To have more agreeable temperatures.
 - d. To be where it is cooler.

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BIOGRAPHICAL SKETCH

Megan Donoghue prepared this thesis as partial fulfillment of the University of Florida's Master of Science in Recreation, Parks and Tourism, which she received in the summer of 2013. Her focus of study was natural resource recreation.

In 2010 she earned a Bachelor of Arts degree in anthropology and journalism from the University of Central Florida. She has held several positions in the fields of outdoor recreation, and communications. Her past experience includes working for the Girl Scouts of Arizona as a trip leader, and the Girl Scouts of Gulf Coast Florida as an assistant camp director. She also worked for the University of Central Florida's outdoor adventure program as a student manager of the University's indoor rock climbing wall, an attendant at the lake, and high ropes course facilitator. In the field of communications she has worked for the University of Florida at the UF & Shands Cancer Center as a student assistant, and also as an intern for several publications including Sport Diver magazine, Scuba Diving Magazine and AZ Business magazine.

Megan was born and raised in Nokomis, Florida. She currently holds a position with the Florida Trail Association and lives in Tallahassee, FL. Megan is an outdoor enthusiast and enjoys marine-based recreation activities, hiking, biking, and snowboarding.