

Local and Tourism Use of the East Coast Greenway



Prepared for the East Coast Greenway Alliance

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Local and Tourism Use of the East Coast Greenway

I. Introduction

This study of the East Coast Greenway [ECG] is the first initiative being undertaken by the East Coast Greenway Alliance [ECGA] to determine potential future use of this multi-use, long distance trail stretching from Maine to Florida. The goals of this report are:

1. To provide a picture of use and users of this unique new urban trail facility.
2. To understand the different needs of local users versus visitors, including tourists from abroad.
3. To assess the level of trail data available on trail use and more specifically of ECG user data.
4. To make an initial effort to quantify potential future uses of the ECG as both a local facility and as a long distance trail serving tourists.
5. To identify future data collection needs and priorities so as to better measure, project and evaluate ECG usage.

As the ECG is a work in progress, with less than 10% complete at present, no primary research was conducted. Rather, the author relied on census data, existing studies of trails and greenways, and outdoor recreation and tourism data.

The findings in this report are a first step toward developing a coherent and comprehensive picture of the use of the ECG. Future data collection efforts, built upon these findings and recommendations, will enable the ECGA to achieve this goal.

II. Overview of the East Coast Greenway

Vision: The ECG began as a bold vision to create the nation's first urban long distance, multi-use trail, linking 23 major cities in 15 states along the eastern American coast from Maine to Florida. Existing local hard-surfaced trails will be joined together by creating new trails to form a continuous route. It will offer a safe and inviting pathway for all sorts of muscle-powered users: walkers, cyclists, skaters, skiers, equestrians and the physically challenged. It will be a premiere venue for recreation, transportation, exercise and adventure and heritage tourism.

ECGA Mission: The ECGA is the nonprofit organization formed in 1991 to turn this vision into a reality. A national organization with trustees from each of the 15 states (and DC) through which the Greenway passes, the ECGA has a small staff based in Wakefield, Rhode Island that "manages" this far-flung project. The ECGA has formed committees in each state to partner with local, state and national agencies and organizations that are at the front line in promoting the establishment, stewardship and public enjoyment of this traffic-free multi-user trail system.

History: The ECGA was formed in 1991 by hikers and bicyclists from the New England and Mid-Atlantic region who shared a vision for a continuous multi-user trail linking cities along the East coast. In 1992, a month-long 1000-mile exploratory bike tour was held from Boston to Washington, DC, which garnered much media attention and raised awareness for the vision and

effort. Functioning for its first four years as a project of the New York-based Open Space Institute, the ECGA became incorporated in New York State in 1995 and secured standing as an independent charity under section 501c (3) of the IRS tax code. In 1996, the ECGA opened a national office in Wakefield, RI and secured its first Executive Director. Committees have been formed in all 15 states the ECG traverses to help them partner with the hundreds of agencies, organizations, and political jurisdictions which play a role in the making and managing of this trail. In 1999, the ECG was designated one of the 16 National Millennium Trails by the White House Millennium Council and also received the prestigious Kodak American Greenways Award for leadership within the greenway community.

Current Status of the Project: As of early 2001, the ECGA has identified a specific trail corridor for over 56% of the 2,600 mile-long main route. Of these miles, 48% is already in public control and nearly 9% has been completed, open to public use and designated as part of the ECG Trail System. 217 miles of trail in 32 different local trail segments have been ushered into the system. Another 8% is in construction or completed. A significant pipeline of projects exists due to the remarkable grassroots energy of local groups who are busy working to convert abandoned rail corridors and other rights-of-way into community trails. The availability of millions of dollars of federal transportation funds since 1991, when the Intermodal Surface Transportation Efficiency Act (ISTEA) was passed, has enabled these discrete local projects to get the funding needed to plan and build them. The goal of getting the ECG completed by 2010 appears more and more likely as each year passes and more trail is put down.

Importance of beginning to assess future use and understand the needs of users: While the ECGA is currently focused chiefly on building support for the vision and getting the trail completed, some thought needs to be given now to how this trail will function when it is done. What will the needs of users be? How will the trail impact the communities in which it is located? How will long distance use impact local use? How much information is available to enable us to begin to answer these questions? How much do we know about the numbers of people who live near this trail or who might visit it? Having such information will enable both the Alliance and the various local trail agencies to better deal with managing use, both local and long distance, and to provide for the various users needs.

III. Local Trail Use and Users

A. The evolution of multi-use trails

The trails and greenways movement is a premier open space preservation and recreational opportunity success story of the past decade. While footpaths like the Appalachian Trail have existed for many decades, shared-use, firm surface paths that serve cyclists, equestrians, in-line skaters and wheel chairs are a fairly recent phenomenon. But, over the past twenty years, thousands of miles of multi-use trails have been added across the country, capitalizing on underused industrial and port waterfronts and abandoned rail and canal corridors which have been turned into new and highly popular public places. The Rails to Trails Conservancy concluded that there are over 1,000 shared use paths in operation nationwide, which include over 11,000 miles of rail trails. (The entire national interstate highway system is about 40,000 miles.) Funding through the *Intermodal Surface Transportation Efficiency Act* and the *Transportation Equity Act for the 21st Century* have provided significant funding for trails across the country. Today, the Centers for Disease Control is showing increased interest in trails as an “environmental intervention” that can change people’s daily behavior by getting them out doing active, healthy things.

The Rails to Trails Conservancy concluded that there are over 1,000 shared use paths in place nationwide, which include over 11,000 miles of rail trails.

Shared use trails are extremely popular. These multi-modal facilities become heavily used as soon as they are open. Parks departments have reported that local multi-use trails are often the most heavily used of all of their facilities. When these trails connect large population centers to destinations like schools, stores, parks, offices, public transportation or public facilities, they are used for access to recreation and as an alternative form of transportation. For significant portions of the public who do not have access to a car, such as the very young, the elderly or the poor, trails offer a vital means of gaining independence.

B. Local versus visitor use of the East Coast Greenway

The East Coast Greenway is a necklace of local trails. Most multi-use trails have been initiated as local projects—short pathways ranging from a half mile along an urban waterfront to 20 or 30 miles of an abandoned rail corridor. In recent years, the potential of linking these local trails to form longer routes, and even a whole inter-connected system of trails has been recognized. The ECG was one of the first such visions, but other long distance routes being developed include the Allegheny Passage, from Washington, DC to Pittsburgh, the American Discovery Trail from Delaware to San Francisco, and the Mississippi River Trail. Cities such as New York City, Houston and Washington have seen the virtue of developing an interconnected system of trails that not only facilitate travel within the city bounds but enable city dwellers to escape the city to more rural areas in the region without depending on cars. Connecting trails to public transportation further enhances the options for trail users, and is a central part of the ECG vision. Through a recent partnership with Amtrak, improved “roll-on” bicycle carriage is being advanced within the Northeast Corridor.

Local users divide into two groups: trail neighbors and day users.

Persons visiting the trail as part of an overnight stay or traveling at least 50 miles would be considered visitors.

The ECG will knit together scores of local trails and thus will function at once as both a local and a long distance facility. Thus, users of the East

Coast Greenway fall into two categories: local users and visitors. In approaching how to assess use, we must examine the behavior and needs of local users and visitors separately. Clearly, in most sections, the ECG will receive far more local use than long distance. Proximity by the millions who live and work near this trail guarantees high daily use levels. **Trail neighbors** have ready access and the ability to make frequent, even daily use of the trail by virtue of living close to the trail. For our purposes, we have defined this local group as those persons living within two miles of the trail (walking distance.) **Day users** are those persons living near the trail but not within walking distance. Persons visiting the trail as part of an overnight stay or traveling at least 50 miles would be considered **visitors** or tourists and will be addressed in Section IV of this report.

C. Local uses of the East Coast Greenway

The East Coast Greenway will serve a very wide range of local users for a variety of activities. By its very nature of traversing and connecting urban areas along the East Coast, being relatively flat, generally traffic-free and easily accessible, the ECG is expected to appeal to a wide cross-section of individuals of all ages, abilities and economic circumstances. The ECG will be used for multiple purposes such as socializing, recreation/exercise, and transportation.

The ECG will have nearly universal appeal within our nation's densest region.

a) Current Recreational Demand

As a firm-surfaced multi-use trail the ECG will accommodate a wide range of recreational trail-related activities including:

- Walking
- Bicycling
- Hiking
- Jogging/fitness
- Backpacking
- Nature appreciation
- Orienteering
- Wheelchair use
- Horseback riding
- Cross-country skiing
- In-line skating
- Snow-shoeing
- Socializing
- Nature appreciation

Drawing from previous research on multi-use trails and participation rates, it can be expected that the ECG would be used predominantly by cyclists followed by walkers.

There have been a number of outdoor recreation and trail-related studies that have examined activity participation rates. The major ones are listed here:

- ✓ *Trails for All Americans* report by the National Trails Agenda Project (1990)
- ✓ *National Bicycling and Walking Study: Transportation Choices for a Changing America: Final Report* (1994) U.S. Dept. of Transportation

- ✓ *1997 State of the Industry Report* prepared for the Outdoor Recreation Coalition of America [ORCA] and the Sporting Goods Manufacturer’s Association
- ✓ *National Recreation Survey* (1999)
- ✓ *Outdoor Recreation in America 1999: The Family and the Environment*
- ✓ *National Bicycling and Walking Study Five Year Status Report* by the U.S. Department of Transportation released (April 1999)

A summary of participation rates for trail-related activities that are available is presented in **Table 1**.

**TABLE 1:
National Participation Rates for Various Trail-Related Activities**

ACTIVITY	NSRE¹	1997 Census Data	National Trails Agenda Project²	Recreation Roundtable Survey³	League of American Bicyclists⁴	Pathways for People⁵
Recreational Walking	66.7%		46.9%	42%		79%
Commuting by Bicycle/Walking	4.4%					5%
Recreational Bicycling			28.1%	22%	12.7%	46%
Hiking	32.1%		12.4%	15%		
Nature Appreciation/ Bird Watching				11%		
Cross-Country Skiing	2.7%			1%		
Jogging/Running						24%
Wheelchair Use		1% ⁶				
Horseback Riding on trails	5.2%		7.9%	6%		
In-Line Skaters	10%					

As indicated in the previous table, there are high levels of participation in trail-related activities across the United States. In fact, results show that 94.5% of all Americans participated

¹ National Survey on Recreation and the Environment

² Trails for All Americans, The National Trails Agenda Project, 1990

³ The Recreation Roundtable 1999, Outdoor Recreation in America 1999: The Family, The Environment performed by Roper-Starch Worldwide

⁴ Provided by Karen Votava, ECGA

⁵ Survey done in 1992 by Rodale Press, Pennsylvania (Albrecht, 1992)

⁶ This is the percentage of the American population that uses wheelchairs according to the latest figure available (1997). A figure for outdoor recreation participation by people who use wheelchairs is not available.

in at least one of the surveyed forms of outdoor recreation in 1994, which translates into 189 million participants nationwide (*National Recreation Survey* Cordell et al 1999). According to findings from the study *Outdoor Recreation in America 1999: The Family and the Environment*, nearly half of all Americans participated in outdoor recreation at least once a month. There are some studies related to ethnicity and participation in trail-related activities as well as how participation varies from state to state across the country.

See **Section D** for more discussion about trail-related activity participation rates and their use in estimating local trail use.

b) Latent Recreational Demand

Studies of recreation activities and participation have shown that there is a latent demand for trail-related activities. Latent demand means that people would participate if better or closer facilities were available or other barriers to participation were removed such as lack of time, lack of self-discipline, cost, lack of equipment, etc. The East Coast Greenway has the potential to help meet the latent demand for trail especially in those currently without access to trail-related activities.

Use of the East Coast Greenway could replace current vehicle trips for personal travel.

- Trail use of the East Coast Greenway could replace current vehicle trips for personal travel. Currently, family and personal business (45.9%) is the number one reason for personal travel trips, followed by social and recreational travel (24.9%), with the commute to work (20.3%) as the third most frequent purpose. Currently, of all the personal travel, walking as a means of transportation accounts for 5.4% of these trips, compared to use of a personal vehicle (86%).⁷
- Of the trips currently made by walking, 43% are for family and personal reasons, 34% for social and recreational reasons, 14% for school and church reasons and 7% for work.⁸
- Those who use a bicycle as a means of transportation, 60% of the trips are for social and recreation reasons, 22% for family and personal, 9% for school and church and just 8% for work.⁹
- Since the 1983 study, the average work trip length has increased from 8.5% to 11.6%, a 36.5% increase. “The growth in the outer rim of suburbs in large metro areas may reflect the fact that people can now have a longer commute in miles with only a modest increase in travel time.”¹⁰

According to a 1992 Harris Poll, while only 5% of Americans currently rely on bicycling and walking as their primary mode of transportation, 13% of those surveyed would choose non-motorized travel if there safer and more facilities available. In a subsequent 1995 poll, 36% of current non-commuting bicyclists would commute to work if cycling was safer or there were designated bike lanes (National Bicycle and Pedestrian Clearinghouse 1995).

⁷ Federal Highway Administration, Office of Highway Policy Information, 1998

⁸ Ibid

⁹ Ibid

¹⁰ Ibid

Analysis of participation in trail-related activities indicates that these activities are among the most popular in the United States. Walking is consistently ranked as the most popular activity in studies of recreation participation. Participation in trail-related activities has been projected to increase in the future. An examination of latent demand for recreational activities indicated that trail-related activities are highly ranked. Furthermore, ownership of trail-related equipment is steadily increasing and further reflects the popularity of trail-related activities. In addition to potentially meeting the latent demand for activities such as hiking and cycling, the East Coast Greenway could reduce the barriers that inhibit recreational activity, such as cost and lack of facilities.

c) Transportation Use

In addition to the obvious demand for trails for outdoor recreation pursuits, trails can also be used for transportation. There are many studies and reports that purport the benefits of pedestrian and bicycle travel as a form of transportation such as increased mobility, reduction in traffic congestion, improved air quality, and improved public health. According to Harris Polls in 1992 and 1995, “more than 70 percent of the nation’s adults want local transportation planning to incorporate accommodations for bicycling, walking and running into the public infrastructure” (National Bicycle and Pedestrian Clearinghouse 1995). The *National Bicycling and Walking Study Five Year Status Report* by the U.S. Department of Transportation released in April 1999, found that 4.4% of all commuting trips were taken by bicycle or walking.

However, according to the *National Bicycling and Walking Study: Transportation Choices for a Changing America: Final Report* (1994), 21% of all current walking and cycling trips involve travel to and from work. In the recently released compilation of outdoor recreation research, *Urban Recreation in America*, the authors assert that approximately 4 million adults ride their bikes to work and 12 million more report they would if adequate cycling facilities were available.

Approximately 4 million American adults ride their bikes to work and 12 million more report they would if adequate cycling facilities were available.

According to recent trail research, an average of 39% of weekday users used the studied trail for transportation (Pinellas Trail in St. Petersburg, Florida; Burke-Gilman Trail in Seattle, Washington; and Washington & Old Dominion Trail in Northern Virginia). In the East Bay Bike Path study, authors noted that the path was being underutilized as an alternative form of transportation mainly due to other barriers such as encouragement by employers, appropriate facilities, and education of citizens as to the benefits. The key to trails being used as a transportation option is to provide the appropriate facilities to encourage this type of use, which could include accessible trail access points or the ease by which the trail connects to business and shopping areas. In the study of Burke-Gilman Trail users, 20% of all users indicated they use the trail for commuting to and from work. About 35% of respondents in the study of the Pinellas Trail in Florida, used the trail to reach a destination such as work, school or stores. Of those who used the trail to commute to work or school, 87% did so at least twice a week, and 60% used the trail five days per week.

d) Trends

There are trends and indications that participation levels and demand for recreational and transportation choices will continue to increase in the years ahead. Some of these trends include:

- Ability to work from home via computer, less commuting by car
- Desire for improved quality of life; work less, live more
- Increasing demand for outdoor recreation as work becomes less physically demanding
- Regeneration of cities and city neighborhoods to function as smaller communities within the larger city
- More evidence supporting the health benefits of an active lifestyle for children and adults
- Travel includes more mini-escapes, short vacations, and extended weekends, meaning that time is at a premium. The easier and more quickly people can escape their lives from their city environment, the better.
- The baby boom phenomenon will impact outdoor recreation as well. People are retiring earlier, are physically active and have the leisure time to pursue recreational activities
- Technical improvements in footwear, sportswear and equipment could result in growth in outdoor recreation activity

D. Methods to Estimate Local Use

a) Census data

A very rough idea of the potential number of users of the ECG can be deduced by looking at how many persons live within easy reach of the trail. Census data can help but we face several obstacles:

1. We only know about half of the exact route of the ECG at this time. For the balance, we have a general idea of where we would like it to be, which we call the corridor. This is a line linking the major cities we are trying to connect by this path.
2. Gathering census data for an area 2 miles on either side of our route cannot be done, as it is not kept on this basis.

Based on previous trails research, it can be anticipated that the ECG would be used primarily by locals but could be developed into a visitor attraction as marketing and promotional efforts increase and improve.

There are over 38 million people living in the 122 counties along the 2,600-mile trail corridor.

Thus, for the purpose of this first attempt to project *potential* local users of the ECG, 2000 Census data was gathered for each of the 122 counties through which the ECG corridor passes. See **Appendix B** for a complete breakdown by county. According to these population figures, there are over 38 million people living in the 122 counties along the 2,600-mile trail corridor. Of these residents, over 14 million people live in the 23 major cities along the trail (plus Suffolk, Virginia). In terms of trail sections, 9,840,011 people live in the New England Section (Maine, New

Hampshire, Massachusetts, Rhode Island and Connecticut), 12,306,123 people live in the Mid-Atlantic Section (New York, New Jersey, Pennsylvania, Delaware, Maryland and Washington, DC), and 16,655,232 live in the Southeast Section (Virginia, North Carolina, South Carolina, Georgia and Florida).

One possible next step in refining this data would be to make all state trail maps into a GIS format, which has intelligence and the Census data could be overlaid to determine the actual number of people living within the two-mile trail corridor. GIS maps are not static one-dimensional maps, but rather they contain intelligent data that can be manipulated. Census data can be derived in various ways from the state level, to Metropolitan Statistical Areas [MSA], counties, cities, towns, Census tracts and city blocks. To determine local trail users along a corridor does not fit well into any of these Census definitions. Instead, through GIS maps, the entire data set of the Census can be overlaid and the corridor area identified. This would produce very accurate estimations of population that fall outside of traditional Census reporting. This is the easiest method for such a long trail and the most accurate. However, Sustrans, a British trails organization, cautions trail's researchers using population alone as a determinant of trail use because there are many other variables which are difficult to study such as "terrain, attractiveness of routes, quality of surface, temperature, how the route is marketed and how long the route has existed". They conclude that "great care should be taken in making estimates of use levels" based on population alone. Further research and refinements need to be made.

b) Participation Rates

One refinement to estimating local use would be to combine Census population data with estimates of trail-related activity participation rates produced by several national organizations (see **Section A**). This method has been used in other trail studies attempting to estimate potential trail use of an existing or anticipated trail, such as "The Potential Economic Benefits of Rail-Trails in the Region of Peterborough, Ontario" (Bernstein and Marsh, 1992). This based report based trail user volume on the potential market of the region using population data (Census), participation rates of the population in various trail-related recreation activities, and the proportion of the potential users that would actually use the trails (market penetration figures).

c) Market Penetration Rates

These national participation rates are useful but do not tell the whole picture. For example, it is difficult to determine what percentage of these potential users would actually take to local trails. As mentioned earlier, one way to assess this would be to determine market penetration figures for each type of activity. Market penetration refers to facilities that are currently available for people to participate in their activity. For example, if you are examining ice skating participation rates, market penetration would refer to how many skating rinks there were in a certain area. As each group of users would have different incentives to use the trails, specific market penetration figures would be needed for each group. For example, cross-country skiers would be more likely to use the trail since they require an appropriate facility to ski whereas walkers can walk anywhere. Thus, the market penetration for cross-country skiers is higher than that for walkers. This market penetration data would be difficult to collect given the length and diversity of trail experience to be offered along the ECG. To a great extent, the type of use experienced on a trail is dependent on many variables, such as type and quality of trail surface (paved, gravel, footpath), terrain (flat, rocky), attractiveness of route, temperature, how the route is marketed and how long the route has existed (Sustrans 1999). As all of these

variables would vary widely along the ECG, market penetration figures would have to be done by trail segment using all of these variables and coming up with market penetration figures.

d) Trail Comparison

Another way to determine the potential mix of potential trail uses would be look at similar trails to the ECG and their trail use levels and composition of user types. This method was used in the report, “Analysis of Use Patterns and Economic Impacts of the Black Hills Rail to Trail Project”, (Madden, 1990). The Black Hills Method looked at three similar trails to the Black Hills Rail-Trail in terms of length, use, and user volume to estimate use for the Black Hills Trail.

In arriving at plausible user volume estimates for the ECG using this method, some assumptions would be necessary. First, estimates would be based upon long-run averages when the trail is complete. Secondly, accuracy in the measurement of user volume varies from trail study to trail. Use statistics are heavily influenced by climatic conditions, for example. Moreover, user volume statistics should be interpreted differently if trail users are predominantly local. Trails that are dominated by participation by local trail use tend to be used more often and for shorter periods of time. Any estimate of actual user participation should be viewed as tentative. In the absence of actual experience, one must rely on user volumes, which have been shown to occur at other trails having similar attributes to the ECG. As many of the trail segments for the ECG have not yet been designated, this method would not be appropriate at this time but could be done later as more information is available.

The exact composition of local trail users is difficult to estimate given the lack of current research available on the ECG itself and the assumptions that would have to be made to come to any realistic estimate. Another approach would be to look at other trail studies, even though they will not be exactly comparable to the ECG, they offer another way to look at potential local use and users.

Some trail study findings that may be useful to the ECG in future estimates:

- ✓ Walking accounts for 63% of all trail use on the Lafayette/Moraga Trail (Moore et al, 1992)
- ✓ The study of the Mohawk-Hudson Bike-Hike Trail determined that most users (44%) used the trail for cycling (Schenectady County 1997).
- ✓ In the U.S. National Park Study (Moore et al, 1992) cycling accounted for the highest percentage of use on two out of the three multi-use trails studied. Only the Lafayette/Moraga Trail had a higher percentage of walkers, possibly because it was the shortest trail (7.6 miles) and was located in a suburban area. On the Burke-Gillman Trail in Seattle, about 80% of all users were bicyclists.
- ✓ The majority of East Bay Bike Path users bicycled on the trail (87.7%) (Kribbs 1996).
- ✓ In the United States, 6.5 million people ski cross-country and 2.7% of the population over age sixteen ski on groomed trails (U.S. Census 1990).

E. Overview of Current Trails Research

a) The evolution of trails research

Trail studies have mainly grown out of the need to determine use levels to manage trail facilities and to handle over-use of certain trails. The United States National Parks Service has certainly been a leader in this regard, as has the National Parks System in Canada. Conducting trail use studies in national parks has certain advantages over other trails, such as controlled access points, staffed entrances, reservation systems, and professionally trained staff to analyze and interpret data. For this reason, our National Park Service staff or their consultants have carried out the majority of trail studies conducted during the 1960s through the 1980s. The National Park Service has gradually increased its trail research program and more recently has begun work on estimating the economic impact of trails and trail users (Moore1992), a method which has been copied by some state and local trails across the country. The problem with NPS research is that most of their facilities do not function as local facilities. This research will be addressed in the tourism section of this report.

More recently, with the increase in multi-use trails and the need to quantify demand for funding and management reasons, there has been an increase in studies of local trails. Still, public agencies are hard pressed to use their limited resources for research when basic trail management is not properly funded. A number of trail studies have attempted to determine trail use levels, utilizing a number of different methods.

Regardless of the amount of trails research that has been done, there are still no universally accepted definitions and standards for trails research. The Jacob France Center of the Merrick School of Business at the University of Baltimore recently completed a study of the Proposed Lower Susquehanna Heritage Greenway in Maryland (Jacob France Center1998). The consultants completed an extensive literature review, only to conclude that there was little existing research on potential greenway users. Greenway users are different from other trail users because the greenways are often located in urban areas, used more like linear parks, for a myriad of reasons and by a number of different user groups. They had to rely on secondary data to estimate potential use, by using visitor data from two nearby counties and spending habits of visitors to a nearby park/recreation area. This is just one example of the many ways trail studies have been completed.

Overall, there have been a number of studies completed on trails in limited access areas such as national parks, some on long-distance trails but predominantly single-use trails such as the Appalachian or Bruce Trails, and several studies done on multi-use trails but these trails of a significantly shorter duration than the East Coast Greenway. Only three studies have been done on greenways and users that have limited applicability to the East Coast Greenway because of the length of the ECG (Jacob France Center 1998; Kribbs 1996, Waterfront Regeneration Trust 1995). In general, we know a great deal about trail users, mostly walkers and hikers and to a lesser extent, cyclists. Other users have not been well studied in any trail study. Because there have been no trail studies of a multi-use, long distance trail or greenway, there are knowledge gaps and research limitations that the ECGA should be aware as they move forward in their research plans.

b) Trail Use Studies

A number of trail studies have attempted to determine trail use levels. In some studies, local use has been defined as the number of people living within a certain number of miles from a trail access point (determined through population data or by collecting zip code or residence information from users). In a study of potential use of a short-distance, urban trail in Peterborough, Ontario, (Bernstein and Marsh 1992) defined local use as 30 kilometers (approximately 20 miles) from a trail access point. A study for the Lake Ontario Greenway in Ontario, Canada defined local use as those persons living three kilometers (approximately two miles) who live within walking distance (Waterfront Regeneration Trust, 1995). Sustrans (1999), a cycling trails organization in the UK, also defined local use as 2 miles. Other studies interviewed or surveyed trail users and asked them how far they lived from the trail to determine the level of local use, without defining the boundaries in advance such as:

- Heritage Trail in Iowa (Moore et al 1992)
- St. Mark's Trail in Florida (Moore et al 1992)
- Lafayette/Moraga Trail in California (Moore et al 1992)
- Mohawk-Hudson Bike-Hike Trail (Schenectady County 1997)
- Bruce Trail in Ontario (Schutt 1997)
- Pinellas Trail in Florida (Melnick 1993)
- Northern Central Rail Trail in Maryland (PKF Consulting 1994).

Other trail studies asked users through a self-registration process to identify themselves as a "local resident".

- East Bay Bike Path in Rhode Island (Kribbs 1996)
- Overmountain -Victory National Historic Trail (Moore and Barthlow 1998)
- Elroy-Sparta Bike Trail in Wisconsin (Schwecke et al 1989)
- Transamerica Trail (Crawford 1993)

Still other trail studies have used mechanical means to register the number of users on a trail such as trail counters hidden below the ground or infra-red systems that counts anything to walk through a certain area. Both are expensive options and can mistakenly register animals as trail users or users can be counted twice during one trip dependent on location of counters. Personal observation is often used where trail access is limited for instance.

c) Trail User Studies

Either through a trail registration or self-registration process, mail-back surveys, or personal interviews, trail studies have attempted to determine who their trail users are. Most common is the collection of demographic information (age, residence or zip code, income level, education level); length of trail visit in hours, miles, commuting time; type of trail activity; group size and composition; experience with the trail (number of visits to the trail previously over a certain time period such as last 12 months); weekday versus weekend use; where trail information was received (trail association member, visitor information, trail brochure, etc.); expenditures related to the trail visit (locally versus non-local, type of purchases made and amounts). Of course, all of these questions are not consistent across trail studies and the number of questions and level of information received is dependent on funds available for research, research method chosen and length of study. See **Appendix C** for how to conduct a trail use and user study.

d) The Typical Outdoor Recreationist

Generally, people who seek trail-related experiences tend to have above education (college degree or more), have higher than average household income, are slightly more likely to be male. The reasons they participate in trail-related activities vary depending on outdoor recreation experience pursued and general motivations for participating. According to the *National Survey on Recreation and the Environment*, conducted in 1994 and 1995, a survey of some 17,000 Americans, participation in more rigorous activities declines with age but many older people are still able to participate in some way. Participation is low for families with incomes below \$25,000 and above \$100,000. Participation is highest for those families with incomes between \$25,000 and \$75,000 per year, or the middle class. The authors of *Outdoor Recreation in America 1999: The Family and the Environment* found that married persons were slightly more likely to be active at least monthly, as were parents with children under seven years of age, persons between the ages of 30 to 44 years of age, women between the ages of 18 and 49 and those with household incomes above \$50,000.

Some trail studies developed profiles of their trail users. The Elroy Sparta Trail in Wisconsin, determined that their largest user group (33.2%) was less than 18 years of age. On the Burke-Gilman Trail, the average trail user was 35 years old, had an annual income of \$50,000, and 58% were male. In a small user study of the Pinellas Trail in Florida, 40% of respondents lived less than _ mile from the trail.

e) Local Trail Studies of the ECG

While hundreds of multi-use trails exist in this county, very little multi-use trail user data has been collected to date. Along the ECG corridor the level of knowledge is poor. Of the several hundred local trails that will make up the ECG, only one has had organized data collection done related to use, the 1996 user survey on the East Bay Bike Path (Kribbs 1996) located in Rhode Island. The trail is a bike and pedestrian pathway, 14.2 miles from Providence to Bristol. According to the results, over _ of all users are from Rhode Island itself, and mainly from the towns adjacent or near the trail. The average time spent on the trail was a little over two hours, and 17.2 miles round trip. The most important reason for using the trail was recreation (98.8%). The majority of users bicycled on the trail (87.7%), followed walking (30.6%), in-line skating (24.8%), and jogging (13.2%). Clearly, a priority for us is to improve the level of data collection on use of our local trail segments.

F. Projecting Future Use of the ECG: A Summary

Because there was no primary research conducted for this study, Census 2000 population data was gathered for the 23 major cities and the counties along the ECG route. This gives some indication as to the potential local use of the trail. See **Appendix B** for the complete breakdown of population by city and county. According to these population figures, there are over 38 million people living in the 122 counties along the trail. Of these residents, over 14 million people live in the 23 major cities along the trail (plus Suffolk, Virginia). Sustrans, a British trails organization, cautions trail's researchers using population alone as a determinant of trail use because there are many other variables which are difficult to study such as "terrain, attractiveness of routes, quality of surface, temperature, how the route is marketed and how long the route has existed". Although they suggest researchers can assume there will be between 50,000 and 100,000 trips taken every year for every mile of trail route within an urban area, on a trail that is at least 5 miles long, they suggest that this is only a rough estimate. They conclude

that “great care should be taken in making estimates of use levels” based on population alone. Further research, involving interviews and more in-depth analysis of trail users’ behaviors and experiences, needs to be done by the ECGA.

G. Recommendations For Data Collection To Understand Local Trail Use

1. Ideally, all trail sections would be determined, designated and operational so that the trail spine and corridor are clearly identifiable.
2. All trail maps would be in GIS format so that demographic information could be captured for the populations classified as trail neighbors and users.
3. Develop a standardized user survey to capture demographic, economic and psychographic information about trail users. The survey would be made available to local trail management groups, administered as resources were available and delivered to the ECGA for data entry and analysis.
4. Work with local trail management groups, particularly municipal, state and federal agencies about the possibility of capturing trail user information through existing data collection procedures.
5. Develop a research plan to eventually collect data from every section of trail and allocate resources for its implementation.
6. Develop a network for sharing of existing and future trail data with all trail management organizations along the ECG.

III. Trails Tourism

The East Coast Greenway is located in the most populated and most intensely developed part of the United States. The East Coast has a number of unique and significant characteristics that make it prime for tourism development, particularly trails tourism, such as the availability of a large consumer market, an excellent transportation infrastructure, and significant resources for tourism and recreation including cultural attractions, historic sites, national parks, state parks, entertainment venues, range of accommodations, travel services, dining experiences, etc. This study of the tourism potential of the ECG will examine the various trends affecting the tourism industry, achieve an understanding of trails tourism in particular, develop a profile of trail tourists, and start to develop a profile of the ECG as a trail tourism product, what makes it unique and appealing to users.

“We are an urban society that still clings to the concepts of the great outdoors and self-reliance”.

Robert W. Douglass,
Ohio State University
(in Cordell et al 1999)

A. Major Tourism Industry Trends

In general, there are some major tourism industry trends that have affected and will continue to affect tourism product offerings. These include but are not limited to:

- The aging of the baby boomers will affect everything from recreational opportunities to consumer goods.
- An increasing number of two-income families have possibly more discretionary household income but less flexibility in terms of vacation and leisure time. There is a greater emphasis on convenience because time is more of a premium.
- Consumers are increasingly demanding seeking higher levels of service and are, at the same time, more value-conscious.
- Interest in and dedication to the balance of physical and mental well-being.
- Resurgence in the value of family and spending time with one another and learning vacations.
- Renewed interest in the welfare of the planet, and general concern for the environment, choice of “greener” products and ways of life.
- Trend to personal enrichment seeking educational and cultural experiences, over simple escapism.
- Mini-vacations or a getaway more desirable than longer vacations because of dual income families and demands on leisure time.
- A growing multi-cultural population, resulting in markets that have very different interests, expectations and habits.
- Travelers more educated, searching for the unique, the genuine including cultural interpretation and experiences.
- Niche market segments and experiences, fit in with desire to plan our own vacations, seek out the different, away from large attractions or “canned” experiences.

- Vacation packages suit our fast-paced lifestyle because they're convenient but must be tailored to the individual, more sophisticated, and have added value for the price.
- The day trip market growing in comparison with other markets, in response to shortage of leisure time and economic considerations.
- Technology and new communication channels are influencing the way we plan and book our travel experiences.

B. Resource-Based/Outdoor Recreation/Trail Tourism Research

a) A World View

Trail tourism is part of one of the largest and fastest growing industries in the world according to the World Travel and Tourism Council. For a number of years, tourism that is dependent on an experience in the natural environment has also grown, often referred to as resource-based tourism, eco-tourism, sustainable tourism or nature tourism. Resource-based tourism then combines the natural environment with other forms of tourism attractions such as historic or cultural sites. The demand for this type of tourism experience rapidly increased during the 1980s, along with awareness of environmental preservation. Resource-based tourism is an alternative to traditional forms of tourism, not only in North America but also around the world. The reasons most cited by participants in resource-based tourism are to appreciate nature, to relax, to learn about the natural and cultural heritage.

b) In Europe

In the UK, one of the leaders in trail tourism, tourism benefits are well documented. The Countryside Commission manages over 2,000 miles of trails. Trails have been shown to contribute to job creation, to diversify of local economics, to regenerate urban environments and promote increased tourism. Just as our dependency on the automobile is increasing, so is our participation in trail-related activities for relaxation and recreation which has led to a number of different types of trails (long and short distance trails for recreation, trails with historic places or sites, attractions, and other more targeted trails catering to niche markets such as education, health and fitness or art). Sustrans (1999) defined three types of cycle tourism: cycling holidays, holiday cycling and cycling day visits. Cycling holidays refer to those trips where cycling is the main purpose of the holiday, or cycling enthusiasts. Holiday cycling means that cycling is one of a number of activities that visitors participate in while vacationing. Cycling day visits include those visits by cyclists who were away from home for a full or half day.

Sustrans defined three types of cycle tourism:
1. Cycling holidays
2. Holiday cycling
3. Cycling day visits

c) In the United States

Trails tourism is one facet of resource-based tourism. Long distance trails are the most attractive to develop a trails tourism program because of the length of trail that can be covered by visitors, the linking of cultural and historic sites and of urban to suburban to rural areas, and the availability of transportation options among other factors. There have been some studies of long-distance trails in the United States that are worth mentioning here. Two studies of users and their behaviors on the Appalachian Trail were conducted in the 1970s (Stillman 1979; DeForest and Andrasko 1991). Trails not located in National Parks or designated national trails have been

studied such as the Elroy-Sparta Trail in Illinois (Schewecke et al 1989), the Long Trail in Vermont (Plumley 1978), the Northern Central Rail Trail in Maryland (PKF Consulting 1994), the Burke-Gilman trail in Seattle, Washington (1987), among many others. The study of the Elroy-Sparta Trail determined that the average user traveled 228 miles to reach the trail, and 48.7% of all trail users came from out of state.

Of the studies that have been done, the vast majority point to the fact that most trails are still primarily used by local residents, and tourism markets are considered important but secondary.

d) In Canada

In Canada, like in the United States, trail studies of long distance trails help to understand trails and their tourism potential. Many studies in Canada were originally conducted in national parks. The Canadian Parks Service began using registration stations on trails in Banff and Yoho National Parks in 1967(Thorsell 1968). That same year, a trail use survey was conducted in Glacier National Park (Marsh 1971). Some trail studies have also been conducted on private long-distance walking trails or footpaths (Garscadden 1976; McNamee 1983; Noble 1983; Ernest 1987; Schutt 1997, Robson 1992).

According to other trail studies, non-local trail use accounts for anywhere from 40% to 60% of all trail use.

C. Profile of Market

a) Size and Description of Soft Adventure Travel Market

In 2000, “outdoor activities” was the second top activity for domestic travelers, representing 17% of trips taken. (TIA 2001)

Trail tourists are generally categorized with adventure travelers. Adventure travelers are classified into two categories: hard adventurers and soft adventurers. Hard adventure activities include whitewater rafting, mountain biking, scuba diving, etc. Soft adventure activities include such activities as camping, hiking and recreational cycling. According to the Travel Industry Association of America [TIA] Adventure Travel Report 1997, one-half of all U.S. adults took an adventure vacation within the past five years, of these 93% of these trips were for soft adventure outdoor recreation pursuits. In 2000, “outdoor activities” was the second top activity for domestic travelers according to TIA, representing 17% of all trips taken. The number one activity was shopping (33%), and the third activity was visiting museums and/or historic sites (14%).

Adventure travel is most popular with Generation Xers (64%), Baby Boomers (56%), and men (53%). Interestingly, the entire adventure travel market also includes nearly 1 million participants ages 75 and older. Spouses are the number one companion for soft adventure travel (60%). Children were included in half of all soft adventure trips taken by baby boomers, women and people living in the Northeast and in the West. The demographic profile of soft adventure travelers is similar to the total U.S. adult population: 70% have attended some college, two-thirds are married, all income levels are represented in soft adventure travelers, they tend to be slightly younger than the general U.S. population (typically ages 18-44), a higher share are employed full-time, in households with two wage earners and with children at home. According to the TIA’s recent report (1999) called The Minority Traveler, travel behaviors can vary significantly by ethnic group. For example, Caucasians pursue outdoor recreation travel more frequently than other ethnic groups, and they are more likely to drive their own car to their destination rather than rent an automobile, or travel by bus and train.

For a trails tourism strategy, it is most reasonable to concentrate on those people living within close proximity to the trail and developing these markets first. The Lake Ontario Waterfront Trail, also a multi-use trail cutting through developed areas along Lake Ontario, concentrated on those individuals living within a half-hour drive of the trail (about 25 miles). People take trips more often in and around the region they live (Waterfront Regeneration Trust 1995).

Secondly, according to the TIA's Travelscope, the ten most popular states of destinations for US travelers in 2000 were California, followed by Florida (ECG state), Texas, Pennsylvania (ECG state), New York (ECG state), Ohio, North Carolina (ECG state), Georgia (ECG state), Illinois and Nevada. Therefore, of these ten, half are located along the ECG corridor, which speaks to the tourism development along the East Coast.

Five of the ten most popular states as tourism destinations in 2000 for U.S. travelers are located along the ECG corridor.

Maine recently completed a comprehensive bicycle tourism study called Bicycle Tourism in Maine: Economic Impacts and Marketing (Wilbur Smith Associates 2001). The goal of the report was to estimate the total economic impact of bicycle tourism in the state and to develop marketing recommendations to increase bicycle tourism in the state. In this state, tourism is the second largest industry behind the forest products industry, accounting for 43 million domestic traveler trips in 1999. Of those visits that included an overnight stay, 5% of these visitors included bicycling as one of their activities while in Maine. Those that visited the state for a day trip only, 2% of these visitors included bicycling. This report used two existing surveys to develop profiles of potential bicycle tourists to Maine. These were the Adirondack North Country Association's 1994 survey and Richelieu Valley Tourism Committee's 1994 survey of cycling enthusiasts for the Lake Champlain Bikeway in Quebec, Ontario, Canada. According to these two studies, experienced touring cyclists prefer multiple day trips, 50% preferred tours of four to seven days. "Experienced cyclists traveling alone, with one other person and with friends preferred covering longer distances per day – over 40 miles per day. When cycling with family they preferred shorter distances". Cyclists were willing to travel farther to reach the trail if their cycling trip was longer, and those on shorter cycling tours were willing to travel shorter distances (Ibid).

b) Seasonality/Climate

As can be anticipated, if tourist opportunities are developed and promoted, the ECG could experience a large increase in visitors to the trail. This increase is likely to come during the heavy visitor travel months of June through September, and peak visitation on weekends. This potential increase should be planned and managed for, so as not to detract from or turn of local trail users. The TIA reported that in 2000, 33% of all domestic travel occurred during the summer, 24% in the fall, 23% in the spring and 20% in the winter (TIA 2000).

c) Activity Type

Trail visitors/tourists may use the trail differently than local users. Adventure travelers participated in an average of three different soft adventure activities in the last five years, according to the TIA. The top soft adventure activities were camping (33% of the population), hiking (23%) and recreational cycling (14%). Cycle tourists are more likely to travel further to bike, than recreational walkers (TIA 1997).

d) Economic Benefit

The demand for goods and services by trail tourists will increase which has the potential to spur new businesses to cater to trail users, and therefore positively impact local economies. The economic benefits of a trails tourism strategy are well documented. The most comprehensive study was done by the U.S. National Parks Service (Moore 1992), which documents numerous benefits of rivers, trails and greenways. There are direct economic benefits to the local community such as dollars spent on food and beverages, equipment rentals, or restaurant meals and lodging. As important, but more difficult to calculate accurately, are the indirect economic benefits such as reduction in public costs on transportation, conservation of open space, pollution control, decreased public health costs or reduction in crime.

e) Services and Amenities

Visitor services and amenities need to develop in conjunction with trail development. Travelers have certain expectations about services and amenities that will be located on or near the trail. According to Holt and Lumsdon, cycle tourists look for well designed and safe routes away from traffic, unspoiled countryside, trail services, accommodations located on or near the trail (camping facilities, bed and breakfasts, small motels), places to rest every 7 to 10 miles, fairly level terrain and good trail information and signage. Trails such as the ECG need to work with the tourism industry for mutual benefit by offering additional tourism products to the market, developing new markets and building image for all partners.

Any trail user studies of the ECG should try to ascertain the variety and quality of services and amenities desired. This information will be useful as a trails tourism strategy for the ECG is developed. According to a survey of 556 Nova Scotia hiking trail users, the majority of users heard about the trail via word of mouth (30%), general knowledge (22%), road maps (19%), and tourist information centers (14%).

f) Transportation

According to the Maine report (Wilbur Smith 2001), for a one day cycling trip, 40% of cyclists would drive less than 50 miles to the start of their tour and another 40% would drive between 50 and 100 miles to the start of their tour.

D. Existing Tourism Trails Research on ECG

There has only been one user study on the ECG, the 1996 user survey of the East Bay Bike Path located in Rhode Island. The trail is a bike and pedestrian pathway, 14.2 miles from Providence to Bristol. According to the results, over _ of all users are from Rhode Island itself, and mainly from the towns adjacent or near the trail. As mentioned earlier, there has only been one comprehensive study of trail users on the East Coast Greenway, which was done for the East Bay Bike Path (Kribbs 1996). It attempted to ascertain basic demographic data and is useful to determine some tourism opportunities. For example, 55.6% of all trail users used a motor vehicle to reach the trail, indicating that trail users do and are willing to drive to the trail. This means that potential tourists could be targeted from a longer distance away. Of those studied, nearly one quarter of trail users indicated they were traveling greater than 26 miles round trip on the Bike Path, indicating longer than average stays on the trail, typical of visitors planning to be on the trail for more than a few hours. The peak months for visiting the trail were June, July and August, high months for tourist vacations and use. From the data, the peak times for trail use were on weekends in late morning and early afternoon, also high visitor times. Over half of all trail users admitted to shopping at a store or vendor near the path, mainly purchasing food or

drink (83.3%) and recreational accessories (12.7%). All of these data indicate that local residents and visitors are using the East Bay Bike Path alike. Although this is one section of trail along the East Coast Greenway, it provides some evidence that trail tourism is currently taking place and will be a major use of the East Coast Greenway.

Another report that mentions the ECG is the study of bicycle tourism in Maine (Wilbur Smith 2001). The ECG in Maine is currently an on-road route until a more extensive network of trails can be developed and is likely to stay this way for the foreseeable future. The Maine report estimated that the ECG would likely attract 13,500 local users, 9,000 day-trip users, and 2,250 overnight users (total 24,750) in the state. According to the authors, the ECG has likely to “enjoy national as well as local publicity and is expected to draw a larger user base” than other trails in the state (p. 29).

E. The ECG as a Tourism Product

a) Visitor Types

Visitors to the East Coast Greenway who included the trail as one of their activities would be one type of visitor or trail tourist. It is not known how large this segment would represent. This group of trail tourists would be the larger of the the potential two trail tourist segments until the trail is more developed, and more heavily promoted. This trail tourism segment would not add to the existing tourism base along the trail. The second type of trail tourist could be called a trail enthusiast, where the East Coast Greenway would become their primary reason for visiting, or the trail would be the destination itself. This second type of trail tourist would indeed add to overall visitor volume to the East Coast Greenway corridor area. These trail users would be captured through marketing and promotion of the trail as a continuous route along the East Coast. This segment of trail users would grow over time as knowledge levels increase about the East Coast Greenway experience.

b) Estimating Visitor Trail Use

It is not possible at this time to estimate the size of this potential trail tourist segment without further primary research in those areas that would feed this market. Furthermore, all calculations would need to be based on several assumptions such as assuming completion of the entire trail with as much trail located off-road as possible. Any estimations would offer “best-case scenarios”, which could take seven to ten years to reach, according to other trail studies when use peaks and stabilizes.

The biggest obstacle to providing a useful analysis of current tourism visitation and activity within the ECG corridor is the availability of statistically significant information at the local level. The states may or may not collect any regional information, which might be useful to determine regional tourism levels along the corridor. However this collection is inconsistent across the 15 states. In a survey of the states and the District of Columbia, the following table presents a snapshot of the size of the tourism markets where the ECG is being developed.

TABLE 2: State of Tourism Along ECG

State	Total Annual Visits (in millions)	% Participating in outdoor recreation during visit	Total Direct Travel Expenditures In billions
Maine ¹¹	43.7	29% for overnight segments 18% for day trip segments	\$5.2
New Hampshire ¹²	25.5	N/A	\$1.2
Massachusetts ¹³	26.7	8.3% outdoor recreation primary purpose, 17.6% participated in outdoor recreation	\$10.8
Rhode Island ¹⁴	42 tourist days (only data available)	N/A	\$1.7
Connecticut	N/A	N/A	N/A
New York ¹⁵	126.4	19.6% nature was primary activity on trip (5% hiking/biking)	\$35
New Jersey	N/A	N/A	\$13.9 ¹⁶
Pennsylvania	N/A	N/A	
Delaware ¹⁷	5.9	17% outdoor activities	
Maryland ¹⁸	18.4	8.5% outdoor activities	\$6.5
Virginia ¹⁹	44	2.7% biking 3.8% hiking	
North Carolina ²⁰	N/A	N/A	\$11.2
South Carolina ²¹	29	7% outdoor recreation	\$15.6
Georgia	N/A	N/A	\$12.6 ²²
Florida	N/A	N/A	\$52.2 ²³

¹¹ Longwoods International, June 2000 Travel and Tourism in Maine: 1999 Travel Year, Top Line Results

¹² Institute for New Hampshire Studies New Hampshire Travel Barometer for 1999: January-December

¹³ Economic Impact of Tourism, The Domestic Travel Market, The International Travel Market Massachusetts Office of Travel and Tourism – Research Statistics (www.massvacation.com/research.html)

¹⁴ Rhode Island Travel and Tourism Research Report Volume 14, Number 1 (April 30, 1997)

¹⁵ D. K. Shifflet & Associates, Ltd. New York State Seasonal Year End 1999 Domestic Travel Report (May 2000)

¹⁶ Travel Industry Association of America Tourism Works for America Report 1998

¹⁷ Delaware Travel Barometer: Destination/Overnight Person-Trips Annual 1999, Travel Industry Association of America, July 27, 2000.

¹⁸ Travel Trends: Maryland United States 1997-1998, The Maryland Office of Tourism Development

¹⁹ 1997-98 Virginia Visitor Study Profiles, Virginia Tourism Corporation

²⁰ Facts About North Carolina Travel and Tourism (found at www.stat-usa.gov)

²¹ South Carolina Department of Parks, Recreation and Tourism, South Carolina 1999 Annual Tourism Figures

²² Travel Industry Association of America Tourism Works for America Report 1998

²³ Travel Industry Association of America Tourism Works for America Report 1998

Overall, residents of each state will be the largest tourist markets. These state residents would be most familiar with the ECG and may thus be encouraged to experience it more often, stay longer and spend more money. A significant number of visitors to the 15 states along the ECG are from outside of the United States, and this tourist market may also present significant opportunities for the ECG.

c) Trail Activities

Use is heavily also influenced by climate. Therefore trail studies strictly in one part of the country or another, are cannot be easily compared to other parts of the country. Furthermore, use of the ECG will vary depending on the climate up and down the trail. Climate will also affect choice of trail activity such as in-line skating that could continue to take place throughout the year in Florida but in the some of the Mid-Atlantic states or any of the New England states.

d) Events and Attractions

Many attractions can be found along the entire ECG corridor. These attractions and events currently draw thousands of visitors into local areas. The ECG will add to the tourism product that already exists in these areas, with opportunities to enhance tourism packages, extend visitor stays and therefore positively impact tourism spending along the ECG corridor.

Critical to a trails tourism product offering is to work closely with stakeholders and tourism attractions, to have a strong name/logo brand identity that is constantly reinforced and slowly but steadily build support at the local community level. The Lake Ontario Waterfront Trail is working with tourism partners to develop packages with existing attractions and events. The trail is unique in that it connects existing and emerging tourist destinations, festivals and events. To successfully meet the needs of the trail tourist, there needs to be a centralized fulfillment system that would be able to handle requests and communicate directly with potential trail users along the entire trail. The system would fulfill visitor inquiries for trail-wide information as well as more regional information. Packaging of trail experiences with other complimentary experiences could be marketed and sold directly to the consumer, funding further marketing initiatives.

Trails, often by their very nature, have a rich natural and cultural heritage that adds to the tourism potential of the ECG. According to the TIA's [Profile of Travelers Who Participate in Historical and Cultural Activities](#), over one-fourth of U.S. adults reported taking an least one trip in the past year which included a visit to an historic place or museum. Furthermore, 17% included a visit to a cultural event or festival. The cultural or historical traveler are less likely to drive their own car and more likely to fly. They are more likely to shop during their visit. Visits to national and state parks are also popular among these travelers.

Interpretation of the natural and cultural heritage features along the trail can enhance the visitor experience, and therefore add to the value of the trail for local tourism opportunities. There are a variety of interpretation methods available such as self-guides, signs or brochures. Interpretation can lead to understanding and appreciation of the heritage resources and ultimately support for these resources, adding to the benefits to the local communities along the trail.

Activities that are of interest to the whole family, across generations, will be more successful. Because of the range of experiences available on the East Coast Greenway, the potential for these types of events is enormous. As mentioned earlier, people are looking for the authentic, the genuine and have a discriminating eye. The uniqueness and local flavor of the

East Coast Greenway trail sections should not be overlooked. Special events give an added incentive for trail users to come back. Some thought should be given to a series of trail festivals or a Greenway Festival that takes place the same time along the trail.

The current events, attractions, and heritage resources along a trail are only part of the picture. Trail use could also grow as a result of new initiatives such as the millennium trail designation; improved marketing and publicity efforts; ease of trail accessibility; length of trail season; are some of the many other factors which could impact future trail use and will influence any projections presented here. It can generally be assumed that visitor use would continue to increase. Increased public awareness of the trail through the media, the Internet and other forms of publicity would almost certainly result in some increase in visitor use, as would trail markers, trail maps and information. The involvement of local trail organizations and the East Coast Greenway Alliance, and the level of media attention and promotion by trail managers, would be factors in determining the potential for future trail use.

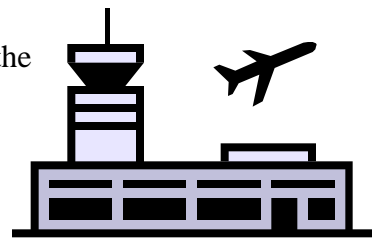
e) Services and Amenities

Another component of a successful trails tourism program is evaluating if the local communities have the necessary infrastructure to support a growth in trails tourism. For example, are there shopping and retail opportunities for visitors? What are the hospital and emergency medical facilities like and where are they located in relation to the trail? The ECG will be one of the few, if not the only trail, to cut through major urban areas where the tourism infrastructure already exists to a large extent. Preferences for services and amenities are very dependent on the how the user travels (alone, with family, with spouse, or in a group).

f) Transportation and Access

The East Coast Greenway is located proximate to the most developed transportation infrastructure in the United States:

- System of interstate highways and expressways allows for fast access to the whole north east corridor
- The many international airports, some of the busiest in the country, are located here, with direct flights to every part of the world
- Numerous smaller, regional airports
- Rail transportation along the northeastern corridor by Amtrak. Rail should be considered a critical partner in trail access since it facilitates linear movement. The policies regarding the transport of bicycles have restricted its role to date.
- Not to be overlooked because of the urban nature of the ECG, is access to public local transportation such as buses, subways and ferries



Transportation corridors dominate the northeastern United States. This is can be a positive feature, providing linear movement along the ECG corridor.

g) Advertising and Promotion

The ECGA will need a strong marketing and promotion tourism plan that includes all the various distribution channels and strategies to address such as issues as word-of-mouth recommendations, road maps, tourist information centers and brochures.

F. Recommendations on Developing the ECG as a Tourism Product

- ✓ All of the various components as mentioned above need to be more rigorously inventoried to formulate an ECG tourism strategy.
- ✓ The ECG must have a clear idea of the type of experiences it will offer (based on the trails inventory) because the uniqueness of these experiences to determine how far people would be willing to travel.
- ✓ Use the profile the ECG tourist to target market segments.
- ✓ Concentrate on the markets closest to the trail first and expand marketing efforts as resources allow.
- ✓ Work closely with all the various stakeholders and partners, to develop a strong name/logo brand identity that is constantly reinforced.
- ✓ Work with tourism operators and stakeholders along the trail to package trail experiences with other complimentary experiences such as bed and breakfast stays, antiques, shopping, etc. Furthermore, these packages should be marketed and sold through a central location for ease of the consumer.
- ✓ Work to document the economic benefits of a trails tourism strategy to show the benefits of the trails tourism strategy to trail communities, organizations and businesses.
- ✓ Tourism development should be planned for the least amount of harmful environmental impact and the most benefit to the local community.
- ✓ Local residents need to be involved in any tourism marketing effort.
- ✓ Themes and experiences could be developed to highlight the cultural and natural strengths of the area.
- ✓ In order to begin an interpretation program, a full inventory of the natural and cultural heritage along the trail must be done on the trail. The researcher would gather information related to the history of the trail in that area (what it was used for before or when it was built), wildlife, historic structures, museums and other examples of the local heritage. This research should be supplemented with secondary data from photographs, newspapers or other documents. Then, what topics to be included in an interpretation program need to be selected, and finally the format of the interpretation must be decided and implemented.
- ✓ Destinations and trail sections should be linked through trail signage, a database of trails tourism information along the entire length of trail, through festivals and events taking place on the East Coast Greenway, through marketing and promotional materials.
- ✓ Continue to provide technical support for the various trail sections and states to develop maps and brochures for the ECG.
- ✓ Coordinate promotions for various special events along the ECG.

V. Overall Recommendations

- Develop a research plan for the East Coast Greenway that will identify what information is most critical for the East Coast Greenway Alliance and the trail partners along the Greenway, both now and in the future making sure to receive input from local partners.
- The plan should clearly identify the information sought, reasons for collection, methodology, research schedule, costs and responsibilities. A research plan will also have to include how to deal with issues such as seasonality of trail use and how this varies along the East Coast
- Determine how the research will be conducted in terms of data methods, collection, analysis, and distribution of results. Do not overlook graduate student projects and theses to assist in research needs.
- Take advantage of staffed trail access points such as national or state parks or recreation areas where staff can assist in data collection.
- The most common way to collect trail user data is to conduct one-on-one interviews with trail users on the trail. Response rates are high and more delicate information can be gathered than could be gathered using other methods such as simple traffic counts or registration cards.
- A full inventory of the natural and cultural heritage, and other man-made attractions and events along the trail must be done. This research should be supplemented with secondary data from photographs, newspapers or other documents.
- Ultimately there should be a centralized fulfillment system that would be able to handle tourism inquiries for trail information along the entire trail.
- Continue to develop and publicize the website for all related information on the ECG including services, facilities, publications, tourism packages, tourism information, etc.

APPENDICES

Appendix A: References

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Appendix B:

East Coast Greenway

County Populations by State

2000 Census Data

STATE	COUNTY	POPULATION	STATE TOTALS
Maine	Androscoggin	103,793	
	Cumberland	265,612	
	Hancock	51,791	
	Kennebec	117,114	
	Knox	39,618	
	Lincoln	33,616	
	Penobscott	144,919	
	Sagadahoc	35,214	
	Somerset	50,888	
	Waldo	36,280	
	Washington	33,941	
	York	186,742	1,099,528
New Hampshire	Rockingham	277,359	
			277,359
Massachusetts	Bristol	534,678	
	Essex	723,419	
	Middlesex	1,465,396	
	Norfolk	650,308	
	Suffolk	689,807	
	Worcester	750,963	4,814,571
Rhode Island	Bristol	50,648	
	Kent	167,090	
	Providence	621,602	839,340
Connecticut	Fairfield	882,567	
	Hartford	857,183	
	New Haven	824,008	
	Tolland	136,364	
	Windham	109,091	2,809,213
New York	Bronx	1,332,650	
	New York County	1,537,195	

	Richmond	443,728	
	Westchester	923,459	4,237,032
New Jersey	Mercer	350,761	
	Middlesex	750,162	
	Somerset	297,490	
	Union	522,541	1,920,954
Pennsylvania	Bucks	597,635	
	Delaware	550,864	
	Philadelphia	1,517,550	2,666,049
Delaware	New Castle	500,265	500,265
DC	Washington	572,059	572,059
Maryland	Anne Arundel	489,656	
	Baltimore	754,292	
	Cecil	85,951	
	Harford	218,590	
	Kent	19,197	
	Prince George's	801,515	
	Queen Anne's	40,563	2,409,764
Virginia	Arlington	189,453	
	Brunswick	18,419	
	Caroline	22,121	
	Charles City	6,926	
	Chesterfield	259,903	
	Dinwiddie	24,533	
	Fairfax	969,749	
	Hanover	86,320	
	Henrico	262,300	
	James City	48,102	
	Mecklenburg	32,380	
	Prince William	19,720	
	Spotsylvania	90,395	
	Stafford	92,446	
	York	56,297	2,179,064
North Carolina	Beaufort	44,958	
	Bladen	32,278	
	Brunswick	73,143	
	Camden	6,885	
	Carteret	59,383	
	Chowan	14,526	

	Columbus	54,749	
	Craven	91,436	
	Cumberland	302,963	
	Currituck	18,190	
	Durham	223,314	
	Granville	48,498	
	Harnett	91,025	
	Jones	10,381	
	New Hanover	160,307	
	Onslow	150,355	
	Pamlico	12,934	
	Pasquotank	34,897	
	Perquimans	11,368	
	Vance	42,954	
	Wake	627,846	
	Warren	19,972	
	Washington	13,723	2,146,085
South Carolina	Beaufort	120,937	
	Berkeley	142,651	
	Charleston	309,969	
	Colleton	38,264	
	Georgetown	55,797	
	Horry	196,629	
	Jasper	20,678	884,925
Georgia	Bryan	23,417	
	Camden	43,664	
	Chatham	232,048	
	Glynn	67,568	
	Liberty	61,610	
	McIntosh	10,847	439,154
Florida	Brevard	476,230	
	Broward	1,623,018	
	Citrus	118,085	
	Duval	778,879	
	Flagler	49,832	
	Glades	10,576	
	Hendry	36,210	
	Hernando	130,802	
	Hillsborough	998,948	

	Indian River	112,947	
	Marion	258,916	
	Martin	126,731	
	Miami Dade	2,253,362	
	Monroe	79,589	
	Nassau	57,663	
	Okeechobee	35,910	
	Orange	896,344	
	Osceola	172,493	
	Palm Beach	1,131,184	
	Pasco	344,765	
	Polk	483,924	
	Putnam	70,423	
	St. Johns	123,135	
	St. Lucie	192,695	
	Volusia	443,343	11,006,004

TOTAL 38,801,366

Population for Trail Segments

New England (ME, NH, MA, RI, CT)

9,840,011

Mid-Atlantic (NY, NJ, PA, DE, MD & DC)

12,306,123

Southeast (VA, NC, SC, GA, FL)

16,655,232

Appendix C:

How to Conduct A Trail Study

Prepared by Alicia Schatteman

Schatteman Consulting Services

Whether you are a small committee of volunteers interested in studying your local trail or a staff person of a large trail organization, this report walks you through, step-by-step, the process of meeting your needs and completing the perfect trail study for your trail. Even if you have decided to hire someone to conduct the study, there are many things you need to consider before moving ahead.

Organizational Questions

1. Why Are We Doing This?

Why do the study at all? Who wants or needs this information and why? Each trail organization or group has different reasons and it is important to know this up front. At first, you might think this is pointless. It is not. The real reason behind why these studies are done will affect many areas, which we will discuss later. Some possible reasons include:

- We are applying for a grant and they have asked for an estimate of trail use.
- Our local municipality said they would give us some money to maintain the trail if we knew how many people used the trail and where they live.
- We would like to know if the trail is being over-used because we are worried about environmental problems.
- We need to know of the total amount of users, just how many are cyclists or hikers because we are thinking of installing new gates to the entrances.

2. What do we want to accomplish?

For as many different trails there are, there could be as many different reasons for doing a trail study. It's still very important to think long and hard what yours are before you proceed. The reason you need the study will become the "goal" of the study, or the overall purpose. It is useful to come up with wording everyone agrees to before proceeding. Possible goal statements include:

- To determine the environmental impact of cyclists on the _____ Trail.
- To determine a user profile of _____ Trail.
- To estimate the use and overall economic impact of _____ Trail.

After you have figured out why you need a study, and everyone has agreed to the overall goal of the study, the next thing you need to determine is exactly what type of information you need. Again, this comes back to your main reason for doing the study.

3. Create Your Need and Wish Lists

This information will become the objectives of the study. Objectives could be a range of things and you will need to brainstorm about this. The best thing to do is to have a "need" list and a "wish" list. Your "need" list includes those things that are critical to the study and will respond to your overall goal. For example, if your overall goal is to determine a user profile, then

your “need” list might include determining the type of user (hiker vs. cyclist), ages of users, and residence of users. Your “wish” list are those things that are not necessary but would be nice to have for future decisions or anticipated needs. The “wish” list could include knowing how long trail users are in the area, what else they are doing besides using the trail, or if they have ever used the trail before. Then you need to go back to both lists and prioritize them. This will help you to make decisions later. I cannot stress the importance of having everyone agree to these from the beginning, including committee members, executive director, president, etc. Include as many people as you feel is reasonable and those who have a responsibility for the long-term viability of the trail.

Timing Is Everything

Next, you need to consider if there are any decisions to be made regarding timing. For example, do need the study data by a certain date? Would you like the information by your general membership meeting next year? You need to pick two dates: one that you absolutely have to have the study completed and the other when it is possible to start. This will give the person(s) who accept to conduct the study a timeframe.

Project Outline

You should have enough information to write a one-page project outline; including those to be involved with the study (such as a sub-committee of the Board), one contact person (such as the Chair or a staff person), study goal and study objectives, and timeframe (with possible start-date and completion date). You may also want to include a short description of the trail at the top of the page, which includes trail length, type of trail use, owners and managers of trail, and if there was any past trail studies done of the trail. This outline should be reviewed by the trail organization and accepted by the Board. It will probably be expanded before the study actually begins, but you need this before you proceed further.

The Mighty Dollar

Now that you have a project outline, you need to address one of the next biggest concerns for many trail organizations and community groups – money. There are many ways to get a trail study done with varying costs, and each has positives and negatives. All options should be weighed according to your own financial means and study needs. I have briefly summarized them in the following tables:

I. Options	Positives	Negatives
Consultant	<ul style="list-style-type: none"> • Very professionally done • Can ask for detailed reports • Report will be trusted if consultant has good reputation in field • Can be available to organization for meetings/consultations • Has necessary educational and employment background • Can seek references from previous clients • Contract will spell out minute details ensuring you get what you pay for, and the amount cannot change • Can determine what parts of the study you need a consultant for and use other options to supplement 	<ul style="list-style-type: none"> • Can be very costly, depending on study and reputation of consultant • Everything added to the study after the contract is signed (such as meeting appearances, presentations, copies of final report) will be billed at a higher rate • Consultants generally want to be responsible for the entire study if their name is going to appear on it, so using volunteer or staff expertise and labour can be a problem for some

<p>Students (college or university, undergraduate or graduate)</p>	<ul style="list-style-type: none"> • Many colleges or universities need practical work experiences for their students as part of course requirements. • Students are not generally paid for their work and study funds are used to conduct the study itself. • Can even become a class or course project • Students usually come with high levels of enthusiasm to do a good job • Students are concerned with the learning process. Organizations therefore can make changes, if needed, as the study progresses. • There may be other funding opportunities through the institution to assist in the study. • Trail work can be tiring and physical, which many students can handle. • Study can be broken down into several student projects, involving more than one class or even school. 	<ul style="list-style-type: none"> • Students have their own agenda, i.e. to finish the class/degree and obtain a good grade. This can sometimes be at odds with the organization; especially when it comes to how fast or slowly a study is completed. • Students have to answer to their professors and advisors as well as the board or trail organization. Many masters can create problems. • Some students will do a professional job similar to a consultant, others will not. It is a risk that you need to be aware of up front. • Students are not bound to the same “contract” as a consultant. • Although there are no consultant fees to be paid, students will still require a budget for out-of-pocket expenses and materials. Depending on the situation, these could be substantial. • If project is broken down into smaller pieces, you will need to someone to oversee entire project and pull all the pieces together.
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<p>Staff</p>	<ul style="list-style-type: none"> • Will be most dedicated to the project because they can see the potential benefits. • Can have the necessary education and training to conduct the study, and they are already here. • May not result in any additional labour costs. • Already have relationship with volunteers to assist with project. 	<ul style="list-style-type: none"> • Many staff involved with trail organizations are already doing many jobs and may resent taking on new responsibilities because of lack of time, lack of financial reward. • Some trail organizations have no staff so this is not an option at all. • Some staff may think they have the necessary skills to conduct a study but do not. • Can still incur significant material costs.
<p>Volunteers</p>	<ul style="list-style-type: none"> • Least costly in terms of labour costs. • Committed to the trail organization and project. • Can delegate the work to not be a burden on any one volunteer and share the workload. 	<ul style="list-style-type: none"> • May not have the expertise to conduct all parts of the study. • Study goals and objectives are subject to volunteer's time and availability. • Still need a budget for materials and out-of-pocket expenses incurred by the volunteers.

As you can see, there are a number of things to consider, depending on your needs, study requirements, and budget. You may also wish to use a combination of these possibilities. For example, have a consultant conduct a simple user, have volunteers maintain trail registration stations, and have students interview local landowners. If you only have a few hundred dollars in your budget for a study and you want to hire a consultant, you will need to rethink things. Alternatively, if you want to use volunteers, but require a six-month study of users with personal interviews you may also want to reconsider.

Ask yourself the following questions:

- How much time and energy can you rationally expect a volunteer to assist with this study, and how many volunteers are willing to do so?

- Are your staff members properly trained to conduct such a study and can they do so along with the other responsibilities?
- Are there any colleges or universities who might be interested in your project and who should I contact?
- If our budget permits using a consultant for parts of all of the work, who does this kind of work?

Other Funding Options

If your organization has a few hundred dollars and your project requires a consultant that will cost a few thousand, what can you do? You can look for outside financial help. There are grants available to assist local communities in undertaking such studies but this does require some homework. These grants come from governments, private corporations and charitable foundations. Grant writing is not easy and can be tedious but could be very worthwhile if you are successful. Begin at your local library. There are a number of reference books related to “community grants”, all of which have different requirements. Some may want part of the study to be an environmental audit of the trail, and you need to determine if you can include this or not. A helpful tip is to find other trail studies, probably published in journals or magazines and see if they list a funding source. If they do not, contact the trail association and group and ask how they funded their trail study. Remember that all funding partners need to be recognized in all reports or press releases. They may also want copies of the final report or detailed data tables.

Although conducting a trail study may look daunting, if you do your homework before you actually start the study, you will be much more prepared.

Methods

After you have determined the type of trail study you need, you need to next consider the methods available to gather the information you need. If your organization decides to hire a consultant, they will probably tell you what methods to use based on their experience and your budget. However, it is useful to know the terminology and the pros and cons of each method choice. If your organization is planning to do the trail study yourselves, then this article will assist you step-by-step in choosing how to gather the data you need.

a) Factors Affecting Methods

The methods used will be affected by the following:

- Information needed (i.e. user counts vs. in-depth information from users)
- Type of trail (single use or multi-use; controlled or multi-access points; trail ownership)
- Budget (for labour, materials, travel)

If your objectives include gathering detailed information about trail users, you have to decide what is the most efficient way to do this. The type of trail will influence your decision because different kinds of users use the trail differently. For example, hikers are more likely to use self-registration boxes than cyclists are, because cyclists must stop and get off their bikes. If access is controlled, such as a trail in a park where every user must pass through the same point, it is easier to get user counts and user information because every user can be approached. On multi-access trails, it is difficult to capture every trail user, and calculations are more difficult. Finally, your budget will dictate the methods used as well. If you can purchase or loan high tech

equipment to count users as they enter a trail, then this becomes an option. However, if your budget does not allow this, then you have to find a less complicated solution. Furthermore, you need to decide if this will be a study of the whole trail, or just a part of it. If you have a small budget, you may determine that you only need detailed information on trail use in a certain area. If the trail covers a great distance, then you will have to factor in travel expenses for staff/volunteers/students to check on registration sites or travel to trail points to conduct interviews for example. How long you want to conduct the study will also affect budget. Are you specifically interested in summer users or snowmobilers who use the trail? Again, these questions come back to your objectives. The next section discusses the various methods available.

b) Methods Available

Various methods have been used in the past that are more or less successful. These include:

- sample observations: It is difficult to get a reliable representative sample using observations because of the variety of observation times and locations.
- electronic counters: Electronic counter technology, though improved since the 1970s, tends to have problems associated with inaccuracy and is costly. The Canadian Parks Service use pressure-pad counters in various parks and visitor centres to estimate use. The pad and a battery are buried 30 cm below the ground, across the trail. The pad is supposed to count any person over 25 kilograms, and record each occurrence in its memory. Problems with this technology include losing the location of the pad once it is buried, counting animals over 25 kilograms, or the battery dying during the study period. The pressure pads are expensive and care must be taken to properly mark its location once buried.
- automatic cameras: Cameras that either expose one frame at pre-set intervals or react to objects passing through infrared beams have also been tried. Such equipment, however, is expensive and susceptible to vandalism.
- trail registries:

By far the most common method of studying trail use is voluntary self-registration at trail registries. They can give much more information on users, and can offer more meaningful information than unmanned devices. One drawback is when some groups do not register at all (non-response bias) or one person registers for the group (group leader bias). Therefore response rates are needed to adjust the raw data from the user registries. In general, individuals are less likely to register, as are people on short walks, those who use the trail often, those who do not belong to wilderness-oriented clubs, or those people who live near the trail. Ernest (1987) suggested it was perhaps best to keep the time required to complete a user card under one minute, but noted there was no literature on the relationship to form length and response rate. In their study, Lucas and Oltman (1971) and Scotter (1981) used observers to note registration rates and the ages, sex and group size of registrants and non-registrants. If group leader bias was an issue, then it was normally the husband that took the leadership role in family groups (Lucas, James and Schreuder 1971).

Wenger and Gregerson completed a study in 1964 to test the effectiveness of unmanned registration stations in two wilderness areas in Oregon. The average rate of response was between 70% and 85%. They found that registration data were distorted by classes, mode of

travel, size of party, purpose of trip and frequency of prior use. They attributed the different response rates between classes to be differences between groups using different modes of travel, such as hikers versus horse-back riders. Also, individuals register less, as noted above, and wording of the sign may influence this. Fishermen usually travel alone, and therefore accounted for six of every seven individual non-registrants. "Single persons would be less likely to register because they are not exposed to the immediate constraints of socially appropriate action present in the company of others" (Wenger et al. 1964, 8). Furthermore, the number of years and times that a person has previously visited an area can result in response bias. "The oldtimers, long committed to use of the area, thoroughly familiar with the terrain, confident of their abilities and with a feeling of vested interest, could be expected to be less responsive to the stations" (Ibid.,9). In general, trail registry response rates vary from a high of 78% (Scotter 1981) to 28% (Lucas 1975).

The registries themselves are also critical to achieving high response rates. Wenger (1964) conducted a test of unmanned registration stations on wilderness trails for the US Forest Service to find out "what physical factors seemed to contribute most to their effectiveness" (7). Wenger identified two elements of a registration station. The first is the sign requesting registration and the second is the method of storing completed registration forms. He tested six different variations of signs and the two box types (registration cards dropped in a slot, and book-type forms in a binder). His major conclusions included: sign wording is critical; avoid details in wording, "Register" should be the largest word; boxes should be "conspicuously attractive", maps attract users to register and card-type boxes are more convenient for respondents (32). Locating the boxes on the perimeter of a location is more advantageous than interior locations. The author noted the following examples: there is less confusion about when to register, there is the "symbolic significance" of entering the backcountry, persons going on short distances are included in study, fewer stations are necessary to cover all users, and cost to maintain stations and retrieve data is lower (Wenger 1964,30).

Other features of registration stations, Wenger noted, were sign design, box construction, and accessories. "Keep it short and simple" was the best idea when it came to the wording of the sign. The signs themselves must be "conspicuous enough to attract attention of trail users" (28). The card-type boxes were easier to construct and mount, and held more forms. Accessories referred to such things as pens, pencils, maps and calendars. A trail map mounted above the registration box seemed to increase the attraction of the station and provided a worthwhile service to users, according to Wenger. Vandalism of pens and pencils was not an issue in this study and pens were preferred over pencils. However, neither wrote on wet forms, and an ink or copying pencil was provided for this purpose. A wallet-sized calendar was stapled to the lid of the box to encourage accuracy of forms. Wenger also suggested putting clear and short instructions as people progress through the registration process (Wenger 1964).

The Canadian Parks Service also used registration stations on trails in Banff and Yoho National Parks in 1967. The pilot study tested the survey and data collection procedures. They used a mail questionnaire format and achieved a response rate of 69%. In the actual study, researchers set up 56 survey boxes and not the shorter registration card/form type. Overall a total of 28,000 trail users were identified, with approximately 7,000 surveys from Banff and 2,000 from Yoho. It was "likely the largest backcountry user sample ever

collected" at the time (Thorsell 1968, 4-12). Another trail use survey was completed in Glacier National Park during the same year. Ten registration stations were set up at 10 trailheads. Observations and user interviews were used to check response rates to the stations, which averaged 85% (Marsh 1971).

Trail registry cards are limited as to how much information they can provide given the time and space limitations. More detailed information is often needed about user perceptions, motivations, satisfaction levels, and incomes and expenditures. Personal interviews are deemed better to gather the data than other methods since they reduce bias to non-response, allow the researcher greater control over the response process and many people prefer interviews to hand-out surveys or mail-in questionnaires, which hopefully will result in a better sample size (Clark 1975; Morrison 1979; Allen 1984).

The U.S. Forest Service instituted a policy whereby all users must self-register on entering all the Service's wilderness and primitive areas in Washington and Oregon. However, to get at user attitudes, for example, which could not be ascertained easily through self-registration cards, an eight-page questionnaire was mailed to a random sample of 1,964 individuals registering at the stations. They achieved a response rate of 70.9% (Hendee et al. 1968).

The type of questions on the survey and how they are asked are also significant. Shimizu's study comparing open-ended and closed-ended questions revealed that closed-ended questions resulted in a higher frequency of response. However, open-ended questions produced answers that may not have been included on the closed-ended questions (Babbie 1973; Bailey 1982). Metzner and Mann (1952) argued that respondents prefer open-ended questions to multiple choices. Both types of questions have drawbacks and benefits so it is important to recognize these early on in the design of the survey. Questions should be short but clear, so that there is less error by the interviewer or the respondent, and have no more than four or five options (Alreck and Settle, 1985). Dillman, however, argues that there should be no more than six to eight items (1978). Respondents cannot remember more than that and get tired of deciding among so many options, commonly called the "fatigue element" (Alreck et al, 1985). Alreck also asserts that people tend to remember the first few options in a list (the "primacy" effect) or the last few items (the "recency" effect). Beyond seven items, a visual aid is necessary for the respondent to remember all the options equally (Riley 1988). Also, the interview method of survey distribution will have to address the problem of revealing sensitive information, particularly related to income and expenditures, to an interviewer (Frazen and Lazarsfeld 1945). Illinois's study of the Elroy-Sparta Trail suggested that when addressing expenditures, "on this trip in the area" is more inclusive. Also, the user should estimate what they think they will spend instead of how much money spent. The "use of the past tense omits all expenditures for the rest of the trip" (Illinois 1990, 9).

The sample group for the surveys is crucial to the validity of research. It needs to be representative of the larger population, reflecting the same characteristics (Babbie 1973). Of course, there will be limitations including willingness of individuals to complete a survey at all. Trail association members would likely be more willing to participate as they have a vested interest in the trail, but this would result in a survey bias. The survey design and implementation will be very important to ensure that the sample group and size are truly representative.

Now that you are familiar with the various methods, you will need to make some decisions. The following is one possible scenario:

Objective #1: To determine trail overall trail use between June and September. How: install self-registration stations at trail access points, maintained weekly by volunteers.

Objective #2: To determine trail users attitudes about crowding and acceptable trail uses. How: Mail-back survey to trail membership (approximately 2,000 names).

Objective #3: To determine how many trail users are members of the trail organization. How: face-to-face interviews with trail users on selected weekdays and weekends over the course of the study, and at trail access points.

You need to do this for your organization, match your objectives with the method available and considering the previous factors mentioned. Your overall trail study project outline, will now have a second page called “methods”. You will need more detailed information, but for now it is important that everyone agree on how the study will be conducted. Next I will discuss your study budget and how it is affected by the methods you select.

c) What is it going to cost?

In my study of the Bruce Trail (Schutt 1997a; Schutt 1997b), our budget was not large enough to hire professionals to undertake every part of the study, or to purchase expensive technical equipment. One of the objectives of the Board was to have an idea of trail use on a twelve-month basis, something that had not been attempted before on a long-distance trail. This affected what kind of equipment and materials we could use, because it had to last through a year, and four seasons of weather. Secondly, they wanted basic information as well as more detailed information from users, including incomes and expenditures. Basic registration cards would not give this detailed information, so we decided to interview users. Our other choices for this information were to use survey boxes on the trail or mail-back surveys. Since we were already using registration boxes, survey boxes would be too costly. Mail back surveys could have worked but we needed people to leave their name and address so surveys could be mailed, and mail-back surveys should be pre-stamped to encourage returns. The cost of postage would have been too high and the percentage of returns probably about 10%. Therefore, personal interviews were deemed the best way to get this sensitive information. Of course, when you use self-registration boxes, you need to check what percentage of all trail users actually registers, so we had to set up observations of the stations. This meant someone standing near the box where they could not readily be seen and count how many people passed the station and how many actually registered.

Self-registration stations or boxes are simple to construct but there are many things to consider. These include: cost, length of anticipated use, attractiveness, suitability for location or soil, how many to build and where they should be located on the trail. In previous trail studies, there are examples of trail registration stations. The simplest version is a box mounted on a post with a sign overhead. In the box is a binder or cards for the user to fill out and a smaller locked box where the cards are dropped. The stations need to be hardy enough to last through all kinds of precipitation and easy for users to use. The registration stations we used consisted of “_” plywood box, with a hinged, sloped lid. Registration materials were inside, including the smaller locked box. The box was mounted on a 7’ t-bar (used for fencing) and a sign was mounted overhead on “_” plywood as well. The signs were screen-printed on thin plywood (approximately

2' x 3'). The t-bar was driven into the ground and the box and sign mounted at the site. This type of construction resulted in an average of cost of \$55 per box (some materials were donated, and this price did not include our volunteer labour). We built 34 registration stations this way but you will need to determine how many you need. Trail tip: do not overlook the many options available to have stations constructed such as college class projects, high school projects, community service hours for people with minor offences and who have a wide variety of backgrounds, or your trail association volunteers. You should also be able to get at least portions of your material costs donated if you can provide tax-deductible receipts for the retail cost of these supplies.

From previous studies of the Bruce Trail, we were able to identify primary access points to the trail. Although there are potentially thousands we focused on these primary spots. These spots were placed on a map of the trail so we could visually determine the spacing between areas and where overlap could eliminate a station. Next, we removed all stations that were on the trail but crossed private land. We decided that it would be easier to get support and approval from public trail partners, such as parks or conservation areas as we had agreements with them already. We also installed some stations on land owned by the trail association itself. So with all of these considerations, we narrowed the 60 primary access points down to 34 registration stations, relatively equally spaced along the entire length of trail. Then visits had to be made to each location to determine the exact spot where the station could be erected. This took at least two weeks to complete, again because of the length of the trail. At each site, we needed to determine the best possible place for the station, how accessible it would be, how close to the parking area, how visible, and what the ground conditions were like to install the t-bars. As the Bruce Trail follows the Niagara Escarpment, more than once we had selected a perfect location only to determine that we were only had an inch of soil before hitting solid rock. These site visits are critical and detailed maps are needed if possible so you can show the location to anyone you need to seek approvals from. Approvals were usually fairly straight forward, except in those locations that had underground wiring or cabling. We had to be very careful in these locations and approvals did delay installation.

The next thing was to determine how many visits were required to maintain these stations for the length of the study. We anticipated use would be heaviest in summer and fall and stations would have to be visited at least once a week to pick up cards and replenish the box. In the other seasons, we might be able to get away with one visit every two weeks. If volunteers are going to be used, they need to know what the expectations are up front because poor maintenance will affect reliability of results. If you require fifteen visits to each location during the study, how much time will this take and what expenses are to be incurred? This will affect your budget considerably. Travel expenses ate up a large portion of our study budget because of the distance between registration stations and the length of the trail itself.

SUMMARY:

This article has reviewed all the possible methods to use to conduct a trail study, and some of the anticipated costs that will affect your overall budget. You now have the second page of your project outline (how each objective will be accomplished). As you can see, there is a lot of work before the real study begins. The more you can plan ahead, the better you will be prepared for the associated expenses and work involved in the actual study. The third part of this series will deal with gathering the results, how to analyze them and generally what to do when the study is over.