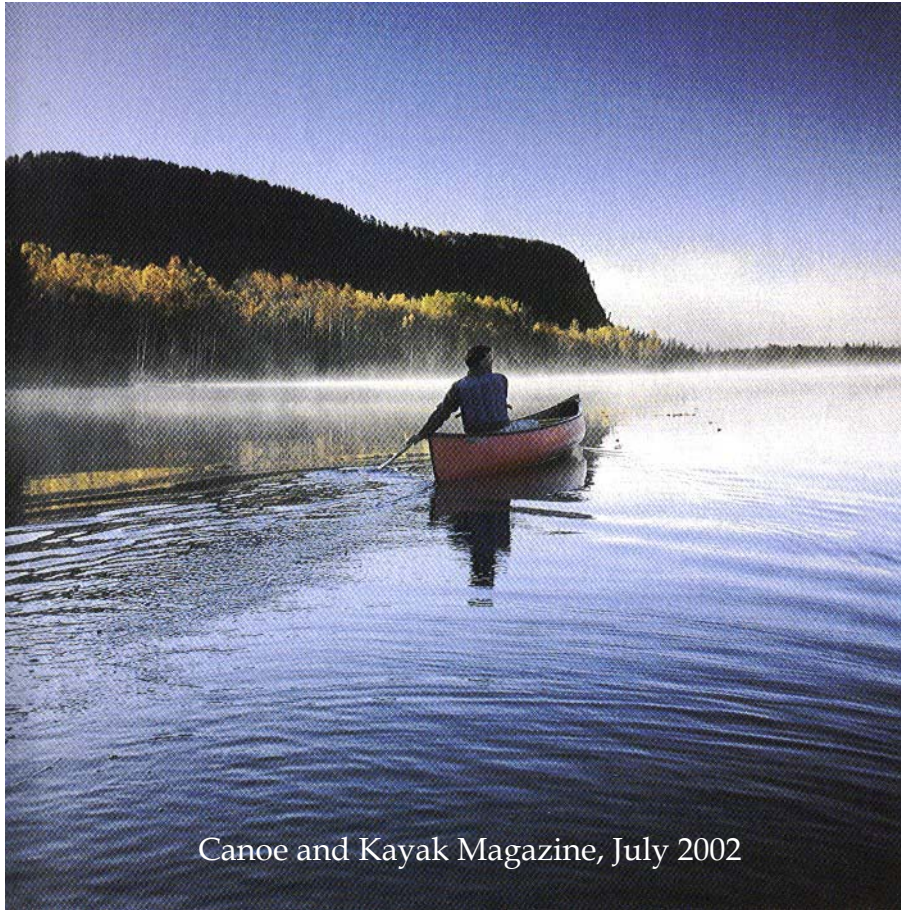


Case Studies of Water Trail Impacts on Rural Communities



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Case Studies of Water Trail Impacts on Rural Communities

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Executive Summary

Water trail development causes economic and social and impacts on rural communities. Chronicles of water trail communities convey values influencing the sustainability of paddle trail projects. Water trails are not a panacea for rural development, however, water trail development can help achieve goals of economic diversification and improved quality of life in communities. Paddle trails are an effective approach to rural economic development and recreational access while enhancing natural and cultural qualities of a community.

Travel and tourism is one of the largest industries in many state economies. Water trails are a rapidly growing element of the marine recreation and tourism industry. Innovative communities managing water trails within a dynamic local economy will be rewarded. Case study community trends indicate paddlers will spend between \$27 and \$63 per day. A destination paddler on a multiple day water trail trip will spend about \$88 in a community. Eating and drinking establishments, lodging and camping businesses, retail sales and recreational service industries will see direct economic impacts from water trail paddlers.

Case study communities are witnessing between 2,200 and 16,000 paddle outings annually. Canoeists on the Kickapoo spend over \$1.2 million in rural southwest Wisconsin. Total economic impact of paddle trails includes both direct and induced spending. In the eastern North Carolina region the coastal plains water trail system produces 2.4 percent (\$55.14 million) of tourism economic impact. When combining local and non-local expenditures, North Carolina's coastal paddling experiences produced \$103.9 million (Thigpen, 2001).

Water trails are beneficial components of rural communities. In water trail communities a sense of stewardship is fostered and the number and success of retail and service businesses increase as the community builds a reputation as a paddling destination. Case study water trails have impressive paddler profiles (well educated, high income), increasing use rates and paddlers desiring a quality natural environment. Case study communities capture profits from paddlers by offering overnight lodging opportunities and access to downtowns from the water trail within an assortment of activities for travelers. A shared vision for the water trail and existing tourism support facilities are important community considerations. Events, regional and state level coordination and the quality of local support including strong volunteer groups and management partnerships influence the water trail's success.

A water trail offers economic development potential for a small rural community, but highly specialized recreation can have serious impacts. A local water trail will play a role in community life. Rural residents will have to share

their outdoor experiences with visitors, there will be lines for services, and land values may increase. Landowners along case study water trails are unaffected and trespassing has not become an issue because legal access points and public land is designated and clearly signed and mapped. A water trail must be advocated and maintained locally if the community will reap economic and social benefits. With no retail, service or lodging sites accessible canoeists will not spend much money. As facilities emerge, more people will opt to use the available bed and breakfasts, restaurants, shops and campgrounds. Environmental impacts occur because of improperly disposed human waste, large groups and littering. Potential drawbacks of water trails can be mitigated if the community is supportive of tourism and there is a dedicated management partnership for the trail.

Chapter 1. Introduction

The Rivers, Trails and Conservation Assistance program (RTCA) of the National Park Service ‘work with community groups and local and state governments to conserve rivers, preserve open space, and develop trails and greenways’ (RTCA, 2002). In fiscal year 2000, the RTCA worked on 19 water trail projects nationwide. By 2002, the total number of water trail projects swelled to 49. Because of the substantial interest in water trail development, water trails are an Area of Special Interest in 2003. Many communities applying for technical assistance from the RTCA are in need of clear information about potential water trail impacts in their neighborhoods. Are these recreational opportunities a boon to local communities or do they create negative impacts?

This report presents a comparative analysis of rural communities with calm water trails. The conclusions and recommendations presented are based on current literature and case studies and the observable trends.

Purpose of Study

This report is a resource for RTCA staff, community leaders, partnering agencies, and project coordinators interested in water trail development. Case studies illustrate impacts of calm water trails in rural communities. Trends are drawn from community economic development associated with water trails. Prior to this study, little information describes calm water trail impacts on rural communities.

Contents of the Report

What makes a Water Trail a boon to a community? This report is divided into four sections; (1) introduction, (2) a literature review, (3) case study analyses and (4) conclusions and recommendations.

The literature review contains the following components: rural tourism impacts on communities, outdoor recreation trends, the future of paddle sports, and paddler demographics.

To better understand how water trails affect rural towns, three communities adjacent to water trails were investigated. These case study communities can be considered “success stories” of water trail development. The depth and breadth of water trail impacts in these communities is described and characteristics and differences among the case study communities are compared in the summary section. Case study communities include Wisconsin’s Vernon County along the Kickapoo River Water Trail, Minnesota’s Lake County along the Lake Superior Water Trail, and North Carolina’s Martin County on the Roanoke River Paddle

Trail and Camping System. Water trail maps and marketing techniques can be found in case study analyses.

“Keys to success” that made water trails are synthesized in the conclusions. The literature review, case study summary, conclusions and recommendations associate water trails with recreational tourism and economic development. Advantages and drawbacks of water trails are outlined. Organizational and infrastructure recommendations for developing successful water trails in rural communities are considered. Recommendations as to how successes may be duplicated in other communities are suggested.

A list of sources including books, web pages, personal contacts and other relevant resources is included in the bibliography. The appendix includes a detailed profile of each case study community.

Methodology

The research focuses on flat water ‘blueways’ adjoining rural communities. Current and future demand for water trails is estimated using national demographics, trends, and projections. The literature review found few recent academic writings that are germane to the topics covered in this report. A number of recent publications, however, do address national trends in outdoor recreation and sustainable tourism.

Social and economic impacts of water trails are clearly stated for each of the three case studies using secondary data analysis and primary qualitative data. A description of the economic arena is presented using census data on employment, unemployment, wages, population growth, and retail activity. The community’s character is described through social indicators and phone interviews. Phone and web based research were conducted to gather anecdotal information into perceived impacts of a water trail in a community. In order to get a balanced portrait, a number of viewpoints are woven into each case study including a business perspective, an agency or management point of view, a paddler’s perspective and the viewpoint of a landowner along the water trail. Obtaining qualitative information from a variety of sources in a community ensured a holistic picture is framed. Phone survey results are found (in the Appendix) in subsections of each case study called ‘Local Perceptions of Trail Impacts.’

This study presents a snapshot of water trail impacts in rural communities. Detailed economic impact studies have not been performed, therefore, some trends cannot be solely attributed to water trail development.

Previous research on water trails played an important role in the communities selected for this study. Information from secondary data sources gives a picture of water trail use and demographics of water trail users as well as economic impacts. More specifically, reference is made to studies by the University of Wisconsin Extension, the Minnesota Department of Natural Resources, and the North Carolina Sea Grant Extension.

The literature review, secondary research and case study data are amalgamated to present an analysis of the impacts of water trails on rural communities.

Water Trails in the United States

Interest in water trails is fueled by the growing popularity of recreational paddling. A water trail is similar to a land based trail in that it has a route with access points. A destination blueway, or water trail, maintains designated access points and campsites or other overnight lodging opportunities strategically located along the trail. Water trails are intended for human-powered craft such as canoes and kayaks, although other users are not prohibited. Water trails can encompass white or flat water, salt or fresh water lakes, rivers, streams, intertidal sounds, bays, or the ocean shoreline. Water trails are mapped to show:

- Access points and campsites
- Routes and travel time
- Hazards to navigation and portages
- Local facilities (restaurants, motels)
- Points of historical or cultural interest
- Natural features and wildlife habitat

Access to a water trail usually occurs on public lands. Often, new access points are not necessary to create a water trail as many motorized access points are suitable for paddle craft. For the current Tennessee River Blueway project, all access locations were pre-existing public sites owned and managed by local, state, and federal agencies.

There is not a “one stop shop” for information about flat water trail management and opportunities in the United States. Guidebooks, the American Whitewater Association, the American Canoe Association, Canoe and Kayak magazine and GORP.com are recognized sources of information for paddlers. The best comprehensive source of water trail information identified during this research is ‘Blueway Sourcebook’ produced by Jeff Duncan, the RTCA Rivers Program Manager in Chattanooga, Tennessee. This summary of water trails in the fifty states describes over 200 water trail projects. The database organizes water trails by states and describes sponsors, length, float time, access, camping, type of water, habitats, interpretation, and information contacts.

Whitewater Trails

Well-known stretches of whitewater are managed for paddle sports. These water trails are often associated with nationally designated wild and scenic rivers.

“While whitewater canoes and kayaks experienced a large growth in participation during the 1970s and 1980s, the following decade saw growth shift to recreational, touring and sea kayaking. Paddle sport boat construction mirrors these trends, indicating that in the year 2000 over 500,000 recreational kayaks (i.e. sit-upons) and 200,000 touring/sea kayaks (i.e. those with spray skirts) were built. This compares with only 160,000 whitewater kayaks and canoes over the same time period” (Settina, 1999; 94).

Flatwater Trails

Paddling a flatwater trail can involve physically strenuous exercise or passive recreation. Recognizable calm water trails include the Florida Everglades and the Minnesota Boundary Waters. Joining these well-known water trails is a growing cadre of destination blueways offering multi-day paddling opportunities. The three destination water trails researched in this report include the Kickapoo River Water Trail in Wisconsin, the Lake Superior Water Trail in Minnesota and the Roanoke River Paddle Trail and Camping System.

Water Trail Information

A map is the gateway to a water trail. Identifying paddling routes, describing difficulty levels, identifying public lands, warning of hazards and communicating rules and regulations, the map is a critical guide providing information to visitors. In order to prevent inadvertent use of private lands, a water trail map should clearly and accurately indicate all public lands and rest areas.

Water trail guides can educate the visitor about conservation concerns and entice paddlers to learn about natural and historic features. Information regarding low-impact use and regulations to protect natural and heritage resources from being "loved to death" is relayed to visitors through water trail guides.

Printing the water trail guide on synthetic, waterproof paper creates a map that is assured to last through wet conditions. An enhancement to the traditional water trail guide is the creation of an Internet site.

Water Trail Facilities

Paddlers often gain satisfaction from viewing the natural beauty of the environment. Water trail facilities should be limited to safe access points, information, campsites and toilets. The manager's primary role should be preserving the natural environment. Paddlers and resource managers will

benefit from a few amenities including rest stops and directional signs (especially at confusing intersections).

Rough concrete ramps that end in relatively deep water can scar canoe and kayak bottoms and present an unstable situation for loading and launching. Paddlers prefer a separate soft landing of sand or grass with a gentle grade to the water. Ideally, these soft landings are incorporated into an existing boat launch areas. The key in each case is to create a suitable launching site, which prevents erosion and other impacts, while serving the user's needs.

The design and location of access areas along a water trail directly affect the character of the visitor experience, user conflicts and environmental impacts. Canoe accessible campsites will attract overnight paddling groups. Bathrooms and garbage receptacles are necessary unless 'Leave No Trace' ethics are enforced. While paddlers have a minimal impact on the environment while on the water, their use of the land for access, camping and picnicking can result in traditional recreation impacts.

Trail managers should consider the type and number of visitors when determining the quantity and location of water trail access points. Like land-based trails, a water trail with numerous access points will generally attract day users and novice paddlers. In contrast, a trail with few access points or long distances between access points favors those seeking an expedition-type experience. A 'loop' water trail may appeal especially to families and those who don't want the hassles of shuttling vehicles (Settina, 2001).

Chapter 2. Literature Review

Trails and waterways are an integral part of the infrastructure of North America. They have been used for transportation for centuries and recreation for many generations. A primary reason for this analysis of water trail development is to evaluate whether non-motorized aquatic recreation can be used as a strategy for rural development.

This chapter provides a summary of important factors affecting water trail development in the U.S. It presents the relationship between tourism and the US economy. The analysis includes an examination of outdoor recreation trends, the future of paddle sports, paddler demographics, and the potential impact of water trails on the economic development of selected communities in the US.

With a projected 2.8 percent annual growth rate, the demand for canoeing and kayaking trips away from home is estimated to increase to 169 million trips per year by 2040 (Loomis, 1997). Canoeing and recreational kayaking is projected to experience a 73 percent growth in activity day participation of paddlers by the year 2050 (Settina, 2001). This increase in demand will have marked economic and social significance for progressive rural communities that plan for recreational tourism. By providing new dollars to the local economy, the overall quality of life in the community will improve.

Rural Tourism Impacts on Communities

The Travel Industry Association of America (TIA), a non-profit association and recognized source of research, analysis and forecasting for the U.S. travel industry proclaims the industry is one of America's largest employers, producing "a \$166 billion travel-generated payroll, 7.8 million direct travel-generated jobs and 18 million direct and induced travel-generated jobs" (TIA, 2002). According to the U.S. Department of Commerce's Office of Travel and Tourism Industries in a 2001 report, the US tourism industry contributes \$94.4 billion in tax revenue for local, state, and federal governments. "Spending by resident and international travelers in the U.S. averaged \$1.5 billion a day, \$62 million an hour, \$1 million a minute, and \$17,284 a second" (TIA, 2002).

Recreation and tourism play an important part in reshaping rural America. Natural resources provide the assets for a rising level of travel to rural America. Over the past 50 years, many resource-rich rural communities have shifted from an economy based on manufacturing and resource extraction to one driven by retail and service sectors. "Tourists seeking natural-resource-based settings, tranquility, and adventures have affected rural economies by injecting new dollars into local businesses, supporting local tax bases, and creating increased demands for locally available land, labor, and capital. With regard to

recreational use of natural resources, tourist expenditures create local demands for traded goods and services, thus creating jobs and income for local residents” (English, 2000a; 185). Findings by Donald English in a 2000 Report ‘Tourism Dependence in America’, do not support contentions that recreation and tourism jobs are necessarily lower with respect to aggregate local income generation, since mean incomes were higher in the more recreation-dependent counties (English, 2000a; 200).

In rural areas near large public land holdings, it is not uncommon for a large portion of the economic activity in retail and service to come from tourists. “Given that recreation-based nonmetropolitan counties have experienced three times the rate of net migration as compared to nonmetropolitan areas as a whole, rural communities endowed with natural amenities will likely experience growing local demands on service and retail businesses” (English, 2000a; 187).

Resource-based tourism-dependent rural counties are experiencing greater increases in population growth and housing construction than are other rural counties. Higher housing prices may reflect greater housing demand or more valuable private land close to recreation infrastructure (English, 2000).

The quality of life in such rural communities is often a point of contention between long-time residents and newcomers. In-migration can lead to pivotal changes in the social structure and patterns in rural areas and communities, particularly if migrants are noticeably different from residents. Such migrants hold different values for the natural resource base and development decisions than do long-time residents (English, 2000).

Most communities develop tourism because of economic potential and minimal start-up costs. Economic impacts result from visitor’s spending money in the local economy. In addition to monetary benefits, tourism can also help conserve national heritage, protect the environment and contribute to an improvement in the quality of life and well being of local communities. However, tourism has a downside. Tourism is seasonal by nature and associated jobs tend to be low paying and part-time. Tourism can lead to local inflation and profits can ‘leak’ away to external suppliers and proprietors. Tourism can also put a strain on local infrastructure and services, enhance social problems, increase pollution and lead to overcrowding and traffic congestion (Godfrey, 2000).

Economics have a significant influence on recreation management and resource allocation decisions. Regrettably, communities occasionally fail to consider collective social implications in decision making because such implications are subject to personal interpretation, take longer to appear and are difficult to measure. Measuring real and potential impacts of recreational visits are among

the issues that are most contentious and difficult to quantify. A cost/benefit approach is preferred and considers consumer choice of outdoor recreational experiences, private business opportunities, and public agency management decisions.

Tourism impacts are discussed in terms of the economy, social structures and the physical environment. Two key incentives for tourism development are the income and employment benefits created by visitor spending. Economic gains derived from tourism are seldom exclusive of social or environmental change. Social impact can be qualified in terms like local 'quality of life' and 'sense of place'. Physical impacts are visually apparent; tourism can both protect and destroy the environment of a destination. These issues are of particular importance because a destination's environment and social characteristics are often key reasons for initial visitor interest in an area (Godfrey, 2000).

In a focus group discussion of environmental issues within the western US cited in 'Patterns of Demographic, Economic and Value Change in the Western United States', a book by Pamela Case, "People hold deep concerns for the future of their region. People value their quality of life, but they are unsure of what the future holds. In all rural areas, people believe that the economic base of their communities and the region is shaky. They see few opportunities for young people to stay in the rural areas" (Case, 1997; 19).

It is more important to sustain the integrity of the physical world than it is to keep people in traditional livelihoods and preserve traditional ways of life (Case, 1997). The forces of continuity of use and constant change often characterize rural landscapes. Because of substantial changes brought to agricultural and forestry operations during the second half of the 20th century, rural land is less economically viable with traditional management practices (Roberts, 2001). Tourism, although not a panacea for economic and social ills and not appropriate in all rural areas, is an economic tool in a portfolio of strategies of successful rural development.

Partnerships: Benefits outweigh Costs

Because no single entity owns an entire river corridor, planning for water trails requires and encourages collaboration. Waterways cross political boundaries, however, and canoeists and kayakers are generally not aware of local rules that differ. A water trail system creates continuity between owners of access sites and consolidates information about safety and downstream access. Cooperative planning and management combined with resources and expertise produces the best possible recreational experience.

“A significant trend to emerge, especially in the 1990’s, is the abundance of partnerships among the federal, state, and local levels of government, non-profit and non-governmental organizations, and the private sector” (Cordell, 1999; 92). Recreation and natural resource managers see advantages of shared advocacy, common interests, and larger constituencies. Partnerships do have disadvantages, but their success and prevalence throughout the outdoor recreation community indicate that benefits outweigh costs (Cordell, 1999).

A water trail is the product of partnerships. With volunteers as key supporters and advocates of the trail, partnerships are developed among governments, land managing and regulatory agencies, private property owners, user groups, and local businesses. Together, these groups can create and maintain a successful water trail with broad-based and long-term support. By building on local sponsorship and support from area businesses and community organizations, water trails can provide high quality recreation at a very low cost.

In Maryland the establishment of active partnerships with businesses (including private canoe/kayak guides) and outfitters benefited the visitor and local recreation managers. Maryland's nature tourism development efforts resulted in more than 50 private guides and outfitters working in partnership with the state water trail management agency and the Maryland DNR. “At Jane Island State Park in Maryland’s Chesapeake Bay, Tangier Sound Outfitters (TSO) provides visitors with specialized services that are difficult for the park to provide on a large scale, such as access to high quality equipment, skilled instruction and guide services. In addition, TSO is willing to help maintain the Island's water trails, which are important to the quality of their customer's experience. The somewhat formal presence of a private guide and outfitter on a waterway can also be a deterrent to illegal or undesired activity by other users. For water trail managers in Maryland, the benefits of these formal partnerships with private guides and outfitters has served to reduce management costs and increased the quality of visitor services” (Settina, 2001; 99).

Partnerships are instrumental in the Tennessee River Blueway project. The project was initiated by the Tennessee River Gorge Trust (TRGT), a local land trust dedicated to preserving the beauty of the Tennessee River Gorge, located immediately downriver from Chattanooga. Project partners include the Trust, the City of Chattanooga’s Outventure Program, the Tennessee Valley Authority, the Tennessee Valley Canoe Club, local schools, Chattanooga Audubon Society, the Tennessee Department of Forestry, Hamilton County, Marion County, and others. The RTCA is working in partnership on the Blueway to provide technical assistance in the form of project organization, partnership development, site selection, brochure development, and trail implementation. A logo design process was initiated with a college art class. Signs that mark trail locations were

produced free of charge by the City of Chattanooga. The Tennessee Valley Authority's Chickamauga-Nickajack Watershed Team identified suitable sites and assisted in mapping the water trail. A brochure was jointly written and produced by Envirolink Magazine and the National Park Service with review by other partners. The entire cost of the brochure (5,000 copies) was underwritten by Williams Publishing (Duncan, 2001).

Recreation on Private Lands

"An important reason for increasing recreational pursuits on private lands has to do with the inability of public lands to meet all of the nation's recreational needs" (NPLOS, 1999; 2). Additionally, as farm acreage is taken out of agricultural production, either by urban sprawl or the agricultural market, rural owners are driven to find other values and ways of using their lands.

Conducted every ten years, The National Private Land Owner Survey (NPLOS) fills information gaps regarding the amount of recreation occurring on private land in the United States and landowners' attitudes about it. The last NPLOS conducted during 1995 and 1996, provides results based on a representative national sample of owners of rural, private tracts of at least 10 acres.

"A substantial percentage of private lands border public lands, especially in the West. Also, many tracts adjoin a paved public road and have streams or rivers running through them" (NPLOS, 1999; 32). Opportunities for water trail partnerships between private and public lands exist throughout the US.

Many rural landowners said they own their land primarily for aesthetic reasons such as, "enjoying their own green space," "providing a place for wildlife," and just "living in a rural environment." Over 70 percent of rural landowners expect to use their land for making money (NPLOS, 1999; 32).

Overall, landowners seem to make quite a bit of their land available for recreation outside of their own family, with approximately half allowing acquaintances to recreate on their land. Private land, therefore, provides substantial recreational opportunities. " In many cases, the accessibility to private lands may be somewhat greater than accessibility to public lands. This is especially true if one looks at public access in terms of the distance the majority of the population lives from the land. Centers of population are quite a bit farther from public land in the North and South than they are in the West, where most of the public land exists" (NPLOS, 1999; 34).

When landowners were asked why they allowed access to their land for recreation, most said it was to maintain good will with their neighbors and others, and a notable percentage said it helped to pay taxes and provided

income. Some landowners get income by granting access to groups outside their family, generally this income helps pay taxes. Help from clubs and individuals who lease and protect their land are recognized. Trends suggest growing opportunities to lease private land for non-consumptive recreation activities such as water trail development (NPLOS, 1999).

“Typically, a landowner leases to only one group. For the most part, this lease is a written agreement with a fee. Close to 90 percent said the lease covered a season or year. Many owners said they leased at a rate slightly lower than the going rate to entice lessees who they felt they could trust take care of the land. Aside from leasing, few landowners seem to be using daily or other pay-as-you-go fees as a source of income. Such fees probably are a viable alternative only if the land has notable and saleable recreational attributes. According to most landowners, outside people will be permitted to use their land in the future if they obtain verbal permission, and there will be no fee” (NPLOS, 1999; 33).

Liability considerations detract from the willingness of many private landowners to allow public access to their property. Private land use brings with it the issue of liability. American law gives landowners some protection from liability. The “mere ownership of land and the fact that a visitor was injured on that land does not presume liability for the injury; only when a landowner fails to fulfill the legal duty to act is the landowner liable for visitor’s injuries. The law also allows for differences in liability between the individual who has “permission” to use land and an individual who enters into a business agreement with the landowner” (NPLOS, 1999; 2).

To protect landowners from liability, 49 states (excluding Alaska and the District of Columbia) have “recreational use” statutes on the books. Under these statutes, no landowner is liable for recreation injuries resulting from mere carelessness. To recover damages, an injured person would need to prove that a landowner engaged in willful and wanton misconduct. Insurance is available to cover the legal costs associated with such claims (Doherty, 1998).

Liability issues are persistent and of increasing concern to rural landowners, but few take actions to limit their liability. An exception is in the North, where the majority of landowners have insurance. However, given the prevalence of litigation in the U.S., the issue of granting access and risking a lawsuit seems to influence availability of private land for public recreational use. “The primary way landowners manage liability is by having the club or individual who is leasing carry insurance or by carrying insurance themselves. The Forest Service is addressing this problem by “working to develop cooperative agreements with private landowners, user groups, and state and local governments” (Cordell, 1999; 43).

Despite liability problems, most landowners are open to the possibility of providing some form of public access to their lands. On the contrary, 'No Trespassing' signs denote parcels where private landowners discourage public access. Approximately 40 percent of landowners reported posting their property (NPLOS, 1999).

Posting by private landowners is a means of restricting public access. "Despite particular attitudes of owners, socioeconomic differences, or differences in rural versus urban settings, it has been shown that most landowner characteristics are poor predictors of posting behavior." Rather, the most important factor in a landowner's decision to post is when a landowner has had "unpleasant experiences with recreationists" (NPLOS, 1999; 2). Some of the more significant problems landowners have which may lead them to take protective measures, are destruction of property, littering, poaching, and disruption of privacy. Landowners said they began posting so they would know who was on their property and when, to prevent damage to property and livestock, and to be safe. Ninety-eight percent of landowners said they would post the same or even more of their acreage in the future (NPLOS, 1999).

Public Land Management Agencies

Public agencies and local governments are placing increased emphasis on recreation and associated opportunities to promote rural economic development. These agencies understand the importance of assessing impacts of recreational trips to their lands and provide economic assistance to small rural communities. FERC relicensing may offer communities valuable information about economic benefits of proposed developments that involve the Federal Government. A primary reason for the interest in water trail development is to evaluate whether non-motorized aquatic recreation can be used as a strategy for rural development.

Currently, water trails are primarily recognized on Wild and Scenic Rivers or other backcountry settings like the Boundary Waters Canoe Area and the Lower Umpqua River. These water trails are known for their whitewater stretches. Cooperative ventures advocating trails on flat-water river stretches is an emerging trend acknowledged by federal and state agencies.

Rivers Trails and Conservation Assistance

The Rivers, Trails, and Conservation Assistance Program, also known as the Rivers & Trails Program or RTCA is a community resource provided by the National Park Service. The Rivers and Trails program works with community groups and local and State governments to conserve rivers, preserve open space, and develop trails and greenways. RTCA assistance includes support in

building partnerships and engaging public participation to achieve community goals. This support includes the assessment of resources and the development of concepts. Although the RTCA does not provide financial assistance, they offer invaluable technical assistance to willing community partners to help them achieve their goals.

Because of the large number of requests for water trail projects, the RTCA designated Water Trails as an Area of Special Interest for 2003. In the fiscal year 2000, the RTCA worked on 19 water trail projects nationwide. By 2002, the total number of water trail projects swelled to 49. Many communities applying for water trail technical assistance from the RTCA need information about potential water trail impacts in their neighborhood.

The Forest Service

The Forest Service works to assist communities in promoting tourism and recreation. Many public agencies, such as the Forest Service, now research the effects of management decisions on resource-dependent rural communities as an explicit component of their planning processes (Cordell, 1999). Because travel and tourism are the world's largest industry, the Forest Service has developed an integrated strategy demonstrating commitment to community vitality and tourism. The strategy is a benefits-based method highlighting collaboration, enhanced community development and ecosystem management. "This approach will produce measurable benefits to visitors, local residents, private industry, communities, and the recreation resources" (Cordell, 1999; 47-8). Rural economic development and diversification along with increased partnership and volunteer opportunities are anticipated.

"The National Environmental Policy Act (42 U.S.C. 1500) mandates that federal agencies consider the economic consequences of their management actions. These consequences include both economic valuation estimates as well as local or regional economic impacts." (English 2000, 525)

The Forest Service is embracing partnerships and collaborative stewardship. The agency is focusing on building sustainable relationships with constituents. This method of collaborative stewardship will likely reduce adversity, appeals, and litigation. To stimulate private sector participation in outdoor recreation services, the Forest Service is emphasizing public/private ventures. "Through joint private and public sector investment in recreation facilities and/or services on national forests, viable business opportunities may be made available to private industry, resulting in high-quality recreation experiences for visitors" (Cordell, 1999; 48).

The Bureau of Land Management (BLM)

The BLM manages 2.6 million acres of lakes and reservoirs, more than 5,400 miles of floatable rivers and 127 boat ramps. "Approximately 40 percent of BLM lands are located within a day's drive of 16 major urban areas in the West" (Cordell, 1999; 51).

The BLM's marketing strategy for the next three years on recreation, travel, and tourism accompanies the Recreation 2000 Update Strategic Plan. "The BLM is aggressively pursuing challenge cost-share partnerships, grants, and alternative funding sources to strengthen its relationship with local communities" (Cordell, 1999; 54).

Federal Water Resource Agencies

US Army Corps of Engineers, Bureau of Reclamation, and the Tennessee Valley Authority manage federal water resource projects primarily for navigation, flood control, and water supply, but also for recreation. The Bureau of Reclamation alone manages reservoirs that provide 1.7 million surface acres of water and 13,000 miles of shoreline for recreation. These three water resource agencies do not manage vast tracts of land as other agencies do. Consequently, their "recreation management programs are heavily oriented toward developed facilities, especially those associated with reservoirs. Another distinguishing trait of these agencies is the proximity of their areas to population centers" (Cordell, 1999; 63). Water resource agencies are prime partners for water trail projects.

State Parks and State Trail Systems

The Intermodal Surface Transportation Efficiency Act (TEA-21), the National Recreational Trails Fund Act and state level programs are the primary sources of funding for trail planning and development. "States are in a strong position to guide the development of trails into the next century. Not only do they manage extensive trail networks, states also manage federal grant funds and often provide state funds for trail purposes as well. States are frequently more in touch with local issues and organizations than are federal agencies. States can encourage the development of trail networks as opposed to isolated trail segments" (Cordell, 1999; 120).

"State scenic rivers represent a significant resource for undeveloped water-based recreation" (Cordell, 1999; 121). State parks and recreation departments, state trails systems, and scenic river managers are likely prospects for water trail partners.

Outdoor Recreation Trends

The 1994-95 National Survey on Recreation and the Environment (NSRE) conducted by the USDA Forest Service and the University of Georgia, Athens is the basis for Ken Cordell's book 'Outdoor Recreation in American Life'. This 1995 NSRE research and analysis and subsequent 2000 NSRE research are important sources of information in this literature review.

The NRSE is the latest in the continuing series of National Recreation Surveys conducted by the federal government since 1960. The national assessment looks at participation patterns and levels of participation across activities and across segments of society, as well as patterns of regional participation. Intensity of participation is measured in terms of day trips and trips away from home (destination trips). Non-motorized or muscle powered boating activities distinguished in the NSRE include canoeing, kayaking, rowing, and floating/rafting (Cordell, 1999).

Recreation is a large sector of the U.S. economy. "With less than .3% of the nations' tax revenue, federal, state, and local governments provide nearly one-half of total outdoor recreation opportunities. In National Forests, for example, outdoor recreation accounts for 85% of the total value produced" (Loomis, 1997; 2).

"Outdoor recreation contributes substantially to the economies of rural counties, and this contribution is likely to grow both in terms of countywide income and jobs, but also in terms of share of income and jobs among economic sectors" (Cordell, 1999; 302).

Additional trends impacting recreation opportunities involve eco-tourism and heritage tourism. The recent growth in eco-tourism has increased the demand for educational and interpretive services. These trends are resulting in greater demands for a diversity of recreational opportunities such as canoeing and kayaking.

Trends in Heritage Tourism and Eco-tourism

The number of people who visit historical places is expected to increase steadily. By 2050, the total number of participants will be more than 75 percent above 1995 levels (Cordell, 1999). Heritage tourism, which involves the viewing and interpretation of historic and prehistoric sites, is affecting the use of the national forests. "Much of national forest heritage tourism involves an additional component of existing opportunities, such as those provided by outfitters and guides" (Cordell, 1999; 47).

Eco-tourism is a holistic form of sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This description of eco-tourism is adapted from the Bruntland Report's definition of sustainability.

Eco-tourism is travel and recreation within the sustainable management of ecosystems that contributes substantially to a natural area's conservation and protection through education and the dedication of tourism dollars to benefit local communities and interests (Cordell, 1990). The concept of eco-tourism stems from the widespread and growing interest in natural environments and recognition of the importance of conserving them. The idea of visiting and protecting high quality natural environments is a marketable principle. Community support and engagement throughout the planning process are crucial to ensure that benefits to the community are realized.

Many rural businesses that depend on tourism suffer financial difficulties and a high failure rate. "The need to allocate scarce resources to core business may mean that environmentally sensitive practices are compromised. Potential eco-tourism operators, perhaps more so than any other business start-ups, need to evaluate their financial viability carefully" (Roberts, 2001; 159).

Destination Trip versus Day Trip

A destination trip is an overnight excursion of two or more days to an area with specific clustered attractions, amenities and visitor services. A day trip involves a stay of less than 6 hours and has a smaller economic impact in a community.

Successful destinations offer a variety of accessible activities. Undeveloped lands provide only modest opportunities for visitors to spend money and may not draw many destination trips. Using recreation for rural development means having non-local visitors travel to and spend money in the rural area where recreation attractions exist. Providing a variety of attractions greatly increases the tourist draw and the potential economic impact within an area. A continued trend toward multiple-activity but shorter-length trips is evident. "Nearly 10 percent of those surveyed in the NSRE about their last trip reported that the trip had no primary activity. This trend will likely mean that there will be increasing demand for easily accessed (drive to) recreational opportunities, and for recreational areas that can serve multiple needs and support a variety of activities near one another" (Cordell, 1999; 436).

Communities are the basic element of tourism. A community with a reputation as a high-quality destination will attract visitors and their dollars. The more sustainable destinations are those where tourism is highly integrated in the local economy, where local firms supply goods and services, attractions and facilities

are locally owned and local residents are employed (Godfrey, 2000). Tourism marketing, service quality, strategic alliances, and the use of cyberspace and other technological advances are trends in successful tourism destination planning (Gartner, 1996).

The nature of American vacations shows a trend toward shorter, more frequent excursions and an increase in more passive activities appropriate for an aging population (Cordell, 1999). The traditional long holiday is being replaced; most people are constrained by a fixed workday and workweek. We lack the leisure time to travel very far to engage in outdoor recreation. "Additionally, the limited leisure time during the typical two- to three-day weekend limits travel to one to three hours one way, whether it be for single-day outings or overnight weekend trips" (Loomis, 1997; 35).

According to Loomis, 85 miles is the average round-trip mileage Maryland canoeists and kayakers drove to participate in outdoor recreation activities (Loomis, 1997; 53). Attractiveness or quality of recreation sites, knowledge of and availability of alternative recreation opportunities in the market area, crowding at recreation sites, and personal tastes and preferences were additional determinates of destination selection.

The Future of Paddle Sports

Paddle Sport Industry Growing at 5 Percent Rate Annually

The overall paddle sport market is growing at a reasonable five percent rate annually over the past five years. Factors affecting paddling opportunities include increased competition with other user groups for limited water resources, continued pollution, evolution of equipment, and expansion of safety education programs and delivery systems. "In addition, paddle sport has benefited from significantly increased media visibility in recent years. One indication of this benefit is the ability of the paddle sport organizations to secure outside corporate sponsors where none existed a decade ago" (Cordell, 1999; 306).

According to an article by Jeffrey Yeager of the American Canoe Association entitled Paddle Sport Recreation in the United States, "the paddle sport industry consists of approximately 50 national paddle craft manufacturers that together sell and estimated 150,000 craft each year. There are an estimated 1 million privately owned paddle craft in the U.S." (Cordell, 1999; 306). Another estimate by the National Marine Manufacturers Association concludes that Americans own over 2.5 million canoes, rowboats and other non-motorized craft (NMMA, 2001). A number of national nonprofit organization and approximately 500 local clubs around the country represent paddle sport enthusiasts (Cordell, 1999).

Substantial Increases in Non-Motorized Aquatic Recreation

According to Loomis, the demand for canoeing and kayaking will exceed supply in 2020 by two percent and in 2040 demand will exceed supply by six percent (Loomis, 1999). Water-based outdoor recreation activities that occur in developed settings are expected to show the greatest absolute increase in numbers of participants and recreation trips (Cordell, 1999).

Table 2.a indicates the paddling market will continue growing. Both recent trends and future projections suggest a sustained increase over the next 40 years in the number of paddling participants, trips, and activity days. Paddle sports provide an accessible, economical and healthful form of recreation for families and older adults. An active baby boom population and developing environmental ethics should support the continued growth of the paddle sports (Cordell, 1999).

Table 2.a: Demand for Recreational Trips Away from Home and Indices for Future Demand Growth to 2040

Activity	Trips in 1987 (Millions)	2010*	2020*	2030*	2040*
Canoeing/Kayaking	39.8	126	140	157	169
Rafting/ Tubing	8.9	136	164	215	255
Rowing, Paddling	61.8	124	136	150	159
Day Hiking	91.2	161	198	244	293
Motorboating	219.5	111	117	123	127

*Future Number of Trips as Percentage of 1987 Demand
Cordell, 1990

Source: Loomis, 1999

The number of primary-purpose canoeing trips is projected to increase by 29 percent in the next 50 years. The number of days spent canoeing is expected to increase about 30 percent more than population growth through the year 2050 (Cordell, 1999).

The number of participants and primary-purpose rafting trips, while increasing, will fall short of increases in population, indicating that fewer primary-purpose trips will be taken per capita and that the proportion of people rafting will decline. "These results are somewhat contrary to an apparent dramatic increase in this sport in recent years and may suggest a leveling after recent rapid growth. Nevertheless, fairly sizable increases are expected in the Rocky Mountain and Pacific Coast regions" (Cordell, 1999; 332).

More than 26 million paddlers in the U.S.

Over 20 million people in the U.S. participate in canoeing. Most canoeists use open-top canoes. The remaining population uses closed-top canoes, typically designed and used for running stretches of whitewater. Around 6.7 million Americans are kayakers. Kayaks are favored because of their maneuverability in confined places and in steering a course through rapids. Canoeing and kayaking participation rates are increasing faster than projected in Cordell's 1995 NSRE analysis (Cordell, 1999/ Rebach, 2001). The 1995 NSRE analysis showed 14.1 million Americans participated in canoeing and 2.6 went kayaking. Participation in canoeing and kayaking has grown from 2.6 million users in 1960, to 15 million in 1983, to 17.5 million in 1995, to more than 26 million in 2000. The number of users is expected to increase at a rate 30 percent greater than population growth through 2050 (Sideralis, 2001). Most participation occurs in freshwater settings.

Table 2.b: Percent and Number of People 16 Years and Older in the U.S. Participating in Water Resource-Based Outdoor Activities, 1999-2000

Type of Activity	Any Type of Water Participation Rate %	Any Type of Water Number in millions	Freshwater Participation Rate %
Canoeing	9.71	20,027,169	9.07
Kayaking	3.26	6,723,240	2.23
Rowing	4.48	9,234,883	4.08
Birdwatching in water-based surroundings	30.15	62,168,196	16.84
Viewing other wildlife in water-based surroundings	22.42	46,233,771	20.20
Viewing or Photographing Scenery in water-based surroundings	37.00	76,283,314	24.76

Source: NSRE, 2000/ Rebach, 2001

Trends in eco-tourism can be seen in wildlife viewing and photography participation rates illustrated in Table 2.b. Opportunities exist to merge wildlife viewing and paddle sports on calm water.

According to the National Sporting Goods Association 2001 Participation Survey, 6.8 million Americans (over 7 years of age) participated in canoeing more than once in 2000. The same survey suggested that kayaking and rafting has 3.5 million participants (NSGA, 2002). Table 2.c illustrates a conservative view of canoeing and kayaking participation.

Table 2.c: Ten-Year History of Water-Based Sports Participation Participated more than once (in millions)

Sport	1991	1993	1995	1997	1999	2001
Kayaking/Rafting	2.0	2.1	3.5	2.9	3.0	3.5
Canoeing	8.7	6.5	8.7	7.1	7.3	6.8

Source: NSGA, 2002

56 Million Canoeing Trips a Year

In addition to percentages and numbers of participants, it is useful to know how much participation is involved. In the NSRE recreation trips away from home (destination trips) and participation days are reported by the activity that was 'the primary motivation for participation.' For the NSRE, a canoeing day trip occurs 15 or more minutes away from home and is taken for the primary purpose of canoeing. In addition to the mean number of trips and days on which participation occurred, estimates of total trips and days are presented in Table 2.d (Cordell, 1999).

Table 2.d: Mean and Total Trips and Days per Year During Which People 16 Year Older in the U.S. Participated in Water-Resource-Based Activities, 1994-95

Activity	Mean # of trips per participant per year	Total trips per year for the U.S. in millions
Canoeing	2.8	56
Kayaking	3.0	20.1
Rowing	2.3	21.6

Source: Cordell, 1999/ Rebach, 2001

"While over 94 percent of the U.S. population participates in some form of outdoor recreation over the course of a year, a group that we term enthusiasts accounts for most of the participation days" (Cordell, 1999; 232). In Table 1.e participation days for enthusiasts, the one third of participants who are most active, are summarized. As Table 2.e points out, a fair amount of total canoeing participation days are enjoyed by enthusiasts. Five million paddling enthusiasts

are on the water at least four days a year, the great majority of these enthusiasts are between the ages of 25 and 49 years of age.

Table 2.e: Age Group, Percent of Population, Days Annually and Percent of Total Participation Days by Enthusiasts, 1994-95

Activity	% of US Population classified as enthusiasts	To be an enthusiast, participate as at least this number of days annually	% of total participation days by enthusiasts	% of enthusiasts by Age Group		
				16-24	25-49	50 and over
Canoeing	1.8	4	73	27.6	49.4	23.1
Kayaking	0.2	5	78	22.5	71.3	6.2
Rowing	1.1	3	79	15.5	51.3	33.1
Floating, Rafting	1.9	4	81	24.5	56.6	18.8

Source: Cordell, 1999

Participation is increasing for both canoeing and kayaking. Participants grew from an estimated 2.6 million in 1960 to 17.5 million in 1994-95. Of those reporting participation in 1994, 91 percent went canoeing, 20 percent went kayaking, and 11 percent enjoyed canoeing and kayaking. “An estimated 78.9 percent of canoeing and kayaking participation days were on flatwater in 1994-95. Canoeing and kayaking were not treated as separate activities in previous surveys” (Cordell, 1999; 237).

The North and South regions of the U.S. had higher percentages of boating and floating participants in 1994-95 than the Rocky Mountain, Great Plains or the Pacific Coast regions. The most substantial increases projected will be in the North and Pacific Coast regions where they will witness an 80 percent increase in canoeing days. Currently, over half of all canoeing days originate in the North, this should continue if not increase over the next half-century. Table 2.f illustrates regional trends.

Table 2.f: Percentage of Population Participating and Mean Trips and Days per Participant 16 year or Older per Year by Region for Water Based Activities, 1994-95.

Activity	North			South		
	Percent	Mean Trips	Mean Days	Percent	Mean Trips	Mean Days
Canoeing	8.7	2.4	5.6	6.7	2.8	4.2
Kayaking	1.2	1.6	6.2	1.1	3.2	8.8
Rowing	5.7	2.1	5.0	3.0	3.1	5.4
Floating, Rafting	7.5	2.9	5.1	7.9	3.2	4.9

Activity	Rocky Mountains			Pacific Coast			National		
	Percent	Mean Trips	Mean Days	Percent	Mean Trips	Mean Days	Percent	Mean Trips	Mean Days
Canoeing	4.9	2.2	4.0	3.9	5.0	7.9	7.0	2.8	5.3
Kayaking	0.7	10.1	11.2	2.3	3.6	6.7	1.3	3.0	7.3
Rowing	2.2	2.8	6.4	3.2	2.2	6.4	4.2	2.3	5.3
Floating, Rafting	7.7	3.9	5.8	7.5	2.9	4.9	7.6	3.1	5.1

Source: Cordell, 1999

Water Resources

Most cities rank their rivers near or at the top of the list of significant natural resources. Progressive cities are discovering the power of rivers, they represent history and heritage, culture, sights and sounds, opportunities for recreation, for exercise, stress relief, habitat restoration, and a sense of community and place-as well as economic development. Opportunity for community visioning with the river can be the driving force engaging the community in dialogue about balancing river values and economic development.

The water resource base that supports this and other activities is finite. Water quality improvement and various means of access to water resources are issues that can be expected to remain and grow in importance in the future. Paddle sport expects to face continuing and even increasing competition for access to water resources in the future. Conflicts between motorized and non-motorized recreation go beyond the water. Hikers and All Terrain Vehicle use, cross-country skiers and snowmobile use have been in contention for years. In

general, the experiences sought by non-motorized users are different from those being sought by motorized users (Paddler magazine, 2001).

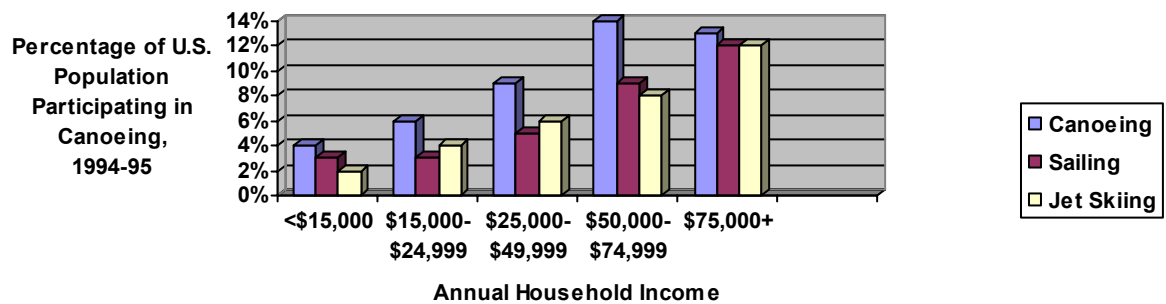
Differences in speed and size of vessels, as well as the recreation goals of users, can invariably lead to conflicts. The public will sometimes attempt to minimize user conflicts by advocating the restriction of a water trail, or elements of a trail, to human-powered vessels. Managing a public resource, however, exclusively for one user group can often lead to even greater conflicts. In Maryland, power and sail boaters -- verses paddlers -- exclusively provide financial support for boating infrastructure through registration fees and fuel taxes. In addition, many rivers and creeks have long been the seasonal domain of waterfowl hunters. Excluding these boaters from a water trail potentially alienates these groups and creates unwanted, and in most cases unnecessary, opposition (Settina, 2001).

Paddler Demographics

Important influences on demand for kayaking and canoeing can be inferred from socioeconomic characteristics of the user population, notably income, education, age, gender, and ethnicity.

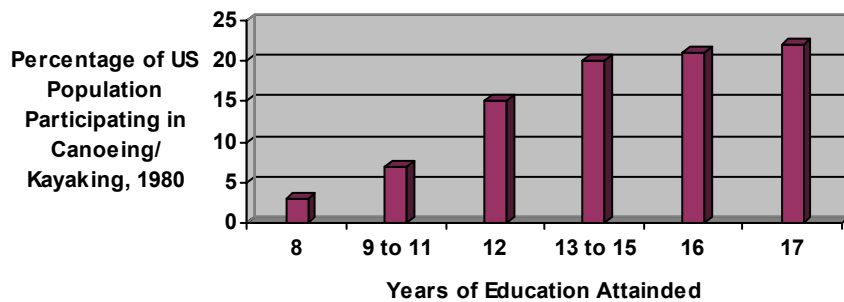
Participation in many activities is directly related to income. Chart 2.g illustrates that paddling is one of those activities. This correlation is not surprising given that equipment for paddling can be costly. Although age has had a negative effect on paddling, this trend may be changing. The paddle sport market is a well-educated (Table 2.h), mature group with high disposable incomes.

Chart 2.g: Percent of U.S. Population Participating in Canoeing by Household Income



Source: Cordell, 1999

Chart 2.h: Effect of Education on Participation in Kayaking and Canoeing



Heritage Conservation and Recreation Service; 1980
 Source: Loomis, 1997

Seasonal Participation

As noted earlier many outdoor recreational activities including canoeing and kayaking are seasonal. Because economic benefits of tourism ebb and flow as the seasons change, tourism should not be the ‘lone ranger’ economic development strategy. Table 2.i shows the seasonality of paddling markets.

Table 2.i: Seasonal Participation in Outdoor Recreation in the US

	Spring	Summer	Fall	Winter
Canoeing/ Kayaking	17.6%	58.8%	17.6%	5.9%

NPS, 1983
 Source: Loomis, 1997

Paddling Visitor Expenditures

The majority of expenditures made by recreation visitors occur in one of four sectors: retail stores, recreation services, food and lodging (including motels, hotels, campgrounds, and inns). “In rural areas near large public land holdings, it is not uncommon for a large portion of the economic activity in these sectors to be caused by tourists and other visitors to the area” (Cordell, 1999; 291).

The Outdoor Recreation Coalition of America estimated that a total of \$200 million was spent on retail sales for paddle sports outdoor recreation equipment, apparel, and accessories in 1996 (Cordell, 1999). Economic benefits from retail sales are realized at the place of purchase, this may or may not occur near recreation sites. Table 2.j presents consumer-spending information for recreation equipment and services.

Table 2.j: Consumer Spending on Outdoor Recreation Equipment in Millions of Dollars from 1985 to 1995

Type of Spending	1995	1993	1990	1987	1985
Boat without motor	380.2	1,762.9	1,207.3	515.9	321.4
All water sports equipment	975.6	1059.5	1110.3	953.7	913.8
Recreation expenses, out of town trips	2,185.1	2,052.0	1,708.6	1,505.5	1,328.5
Fees for recreational lessons	5,966.1	5,466.7	4,744.6	3,992.9	3,815.3

U.S. Bureau of Labor Statistics, Consumer Expenditure Surveys

Source: Cordell, 1999

Willingness to Pay for Recreation Services

A significant industry has developed to facilitate recreation on whitewater and other fast-moving streams. Raft rentals, shuttle services, and river guide services are provided mostly by the private sector on many popular stretches of rivers. Outfitters also rent canoes, rafts and tubes for floating less dangerous stretches of rivers. This type of recreation participation and associated outfitting is growing rapidly (Cordell, 1999).

Table 2.k estimates the amount a visitor is willing to spend directly on recreation services for non-motorized boating. Paddlers are willing to spend about \$5 on recreation for a day trip and \$20.00 for recreation as a destination trip. These figures suggest the importance of marketing a community as a destination paddle.

**Table 2.k: Net Willingness to Pay for Forest-Based Recreation, 1990
U.S. Forest Service**

Activity	Activity Day <8 hours	12-Hour Activity Day
Camping	\$13.33	\$14.56
Nonmotorized Boating	\$5.56	\$20.11
Wilderness	\$28.99	\$32.75

U.S. Forest Service, 1990

Source: Loomis, 1999

The Food Sector

According to Cordell, there are approximately “300,000 jobs in eating and drinking establishments in non-metropolitan counties across the country that result from outdoor recreation trips. Overall, these jobs generate almost \$3.5 billion in employee and proprietor earnings” (Cordell, 1999; 292). This same analysis suggests that 23 percent of all jobs in eating and drinking establishments in rural counties are due to non-local recreation visits.

The Lodging Sector

Over 46 percent of all jobs in lodging businesses and 171,000 total jobs can be attributed to outdoor recreation by non-local visitors in the U.S. “Recreation-related jobs in this sector account for almost \$3.5 billion in income to employees and business owners, 46 percent of all income generated in this sector is from rural counties across the country” (Cordell, 1999; 292).

Chapter 3. Case Study Analysis

Three communities with water trails are analyzed. The case study communities are Lake County, Minnesota and the Lake Superior Water Trail, Vernon County, Wisconsin and the Kickapoo River Water Trail, and Martin County, North Carolina and the Roanoke River Paddle Trail and Camping System. Appendix A includes a detailed profile of each case study community.

There are certain common characteristics among the case study communities that have been successful in developing water trails. All the counties are rural and facing similar astounding poverty rates, unemployment rates and other social indicators. These rural social characteristics are showing signs of improving in the case study counties. These amenity-rich areas are searching for ways to diversify their economies. Eco-tourism is a trend for rural economic development.

All water trails have impressive paddler profiles (well educated, high incomes), increasing use rates and paddlers desiring a natural environment. Case study communities all show growing retail and service industries, camping opportunities, access to downtowns, and concerns about human waste and litter. Landowners along the water trails are unaffected and trespassing has not become an issue because legal access points and public land is designated and clearly signed. Environmental impacts occur because of improperly disposed human waste, large groups and littering.

Key differences include a shared vision for the water trail and existing tourism support facilities. Events, strong volunteer groups, regional and state level coordination and the quality of local support and management partnerships have an impact on water trail communities.

Rural communities are deriving economic benefits from paddle trails. Local communities will need to invest in more tourist support services in order to effectively capture revenue from water trail visitors. With no retail, service or lodging sites accessible near the water trail, canoeists will not spend much money. As facilities emerge, more people will opt to use the available bed and breakfasts, restaurants, shops and campgrounds.

LAKE SUPERIOR WATER TRAIL



MAP KEY

- Private land (NO LANDING)
- City or town
- Public land
- Carry-in access
- Boat access
- Rest area
- Kayak campsite
- Backpack/kayak campsite
- Campground
- Picnic area
- Parking
- Lighthouse
- Park office
- Peak elevation
- Contour elevation

The following excerpts are from the Official Lake Superior Water Trail Map 2: Two Harbors to Caribou River provided by the Minnesota Department of Natural Resources. To obtain the official map, contact The Lake Superior Water Trail Association:

www.LSWTA.org ; or

Two Harbors Chamber of Commerce: <http://www.twoharbors.com/chamber/>

Source: Lake Superior Water Trail, Map 2: Two Harbors to Caribou River. State of Minnesota, Department of Natural Resources; 2001



WARNING: Land only at public landing areas. Landing on private property is trespassing!

Route Description

In Miles (0.0 at Minnesota Entrance -Duluth Lift Bridge)

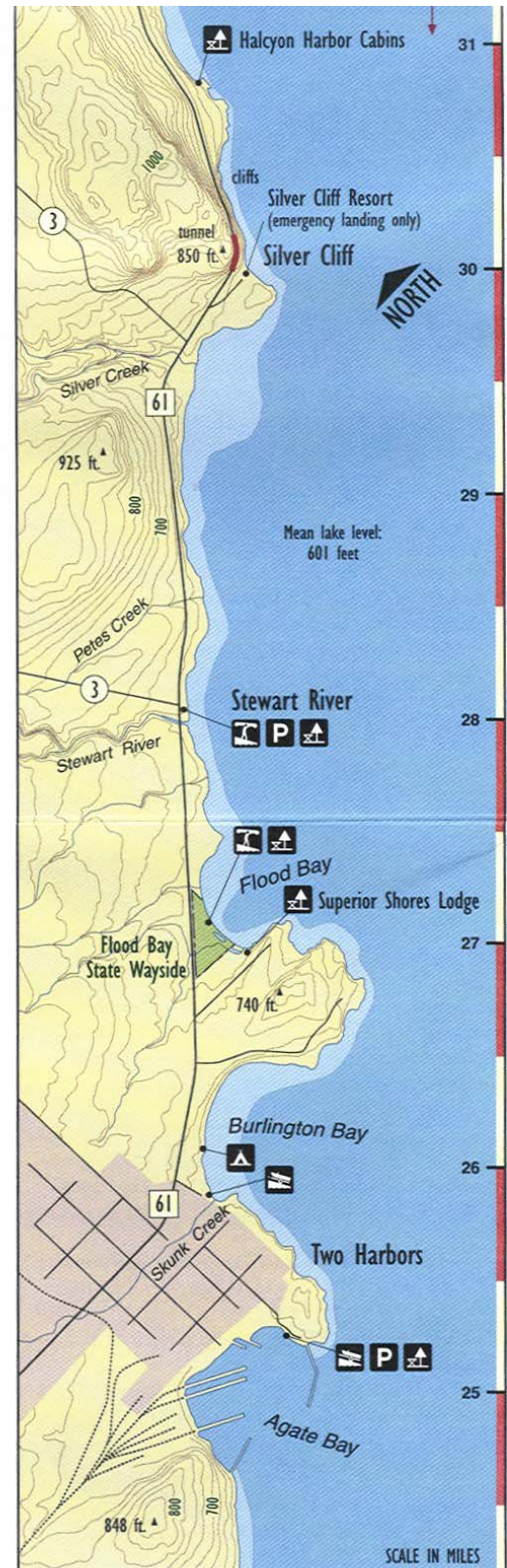
- 25.3 **Agate Bay.** DNR boat access inside breakwater. Parking. Toilets. Historic lighthouse and museum at point. [47° 00.875' N / 91° 39.975' W]
 - 26.0 **Burlington Bay.** Municipal campground east of landing. Tourist information office nearby on State Highway 61. [47° 01.455' N / 91° 39.665' W]
 - 27.0 **Superior Shores Lodge.** Private resort. Rest area. Contact resort for lodging and other information. [47° 02.060' N / 91° 38.525' W]
 - 27.1 **Flood Bay.** State wayside. Toilets. No overnight parking. [47° 02.270' N / 91° 38.520' W]
 - 28.0 **Stewart River.** Rest area, access, parking. [47° 02.845' N / 91° 37.810' W]
 - 30.0 **Silver Cliff.** Site of the longest highway tunnel in the Midwest U.S. [47° 03.895' N / 91° 35.680' W]
 - 30.8 **Halcyon Harbor Cabins.** Rest area on private beach below cliffs. No facilities. [47° 04.545' N / 91° 35.095' W]
- Caution!* There are currently no established public landing areas or facilities for the next 5 miles. Be knowledgeable of current weather conditions. Plan accordingly.
- 35.7 **Grand Superior Lodge.** Private resort. Rest area. Contact resort for lodging and other information. [47° 07.135' N / 91° 30.265' W]
 - 35.8 **Cotton Property.** Emergency landing only. [47° 07.270' N / 91° 30.025' W]
 - 38.3 **Gooseberry River.** Gooseberry Falls State Park. Access, parking, campground, 2 kayak campsites (water accessible only, available on a first-come, first-served basis), picnic area and trails. [47° 08.560' N / 91° 27.500' W]
 - 39.7 **Thompson Beach.** Four kayak campsites and rest area. 2 pit toilets. No fires. First-come, first-served. [47° 09.480' N / 91° 26.230' W]
 - 40.5 **Twin Points.** Rest area. No facilities. No camping permitted. [47° 09.925' N / 91° 25.510' W]
 - 41.5 **Split Rock Cabins.** Private resort. Emergency landing only. Contact resort for lodging and other information. [47° 10.545' N / 91° 24.650' W]
 - 41.9 **Split Rock River.** Split Rock Lighthouse State Park. Access, rest area and parking. No facilities. [47° 10.920' N / 91° 24.440' W]

(continued on other side)

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Natural
Resources



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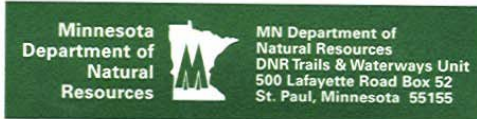


Source: Lake Superior Water Trail, Map 2: Two Harbors to Caribou River. State of Minnesota, Department of Natural Resources; 2001



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This information is available in alternative format upon request



INFORMATION

Minnesota Department of Natural Resources Information Center
 Metro (651) 296-6157
 1-888-MINNDNR (646-6367)
 TDD Metro (651) 296-5484
 TDD MN toll free 1-800-657-3929

DNR Trails & Waterways
 (651) 297-1151

DNR Website
www.dnr.state.mn.us

ASSISTANCE PROVIDED BY:

Lake Superior Water Trail Association of Minnesota
 and
 Matt Kania Map Illustrations

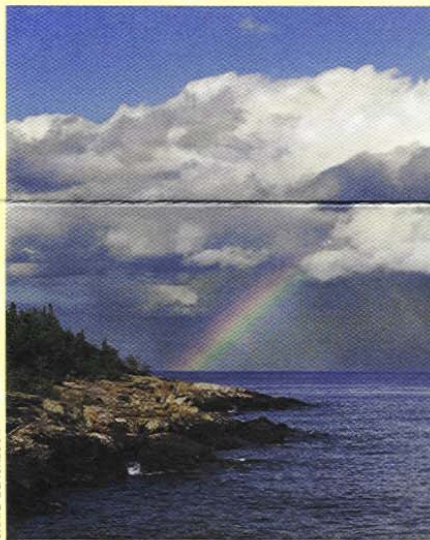
This map is not intended as a sole source for navigational information.



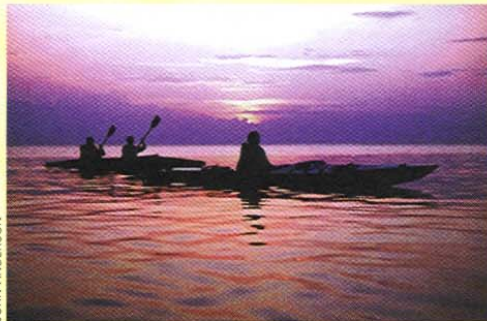
- Anticipate changes in weather, wind and wave by monitoring a weather or marine VHF radio, and using your awareness and common sense.

The National Weather Service broadcasts a 24 hour updated marine forecast on KIG 64, weather band channel 1 on the maritime VHF frequency, from Duluth; a version of this broadcast can be heard by calling 218-722-3588.

- Fog frequently restricts visibility to zero. Bring a good compass and know how to use it.
- Choose your trip and daily travel distance in relation to experience, fitness and a 2-3 mph average kayak speed. Changing lake conditions can greatly affect distances traveled.
- Each paddler is required to wear a personal flotation device approved by the U.S. Coast Guard.



CRAIG BLACKLOCK



JOHN ANDERSON



- All watercraft (including non-motorized canoes and kayaks over 9 feet in length) must be registered in Minnesota or the state of residence.

This map is not adequate for sole use as a navigational aid. USGS topographic maps and NOAA charts of the North Shore can be obtained from a variety of sources, such as kayaking or camping gear retailers. Learn how to use maps and a compass for navigation before setting out on the lake.

CAMPING OPPORTUNITIES

Camping is permitted at designated sites only. The following options are available:

- Campgrounds - state park, municipal and private campgrounds. These are generally located inland. They make a good base camp for day trips. Fees are charged and reservations are advisable.
- Kayak/backpack campsites in state parks. These primitive state park sites are accessible by water or foot trail only. Most of these sites have fire rings. \$7.00 fee charged. Reservations are required. At these sites, all state park rules apply and all vehicles must have a state park vehicle permit.

Water Trail kayak campsites. These primitive sites are accessible from the lake only. There is no parking allowed. They are available on a first-come, first-served basis, with no fee charged at this time. The campsites are intended for a one night maximum stay, weather permitting. Group sizes are limited to six paddlers; please be courteous to others sharing adjacent sites. Fires are not allowed. Please leave campsites as clean or cleaner than you find them and carry out all trash. For more information on individual site capacity, refer to the route description portion of this map.

Low impact camping. Please tread very lightly when you are on land. Use only established trails. (Notice that even walking on what appears to be a "plain" rock surface there are many brightly colored lichens, mosses and tiny plants.) Avoid walking on mosses and lichens along the shore. The use of camp stoves at campsites is recommended. Within state parks campfires are allowed in fire rings only.

Camp in groups of 6 or less. Camp only in designated areas that are marked on the map.

Respect private homes and property along the shore! Please take breaks and camp only at designated areas.

DRINKING WATER

Drinking water is not provided at most of the campsites. Be prepared to treat all water from the lake and rivers.

Lake County, Minnesota

Community Characteristics: Smaller villages and township centers along the North Shore depend on seasonal tourism and are actively promoting adventure recreation and historic interpretation. A healthy number of small, local businesses exist. The largest industries are state and local government, 28.9 percent of earnings; retail trade, 22.2 percent; and services, 20.0 percent.

Water Trail: Lake Superior Water Trail (LSWT)

Trail Length: 43 miles

Trail Established: The Lake Superior Water Trail was officially designated in 1993 by the Minnesota Legislature (MS 85.0155). The pilot project of the LSWT began as a twenty-mile stretch in 1998. The water trail will eventually extend the entire 150-mile length of the North Shore in Minnesota and connect with Canadian and other U.S. state efforts to form a loop around Lake Superior. Approximately 80 miles in Minnesota are currently mapped.

Water Trail Research: 2001 Survey of Sea Kayak Owners in Minnesota: Kayaking the North Shore of Lake Superior Summary Report prepared by the MNDNR (LSWT, 2001).

Estimated Use Rate: The water trail is the destination for 3,078 outings a year. The North Shore of Lake Superior is the destination for 14 percent of all sea-kayaking outings from Minnesota-registered sea kayakers owners (8,672 of 61,007), and the water trail is the destination for five percent of all outings (3,078 of 61,007). The water trail accounts for 35 percent of North Shore kayak outings. Eighty nine percent of water trail trips are loops that start and stop at the same place. A typical water trail trip is 10 miles in length. Paddlers travel in groups of two to three people in the same number of kayaks.

Event: The Annual Two Harbors Kayak Festival is growing. The event has increased participation three-fold since 1998. During the 2001 event, over 110 kayak racers, more than 300 adults and kids of all ages participated in kayak demos over three days. Sixty volunteers, 38 sponsors, and a dedicated Lake Superior Water Trail Association made the event possible.

Volunteer trail group: The Lake Superior Water Trail Association (LSWTA) is a nonprofit group with 250 members working to establish and maintain a water trail along Minnesota's Lake Superior shoreline. A board of volunteers runs the LSWTA and the group is looking forward to hiring a part-time staff person or Executive Director in the future. The association is implementing the recently

completed Lake Superior Water Trail Master Plan. This plan documents existing and potential water trail sites along Minnesota's entire North Shore, prioritizes the identified gaps and budgets the projects.

Management Partnership: Minnesota Department of Natural Resources (MNDNR) and the Lake Superior Water Trail Association (LSWTA) of Minnesota.

Camping: Eight state parks are the 'backbone' of the LSWT system. Four additional paddle trail campgrounds are provided by the MNDNR, access to communities, private camping and other accommodation opportunities exist. Twenty percent (590 trips a year) of all Water Trail outings involve an overnight somewhere, typically 2 nights in length. Camping is the most frequent type of water trail overnight accommodation, 23 percent of overnights occurred on water-accessible kayak-campgrounds, and another 35 percent are at other types of campgrounds. Resorts provide water trail paddlers with 17 percent of all overnight accommodations.

Destination Paddle: The North Shore is building a reputation as an outdoor adventure destination both regionally and nationally. The Water Trail is more of a tourist destination for paddlers than the North Shore as a whole. Kayakers who live near the North Shore have a two to three times higher use rate on the paddle trail than other Minnesota sea-kayakers. Kayakers from the Twin Cities Metropolitan region comprise the next most significant share of water trail users.

Map: LSWT guides are available and mapped in 20-mile sections.

Rest Areas: Public access points are planned at three to five mile intervals. Emergency landings are available in stretches with no public access.

Economic Impact: Lake Superior Water Trail trip spending totals \$106,191 annually with an estimated 3,078 outings a year. The typical LSWT kayaker spends \$34.53 per day. Most spending is on the essentials including food, transportation and lodging. Kayakers who spend the night away from home spend more each day than day users, mainly because of overnight accommodation costs. Kayakers who stay in campgrounds spend less than those who stay at resorts. The 17 percent of kayakers who stayed at a resort incurred trip expenses of \$63 per day (LSWT, 2001).

Environmental Impact: Concerns about human waste from the management, paddler and business perspectives.

Community Impact: Facilities that were regularly found lacking according to 2001 LSWT research were kayak campgrounds, safe landing places in case of bad weather, and good water access (LSWT, 2001).

Paddler Profile: Most sea kayak owners are between 40 and 60 years of age and males account for three-fourths of owners. Kayaking along the Water Trail is almost entirely an adult pursuit; few teens and children are part of the outings. Incomes of kayakers are high with a median in the \$70,000 to \$80,000 range, well above the Minnesota household median that is near \$50,000 today. Educational attainment of Minnesota kayakers is quite high with 78 percent holding a college degree and 38 percent of those have completed a postgraduate degree. Another 6 percent have vocational or technical school certificates. Most kayak owners are in households with one or two kayaks; the mean number of kayaks per household is 1.8. In addition to kayaks, owners have and use a distinct array of household recreational equipment. Those who have kayaked in the last year on the water trail have a high interest in kayaking more (90%), and the large majority (80%) has plans to do so (LSWT, 2001).

Management Perspective: The Water Trail emerged as a project of local kayakers with a common interest in paddling and Lake Superior. Objectives of the LSWT are to provide recreational opportunities and promote stewardship. Rural economic development was not a goal of the LSWT.

It was apparent early on that partnerships are crucial in the development and maintenance of the LSWT. Public/ private partnerships continue to be key in the water trail's success.

Community response to the Lake Superior Water Trail concept was generally favorable. There were early concerns about trespassing, human waste disposal and unauthorized camping on private lands. But, the reality was that paddlers were already using the North Shore and the idea of managing the area for kayakers was desirable. By and large, reasonable accommodations have resolved delicate issues. Maps and signage are the primary tools delivering information to the public. The news media's (North Shore communities, Duluth's, and the Twin Cities' TV news, newspaper, and magazine articles) increased attention over the past couple years has helped spread the word about the water trail. The MNDNR and LSWTA actively write news releases about new developments and events surrounding the trail.

Successful destinations offer a variety of accessible activities. An assortment of attractions greatly increases the tourist draw of an area and the potential economic impact. For North Shore communities, the LSWT is an addition to the array of impressive outdoor recreation opportunities accessible to tourists and

residents. The North Shore is building a reputation as an outdoor adventure destination both regionally and nationally. The LSWT is a sustainable form of development without major infrastructure demands.

The LSWT is successfully meeting objectives of providing recreational opportunities and promoting stewardship. Because of a lack of adequate funding, operations and maintenance is a challenge. Active partnerships with the LSWTA and recent opportunities with private businesses (resorts and outfitters) have contributed to the success of the water trail. Day use on the trail is increasing dramatically. Destination trips are limited because of gaps in access points, maintenance of existing sites and the strong reliance on volunteer support. However, more consistent maintenance of access points and campsites is beginning to reach critical mass. Destination trips are expected to increase as gaps in the trail are developed.

LSWTA Perspective: LSWT kayakers desire an undeveloped shoreline and natural environment. Paddlers respect the land and have a low impact on the environment. A growing water trail management issues is human waste disposal. The rugged shoreline does not offer soil conditions that permit 'Leave No Trace' principles for human waste disposal. Many access points and campsites do not offer adequate human waste facilities. Several options for self-decomposing waste stations are being investigated for access points and campsites. The LSWTA would potentially acquire and maintain these additional facilities.

Delivering the water trail concept to local communities is a gradual and ongoing process. In general, most communities and landowners were neutral or supportive of the LSWT concept. The North Shore of Lake Superior has a high proportion of privately owned land. Landowners generally receive kayakers favorably, especially when compared with motorized users. A number of landowners have given easements for emergency landing locations. Trespassing has not become an issue because legal access points and public land is designated and clearly signed at three to five mile intervals and the number of kayakers has not overwhelmed current facilities.

Paddler Perspective: A majority of Minnesota kayakers participate in nature observation and sightseeing, while over one-third participate in photography and bird watching. The LSWT increases stewardship for the Great Lake and is heightening awareness of lakeshore development. This is evident in the growing membership of the LSWTA that is more than 250 strong.

Partnerships are a benefit of the Water Trail. Non-motorized interest groups in the area include a cross-country skiing group and a hiking/backpacking

constituency. Benefits of pooling resources to advance non-motorized recreation in and around the North Shore are drawing increased attention. By combining resources and expertise, the non-motorized perspective is gaining clout.

The shared vision for a water trail around the lake is a goal that community members believe in and are willing to work towards. A strong volunteer base and a dedicated paddling community continuously work to establish the water trail. These volunteer efforts have been instrumental in the success of the LSWT.

Business Perspective: Early water trail planning and development outreach focused on a small group of local paddlers. Most community members showed little interest in the then unpopular sport of sea kayaking and its potential impacts in North Shore communities. Fundamental (but not sufficient) to the water trail's success is the strength, character, and support of key properties and resorts on the lake.

The Lutsen Resort offers sea-kayaking tours on Lake Superior with a new marketing approach. Instead of charging guests outright for a tour, the resort now charges a four percent activity fee to all guests that pays for a myriad of activities. Now offered as a 'free' activity for Lutsen Resort guests, sea-kayaking tours set out four times a week during the summer and are almost always booked solid. This sea-kayaking pilot project at the resort will expand next year to ten trips a week.

Sea-kayaking the LSWT is not the primary reason for travelers to the Lutsen Resort. Kayaking is offered to guests as an added bonus to create a memorable vacation and encourage repeat customers. Economic margins are in the lodging property, in filling rooms at the resort. Rooms drive business, the overall marketing strategy for the resort aims to fill rooms. Offering activities to guests keeps them happy during their visit and potentially encourages extended stays and future reservations.

It is difficult to measure the economic benefits of the LSWT. Most travelers to the North Shore of Lake Superior are not primarily interested in the water trail. Travelers are generally from the Twin Cities area and are looking for an escape from fast paced city life. It is unclear if the community is effectively capturing revenue from water trail paddlers or if there are significant numbers of destination travelers visiting the North Shore primarily to paddle Lake Superior. There is very little boating traffic on the lake. The number of active paddlers on the lake has grown considerably over the last 10 years, but water trail use is minimal.

Most sea-kayakers on the water trail are guests of lodges, not destination travelers to the LSWT. A few lodges on the North Shore run similar sea-kayaking tours and these tours are typically two hour trips that offer a chance to see the lake from a different perspective. More than 250 people took kayak lessons in 2001 at the Bluefin Resort on Lake Superior. Kayakers attracted the area primarily for the LSWT would most likely travel point to point along the trail, camp, and offer little economic benefit to the community.

The old downtown area of Two Harbors is struggling. Downtown is seven blocks off the main thoroughfare and most businesses are attracted to this highway. Downtown is seven blocks from the highway and is right on the lakeshore. It is easy for LSWT users to get to the downtown as a sandy beach access area is provided in town. This is a method to help downtown businesses more effectively capture revenue from water trail visitors. A new marina is planned to attract people into the downtown.

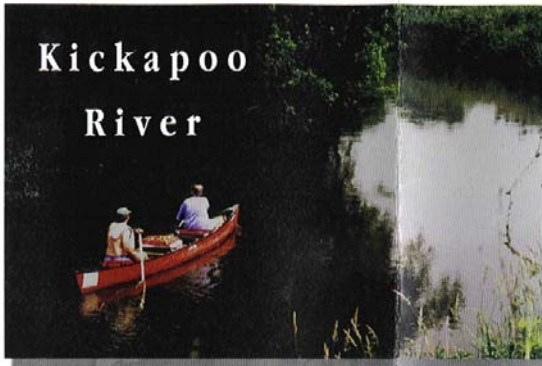
Landowner Perspective: Tourism may be increasing land prices on the North Shore of Lake Superior. Seventy percent of homes around the lake are seasonal and land is getting more expensive. Unimproved land along the lakeshore can sell for hundreds of thousands of dollars an acre. Trespassing on lakefront property along the LSWT has not become a problem.

Kickapoo River Water Trail

The following excerpts are from the Official Kickapoo River Water Trail Guide provided by the Kickapoo Valley Association. To obtain the official map, contact

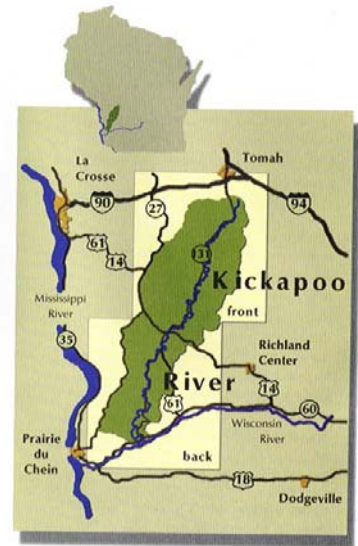
The Kickapoo Valley Reserve: <http://kvr.state.wi.us/static/>

The Village of LaFarge: <http://www.lafarge-wisconsin.com/>



An Algonquin word, meaning "he who goes here, then there", Kickapoo aptly describes the river as it meanders from its headwaters north of Ontario to its confluence with the Wisconsin River in Wauzeka, a length of 125 miles.

In a valley originally inhabited by the Ho Chunk tribe, the Kickapoo River slowly makes its way through a rich variety of landscapes beginning in the north with narrow stone passages carved by water erosion; to temperate forests held in public trust; and ending with pastoral farmlands in wide open floodplains.



Nestled in a pocket of southwest Wisconsin called the "driftless region", the landscapes of the Kickapoo Valley were bypassed by glacial erosion and remain in a rugged form with sharply sloping hillsides, sandstone outcroppings, and limestone escarpments.

These features along with abundant wildlife and cultural histories, are elegantly displayed when canoeing the river, a trip that can take from four hours to four days.

This brochure was produced by The Kickapoo Valley Association with assistance provided by the Rivers, Trails, and Conservation Assistance Program of the National Park Service.

Printed September 1999



Mapping assistance was provided by the University of Wisconsin Land and Information Computer Graphic Facility and The State of Wisconsin Department of Natural Resources

Design and photography by Marlon F. Clark
GIS mapping by Scott Linder

Water Trail

A canoeing guide to the Kickapoo River of southwest Wisconsin.

Additional Information

Camping and Canoeing

Wildcat Mountain State Park
P.O. Box 922
La Farge, WI 54639
608.337.4775

Kickapoo Valley Reserve

505 N. Mill
La Farge, WI 54639
608.625.2960
kickapoo.reserve@kvr.state.wi.us

Lodging and Dining

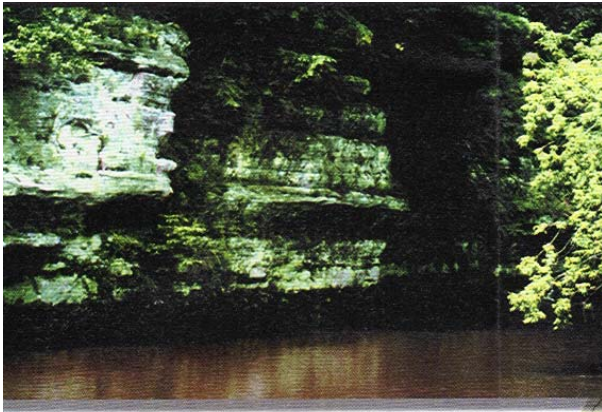
Wisconsin Department of Tourism
P.O. Box 7606
Madison, WI 53707
1.800.372.2737
Website: <http://tourism.state.wi.us>

For all of the above

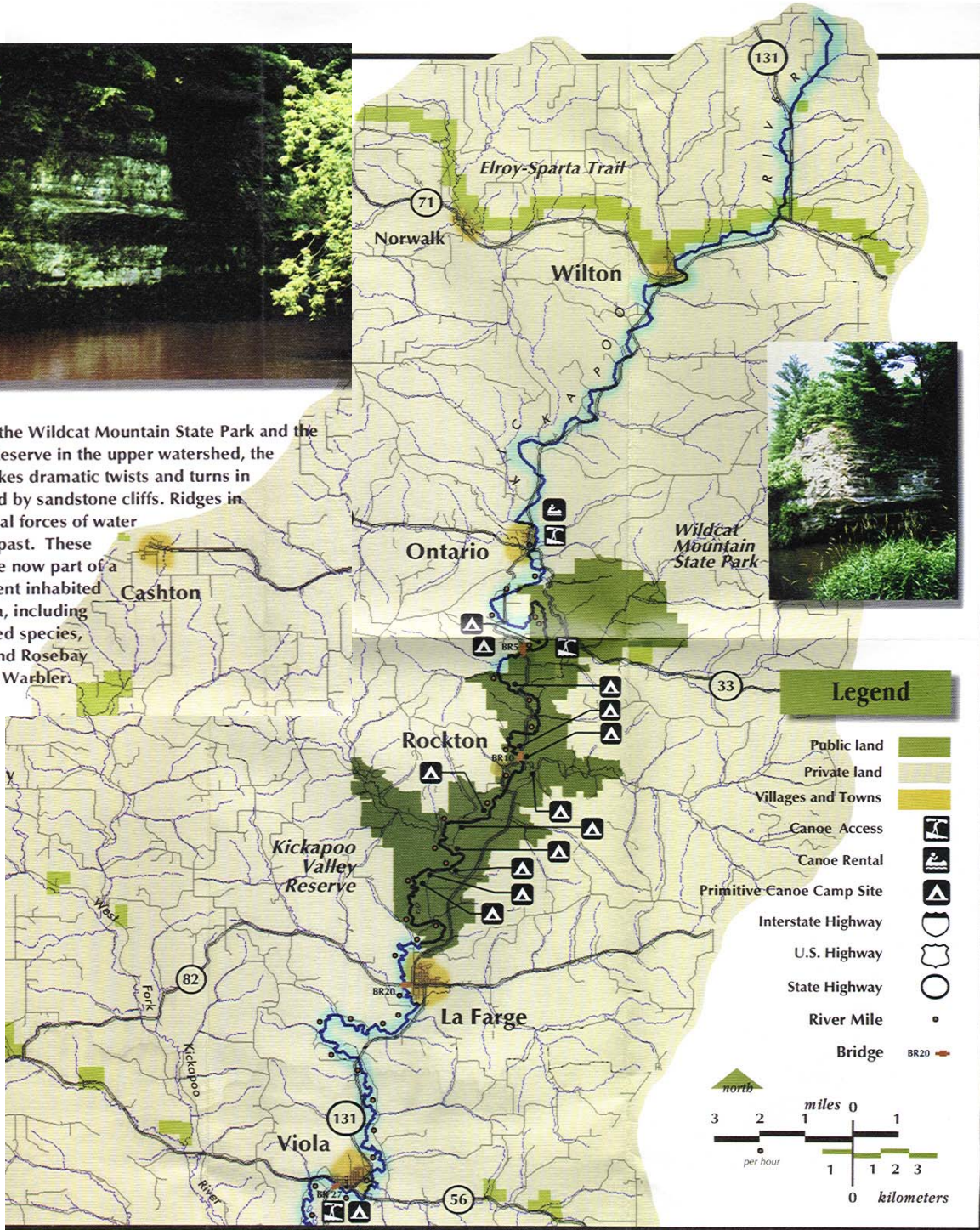
Kickapoo Valley Association
P.O. Box 72
Soldiers Grove, WI 54655
608.872.2504

Financial assistance for production of the brochure was received from the towns of Ontario, Viola, Soldiers Grove, Gays Mills, and Vernon and Crawford Counties.

Source: A Canoeing Guide to the Kickapoo River of Southwest Wisconsin. Kickapoo Valley Association; 1999



Flowing through the Wildcat Mountain State Park and the Kickapoo Valley Reserve in the upper watershed, the Kickapoo River takes dramatic twists and turns in corridors bounded by sandstone cliffs. Ridges in the rock face reveal forces of water erosion from the past. These geologic forms are now part of a unique environment inhabited by flora and fauna, including several endangered species, such as the Lapland Rosebay and the Kentucky Warbler.



Source: A Canoeing Guide to the Kickapoo River of Southwest Wisconsin. Kickapoo Valley Association; 1999

Vernon County, Wisconsin

Community Characteristics: The county is primarily a rural dairy farming community. Vernon County is considered farm dependant and is in financial distress as a result of the ongoing farm crisis. The county is slowly transitioning into a more service-based economy. Eating and drinking establishments are considered the fourth largest industry and employer behind only agriculture, health and educational services. Outdoor-based recreation still only accounts for a small portion of the regional economy, however, destination communities in the county rely on seasonal tourism. Limited tourism infrastructure is available.

Water Trail: Kickapoo River Water Trail

Trail Length: 22 miles (Ontario to LaFarge)

Trail Established: Late 1970's

Water Trail Research: Outdoor recreation, community development, and change through time: A replicated study of canoeing and trout angling in Southwestern Wisconsin; 2000. (Anderson 2000)

Event: Not Found

Volunteer Trail Group: Not Found

Management Partnership: No solid partnership to maintain the water trail but management entities include the Kickapoo Valley Reserve and Wildcat Mountain State Park.

Estimated Number of Paddlers Per Year: Approximately 16,000 canoeists used the Kickapoo River during the 1999 season. This is a 35% increase when compared with the 1993-canoeing season (Anderson, 2000).

Camping: Low impact river access camping at Wildcat Mountain State Park and the Kickapoo Valley Reserve.

Map: The Kickapoo River Water Trail Guide

Access Points: LaFarge and Ontario access points have potable water, toilets, and trash receptacles. Other access points lack water and toilets.

Destination Paddle: The vast majority of canoeists come from outside the area, in the mid-west region. Most canoeists took short trips (80%) canoeing from the

community of Ontario to Wildcat Mountain State Park, a three-mile trip (Anderson, 2000).

Environmental Impacts: Water trail paddlers travel in large groups and there is a party atmosphere on the river during peak seasons. Management, landowner and paddles agree the river has trash and human waste issues. Trash receptacles are not adequately maintained during peak season.

Community Impacts: Communities are encouraging tourists, particularly Kickapoo Paddlers. The use of the Kickapoo by non-motorized recreationists has heightened appreciation of the riverine system within the community. Grade schools in the county often use canoeing on the Kickapoo River as an educational experience. The community does perceive positive social benefits of managing the river for paddlers.

Locals try to avoid the river during summer weekends, but many get on the river during less crowded times. A delicate issue apparent in Vernon County that is associated with tourism development is the potential for increased land prices. Locals are not interested in selling their land or paying higher taxes on inherited land. Land prices have increased dramatically in the valley in the last 10 years, as have property taxes. The high land prices have made it difficult for those needing more land for grazing, crops, or timber. At the same time, these inflated prices tempt some to break up their land into small parcels and sell them, mainly for recreational uses.

Economic Impact: The water trail research suggests that canoeing has a dramatic effect on rural economic development in Southwestern Wisconsin and it is growing. Canoeist expenditures increased by almost 300 percent in five years. Non-local canoeists created about \$1,230,800 of new spending in the Kickapoo area during 1999, total economic impact (including induced impacts) is estimated at \$1,750,000. Non-local canoeists contribute to a total of 45 local jobs. Key industries affected by these visitors are local lodging, restaurant, sporting goods, and recreational service industries. Four outfitting businesses are located in the county (Anderson, 2000).

Annually, 16,000 paddle outings are estimated on the Kickapoo Water Trail. Non-local canoeists spend more than local canoeists. Individual per-trip spending for non-local canoeists was \$88 compared to \$41 for locals. Categories where non-locals spent more than locals were lodging and eating/drinking (Anderson, 2000).

Table 3.a: Individual per-trip Kickapoo canoeist expenditures of non-local canoeists and expansion to total spending in 1999

Spending Category	Individual per-trip canoeist expenditure (1999 dollars)	Total canoeist expenditures (1999 dollars)
Lodging	\$20.65	\$289,000
Groceries	12.05	168,700
Automobile-related	8.92	124,800
Eating/ Drinking	17.37	243,800
Canoe Rentals	18.97	265,500
Canoe shuttling	0.63	8,800
Souvenirs/ Gifts	3.55	49,700
Entertainment	1.72	24,100
Miscellaneous	4.08	57,100
Total	\$87.94	\$1,230,000

Source: Anderson, 2000

Expenditures by non-local canoeists were estimated at \$1,230,000 in 1999; a significant increase (274%) from 1993. This escalation can be explained by two factors. Non-local canoeists increased by about 60 percent (up from 8,750 in 1993 to 16,000 in 1999) compared to a 33 percent increase on total canoeists. Secondly, non-local spending on lodging increased dramatically between 1993 and 1999. Expenditures for lodging rose by over 600 percent when adjusted for inflation. Kickapoo canoeist expenditures in 1999 are shown in Table 3.a.

Increased spending by visitors is important to the local communities who directly benefit from canoeist spending. More money is being spent in local restaurants than was apparent in 1993. Additionally, 80 percent of the canoeists rented boats from local liveries.

Total canoeist economic impact on the local economy for 1999 was \$1,750,000. About \$620,000 in labor income and \$240,000 in property income was generated from canoeists. (Anderson 2000) See Table 3.b and 3.c for a detailed breakdown of economic impacts and industries affected.

Table 3.b: Annual economic impact of spending by non-local canoeists on the Kickapoo River, Wisconsin as driven by visitor expenditures (source: MicroIMPLAN model – in 1997 dollars)

Industrial Sector	Direct Income (dollars)	Jobs	Indirect Income (dollars)	Jobs	Induced Income (dollars)	Jobs
Agriculture/Forestry	\$6,600	1	\$2,800	0	\$1,100	0
Construction	0	0	13,200	0	3,200	0
Manufacturing	0	0	12,700	0	4,600	0
Transportation/ Utilities	0	0	29,400	0	13,100	0
Trade	360,000	19	19,700	1	52,800	2
Finance, Insurance, Real Estate	0	0	37,000	1	37,600	0
Services	286,400	16	43,700	2	51,000	2
Government	4,300	0	4,500	0	2,900	0
Total	\$657,300	36	\$163,100	4	\$167,300	5

Source: Anderson, 2000

Table 3.c: Summary of annual economic effects on the Kickapoo Valley: spending by non-local canoeists (1997 dollars)

Source of Effect	Total Gross Output (dollars)	Labor Income (dollars)	Property Income (dollars)	Indirect Business Taxes (dollars)	Total Value Added (dollars)	Employment (# jobs)
Direct Effect	\$1,230,000	\$421,700	\$143,000	\$92,600	\$657,300	36
Indirect Effect	291,400	100,000	49,500	13,600	163,100	4
Induced Effect	278,000	101,100	48,000	18,100	167,300	5
Total Effect	\$1,753,500	\$622,900	\$240,000	\$124,300	\$987,700	45

Source: Anderson, 2000

Paddler Profile: Canoeists on the Kickapoo have high incomes. Over half of the paddlers had incomes over \$40,000. The majority of canoeists are well educated, holding professional or managerial jobs. The average Kickapoo angler comes for longer periods of time, stays in smaller groups and tends to spend more than the

average canoeist. However, because canoeists are in larger groups and there are more of them, they have a greater direct economic impact. Eighty five percent of all canoeists stopped for a break on their trip (Anderson, 2000).

Paddler Perspective: Most land adjacent to the canoeable Kickapoo is in public ownership. No access points (except those at Ontario and LaFarge) have potable water supplies or restroom facilities. In addition, garbage receptacles on these sites are not maintained adequately during peak season (summer weekends) or during the off season. These public entities are facing budget shortfalls and do not have resources to manage the increased traffic (human waste, garbage, party atmosphere) on the river. Shuttle services take little responsibility for the condition of the river or access points.

Canoeists express a strong desire for solitude. Crowding is an issue during weekends as 37percent of paddlers felt that the river was moderately or extremely crowded. During the week, more than 70 percent of paddlers reported no crowding whatsoever (Anderson, 2000).

Littering along the shorelines, lack of bathrooms and availability of drinking water were perceived as below satisfactory with canoeists. Canoeists ranked scenic beauty and clean water as two of the most important factors in their water trail experience (Anderson, 2000).

Management Perspective: Wisconsin does not license paddlecraft (with the exception of rowboats with motors). The primary purpose of marketing the canoeability of the Kickapoo is to develop the economy of the region. The Kickapoo Valley Reserve primarily uses the water trail as an educational tool, encouraging the interpretation and appreciation of unique natural landscapes.

The Reserve is working cooperatively with private rental/shuttle businesses to relieve the litter problem because many of the high use access points are located within the Reserve. The shuttle services are now handing out garbage bags to their clientele and the Reserve has stepped up providing and maintaining garbage bins at access points. These measures along with an annual clean up day and increased signage are effectively reducing the litter problem. To alleviate overcrowding, the Reserve is improving alternate landings to access other stretches of the Kickapoo.

Landowner Perspective: There are not many houses right on the Kickapoo River. Private land that is accessible from the river is pastureland and not very tempting for canoeists. Most landowners don't store anything expensive next to the river, so there's not much to worry about. Canoeists are partying in canoes

and don't seem to get out or congregate except at access points and campgrounds.

Business Perspective: There is a limited connection between local businesses and river recreation. Some businesses are better at marketing themselves to canoeists. The Rockton Tavern is well known by paddlers and locals alike because they promote specialized services. The Rockton Tavern is a legendary stop for paddlers on the Kickapoo River. The tavern is one of the only establishments serving food along the popular paddling stretch, but this is not their lone draw. This gathering place offers a fun atmosphere both locals and visitors seek out. The tavern markets itself to fisherman, hunters, paddlers, and locals on the World Wide Web, in brochures and most importantly through word of mouth. Canoe rentals are available, as the tavern offers easy and convenient access to the river. This establishment is capitalizing on the paddling market on the Kickapoo River by offering good food, a beguiling atmosphere, and easy access to the river.

The Kickapoo River is a destination for canoeists primarily because of private businesses marketing rental/shuttle services. Non-motorized aquatic recreational tourism is part of the economy of Vernon County, however, only a small segment of the population and economy of Vernon County benefit from tourism dollars. It is difficult to capture revenue from canoeists. These people often will bring food with them and will camp in primitive sites. Some visitors probably don't spend much money. The number restaurants, shuttle services, Bed and Breakfast establishments, motels, and seasonal restaurants are increasing.

Roanoke River Partners

Roanoke River Partners (RRP) is a non-profit organization created by citizens of five northeastern North Carolina counties, through which the lower Roanoke River flows. RRP strives to promote and preserve the unique natural, historic, and cultural resources of this region. Join RRP today.

www.roanokeriverpartners.org

Roanoke River Partners

P.O. Box 488

Windsor, NC 27983-0488

Office phone: 252-794-2793

Platform reservations: 252-794-6501



Disclaimer:

This trail guide is not intended as a navigational guide to the Roanoke River and its tributaries. While every effort has been made to make the map and trail guide as accurate as possible, some portions may not be to scale, and the map does not identify all landmarks or navigational hazards that are present in the river and its tributaries.

Boating and camping on the Roanoke River and its tributaries are inherently dangerous activities. The Roanoke River basin is home to numerous dangerous plants and animals, including venomous snakes, mosquitoes, spiders, as well as other natural hazards. Paddlers, boaters, and users of the camping platforms and paddle trail should use common sense and take appropriate precautions and care to avoid accidents and injuries. Many of these dangers are a natural part of the Roanoke River basin ecosystem and contribute to the beauty and allure of this region.

Sponsors/Contributors:

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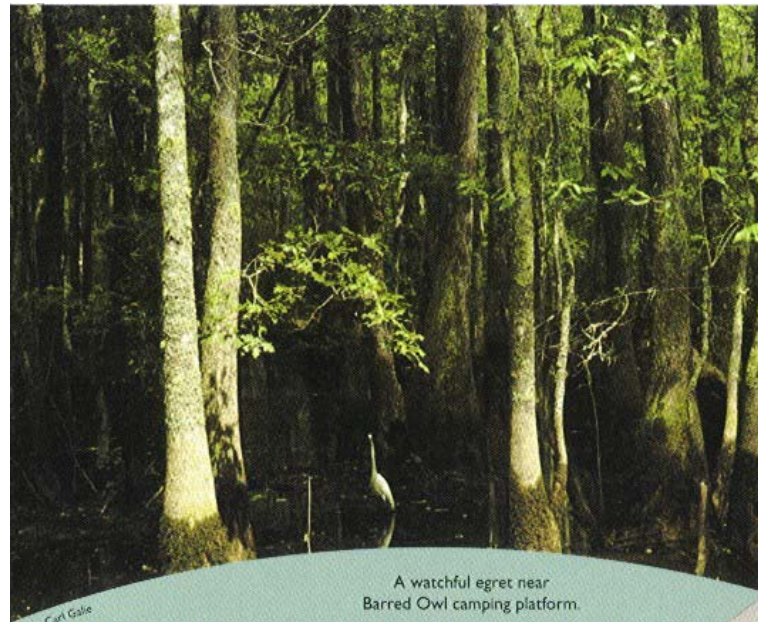


Roanoke River Paddle Trail and Camping System

The following excerpts are from the Official Trail Guide and Map provided by The Roanoke River Partners. To obtain the official map, contact

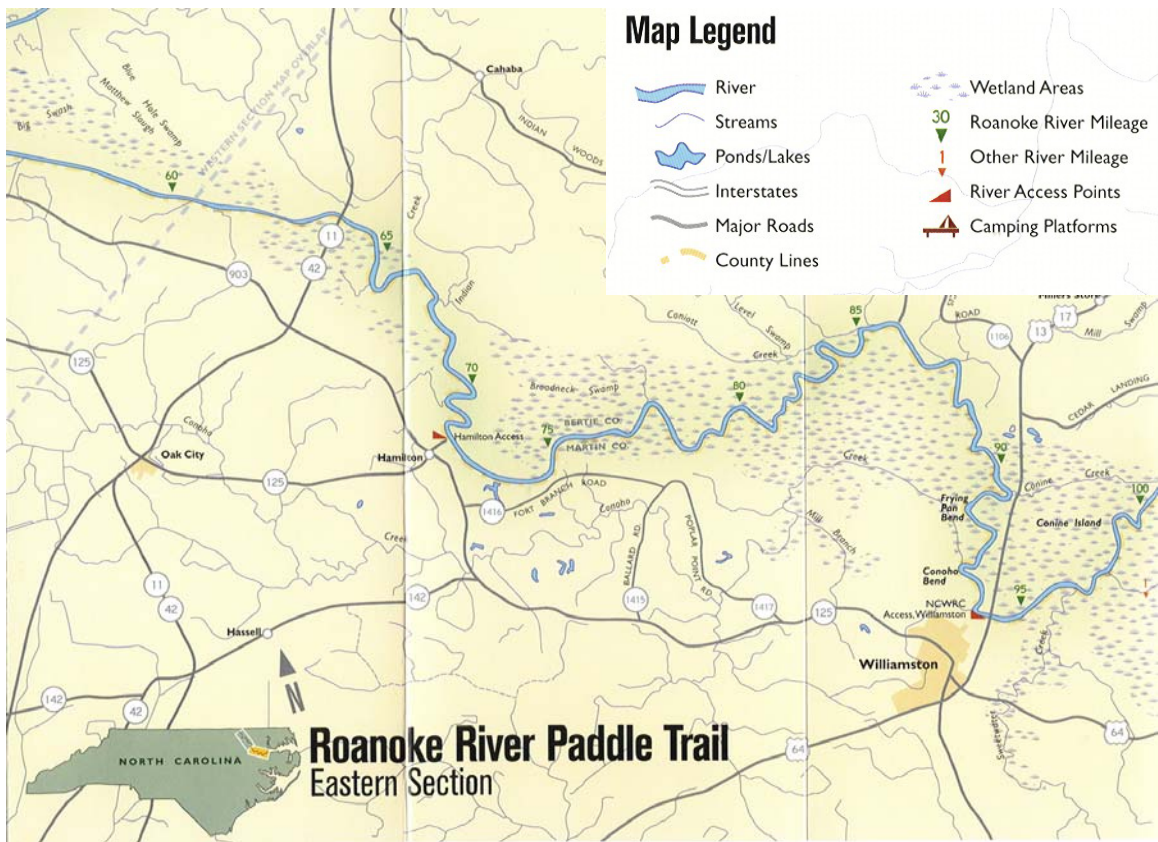
Roanoke River Partners
www.roanokeriverpartners.org

Martin County Chamber of Commerce
www.martincountync.com



A watchful egret near Barred Owl camping platform.

Source: Roanoke River Paddle Trail and Camping System Official Trail Guide and Map.



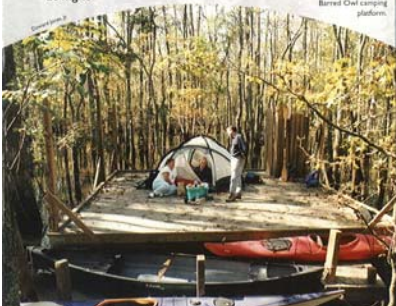
A Timeless Place

THE ROANOKE RIVER PADDLE TRAIL

The Roanoke River Paddle Trail consists of over 200 miles of interconnected creeks, rivers, and swamps that collectively express the wild and diverse character of the lower Roanoke River. A partnership of private land-owners, the Roanoke River National Wildlife Refuge, U.S. Fish and Wildlife Service, North Carolina Wildlife Resources Commission, and The Nature Conservancy has protected over 56,000 acres along the river—an almost continuously forested corridor, stretching from Hamilton to the Albemarle Sound.



- Canoe over six miles of class 2 and 3 whitewater rapids
- Travel past historic towns on wide waterways full of sun and sky
- Explore small meandering creeks in shady cypress and tupelo swamps
- Enjoy a myriad of birds and other wildlife
- Camp on platforms in mysterious backwater swamps to experience the distinctive character of the river at night



Barral Chief camping platform.

Humans and the Roanoke

Since the time of dugout canoes, the Roanoke's rich resources have supported the generations and cultures along its banks. Farming, fishing, and forestry are ingrained in the fabric of life here.

Along the Way

Roanoke Canal and Trail

This trail meanders along a nine-mile stretch of the Roanoke Canal between Roanoke Rapids and Weldon. The canal was built between 1819 and 1823 as part of the Roanoke Navigation System. Riverboats, called "bataux," used this canal to bypass the rapids and get agricultural goods to market. A 28-foot tall aqueduct, found along the trail, remains in fine condition today. The Canal Museum, located at the locks in Roanoke Rapids, offers visitors an opportunity to learn more.



DCP Engineering, Inc.



Historic Halifax

The port town of Halifax was a major political center during the American Revolution. North Carolina's Fourth Provincial Congress met and adopted the "Halifax Resolves" here, making North Carolina the first colony to take official steps toward declaring independence from England.

Fort Branch Civil War Site

Perched on a 70-foot embankment, this Confederate fort was built just below Hamilton to protect railroad bridges and the upper Roanoke River from Union attack.

Moratoc Park

This 18-acre park is located at the site of Williamston's original wharf area of the late 1700s. The Skewarkee Walking and Biking Trail will link the wharf with its historic downtown area by 2002.



Jamesville

Jamesville was the center of a fishing industry. Paddlers will pass by remnants of the last fishery to operate along the river, where huge seines could net 20,000 herring in a single haul.



Plymouth and Windsor Harbors

The site of many historic battles during the Civil War, Plymouth Harbor has many artifacts, both in its museums and beneath its murky water. The C.S.S. RAM Albemarle, known as Ironclad, was built upriver in Scotland Neck and sunk at Plymouth. Tall ships from England sailed up the Cashie River to Windsor Harbor to load cargo and fill their water vessels with the pure tannin-tinted water of this black river. The highly acidic black water, a byproduct of the peat-rich soil, inhibited the growth of bacteria in the water, preserving its freshness for the long voyage across the Atlantic.

Safety and Trip Planning

Respect others, and observe safety rules. 911 may not be available from all areas.

This map is not for navigational purposes. Use topo maps instead. Trip planning information including links to weather and river levels can be found on the Roanoke River Partners Web site at www.roanokeriverpartners.org.

To reserve an RRP camping platform, call 252-794-6501, or go to the Web site above.

Other Resources

- Washington County Travel & Tourism: 252-793-3248, www.visitwashingtoncountync.com
- Martin County Travel & Tourism: 800-776-8566, www.visitmartincounty.com
- Windsor/Bertie County Chamber of Commerce: 252-794-4277, www.communityplink.com
- Northampton County Chamber of Commerce: 252-534-1382
- Halifax County Tourism: 800-522-4282, www.visithalifax.com



Source: Roanoke River Paddle Trail and Camping System Official Trail Guide and Map

Martin County, North Carolina

Community Characteristics: Martin County is a rural county with more than half of the acreage containing farmland. Compared to the state, the county has an above average poverty rate and nonwhite population, a below average percentage of the population in the labor force, below average annual wages, and a below average percentage of adults with college degrees. The largest employment sectors are manufacturing, wholesale/retail trade and governments while the fastest growing sector is services. Two hundred and fifty jobs in Martin County were directly attributable to travel and tourism in 2000. Travel generated a \$3.9 million payroll in 2000. State and local tax revenues from travel to Martin County amounted to \$1.75 million. Travel and tourism is a growing industry.

Water Trail: Roanoke River Paddle and Camping Trail

Trail Length: 75 miles of water trail

Trail Established: 1999

Water Trail Research: North Carolina Coastal Plains Paddle Trails Initiative: The State of North Carolina Coastal Paddling Survey; Fall 2001 (Thigpen, 2001). North Carolina Coastal Plains Paddle Trails Initiative: 2001 Coastal Plains Paddle Trails Research Conference Proceedings; Fall 2001 (Rebach, 2001).

Event: The East Coast Flatwater Championship Canoe and Kayak Races is an annual event in the region. This paddling affair on the Albemarle Sound is held in Edenton and sanctioned by the North Carolina Canoe Racing Association and the US Canoe Association. Canoes and kayaks race an eight-mile course in three divisions including racing, recreation, and a business challenge for co-workers looking to build teamwork. The races start at the Edenton waterfront, go up Pembroke Creek approximately two and a half miles, go around three islands, return to the waterfront and go up Queen Anne Creek approximately one and a half miles to a buoy, then return to the finish back at the waterfront. A guided recreational paddle follows an afternoon triathlon for children and adults. The event brings paddlers into town spending money at local establishments. Edenton is a good example of a town embracing the paddling movement. The town was wary of the idea at first, but now it sees potential.

Volunteer Trail Group: Roanoke River Partners (RRP) is a non-profit group. The RRP works with new and established businesses that highlight, steward and sustain the unique environment of the Roanoke River, communities and culture. RRP volunteers coordinated the creation of paddle trails with camping platforms

in the Roanoke River backwaters, this system is called the Roanoke Paddle Trail and Camping System.

Management Partnership: Roanoke River Partners (RRP) and North Carolina State Parks.

State Coordination: Non-motorized boats in North Carolina are not registered. The State Trails Program has criteria for the development of paddle trails. Forty thousand people in North Carolina participate in canoeing, while around 120,000 kayak. Three million people in North Carolina participate in wildlife viewing in water-based surroundings. By 1999, 141 paddling trails (totaling over 1,200 miles) were developed in the state. Current projects will push the number of water trail miles over 3,000 in the coming five years.

Regional Coordination: The North Carolina Coastal Plains Paddle Trails Initiative (NCCPPTI) coordinates paddle trails regionally. The project seeks to better understand the potential of nature-based eco-tourism as a development option for rural coastal counties in North Carolina. All counties in the NCCPPTI region have drafted official resolutions of support. Communities are encouraged to apply for a variety of grant funds from sources such as private foundations or businesses like Confluence Water Sports and public monies from state parks administered TEA-21 funds; 40 percent of state administered TEA-21 funds is dedicated to non-motorized recreation. A paddling fee system is under consideration. The Initiative hosts bi-annual paddling symposiums to spur local opportunities.

The first draft of the North Carolina Coastal Plain Paddle Trails Guide identifies 1200 miles of paddle trails, mostly day trips without opportunities for camping. Phase II of the Initiative is underway with 800+ miles of paddle trails in planning. The mission is to develop increased opportunities for destination paddlers by encouraging overnight excursions.

Estimated number of paddlers per year: For all nine coastal study regions, 546,605 paddle days a year were reported (357,480 local, 189,125 non-local). In the Roanoke Region, 222 paddlers (with 4 people per group), take five trips a year at two days per trip. This accounts for 2220 paddle trips a year in the Roanoke Region (Thigpen, 2001).

Camping: Four 20' by 20' camping platforms are provided with six more planned. Other overnight opportunities include access to state parks camping and access to communities with limited private camping opportunities.

Map: North Carolina Coastal Plain Paddle Trail Guide (regional), Roanoke River Paddle Trail and Camping System Trail Guide and map, Roanoke River Camping Trail Brochure, and the World Wide Web provide water trail information.

Rest Areas: Access points are scattered every five to ten miles.

Destination Paddle: The Roanoke draws regional and national visitors. Most paddlers drove 116 miles round trip to paddle in the Roanoke Region. For eighty seven percent of water trail visitors to the Roanoke Region, paddling was the primary purpose of their last trip (Thigpen, 2001).

Economic Impact: With approximately 2,220 outings, the annual direct economic impact of the Roanoke Water Trail is \$193,695. On average trip to the Roanoke River, a paddler spends \$87.25 (not per day). Paddlers reported spending \$26.63 per day on the last trip to Roanoke River (Thigpen, 2001).

Regional Economic Impact: Paddle trail visitors in this region reported spending money for lodging, restaurant meals, food, ice, beverages, gasoline, retail purchases, boat rentals, and guides or outfitters. Average expenses for a single person ranged between \$42 and \$158 during a paddling trip. Coastal plains water trails produce 2.4 percent (\$55.14 million) of tourism economic impact in the eastern North Carolina region. When combining local and non-local expenditures, the coastal paddling experiences produced \$103.9 million (Thigpen, 2001).

Environmental Impact: North Carolina land management agencies are making an effort to reduce visitor impacts to the environment along canoe trails. Environmental impacts occur because of improperly disposed human waste, large groups, broken glass containers, camping or landing on private land, building fires outside of designated areas, using soap too close to the river, and cleaning fish in the water (Rebach, 2001).

'Leave no Trace' should be stridently encouraged or human waste will become an issue. Management strategies to regulate visitor behavior include posting the rule (passive use of simple, strategically placed regulatory signs), removing cues that encourage bad behavior (i.e. illegal fire pits), provide reasonable alternatives, inform visitors how their actions hurt others or themselves to encourage identification with management goals by explaining why decisions are needed (Barry, 2001).

Community Impact: Eighty-four percent of North Carolina coastal paddlers surveyed believed paddling activity would have a positive effect on new

businesses and 72 percent felt an increase in paddling would help the coastal job market. The only perceived negative effect, reported by 8.5 percent of survey respondents, was an increase in property taxes (Thigpen, 2001).

Successful paddle destinations offer diverse trails with a wide variety of opportunities. Overnight trips are key. Water trails should have camping opportunities and lodging or bed and breakfast opportunities and easy access to downtown.

Some communities have embraced the paddle trail. Many people who live in the Roanoke Region think paddling the swamps is a funny way to advertise this area. Most local people don't seem to realize what they have and they don't see paddling as a draw for the area. Williamson's downtown is only a mile from the river. A rail-trail project is now underway to connect Williamson's downtown and the river through an existing riverfront park. Moratoc Park currently offers a riverside building available for rental and group activities.

Rural communities are deriving some economic benefits from paddle trails. Local communities will need to invest in more tourist support services in order to effectively capture revenue from water trail visitors. Growth in private business establishments such as outfitters and guides, bed and breakfasts, and an effort to connect the paddle trail and other recreational and cultural amenities will offer water trail visitors more of a destination. There are not enough tourist services to adequately capture the destination paddler along the Roanoke. The need is becoming more obvious and opportunistic rural communities will fill this niche. Hunting lodges in the area are starting to market full service paddling expeditions to lengthen their season and diversify without changing their "product". An increasing number of guides and outfitters in the area are also marketing to paddlers. More Bed and Breakfasts are noticing paddling tourists and more cars are coming into the area with canoes on top.

The Roanoke and the Albemarle Sound are traditionally popular for fishing. Some locals are skeptical about inviting paddlers into the region because they might interfere with hunting. Hunting clubs were concerned about potential user conflicts. The Roanoke River Partners encourage open communication with these local interest groups and although the hunting clubs have not entirely embraced the idea, they are buying into the concept. Camping platforms are located in areas not frequented by hunters. User conflicts have not manifested.

Paddler Profile: Paddlers mean age is 47 years and mean annual income is \$76,570. Paddlers average 10 destination-paddling trips a year with groups of three to five people. Paddle trips averaged between 1.3 and 2.4 days. Paddlers spending money on lodging, restaurant meals, food, ice, beverages, gasoline,

retail purchases, boat rentals, and guides or outfitters. The average total expense per paddler per trip was \$83.42. Seventy-eight percent of water trail trips to the region were primarily for paddling.

Community and environmental attributes that attract North Carolina coastal paddlers include unpolluted waters, sounds of nature, fresh air, wild animals and birds, getting away from the city, and finding out about local history and culture. Paddlers are also attracted to the coast to eat at local restaurants and meet locals, to go fishing or to look for local arts. Attributes that repel coastal paddlers include safety concerns, being hassled by locals, threat of the car getting broken into and the fact that medical care is a long distance away.

Business Perspective: Reservations for the tent platforms are increasing especially since last spring. Over a hundred groups of between two and eight people reserved platforms in the last three years. Most destination paddlers are from outside of the region. Most Roanoke Water Trail paddlers making reservations for tent platforms are from metropolitan areas like Cincinnati and Cleveland, Ohio; Alexandria and Salem, Virginia; Hillsboro, New Jersey; Huntsville, Alabama; Bradenton, Florida; and even all the way from Montana.

Management Perspective: The paddle trail was established to focus positive attention on the natural resources of Roanoke, to encourage stewardship of the unique ecosystem, and to help incite economic benefits of increasing non-motorized recreational tourism. Another underlying goal of the RRP was to bring the five counties together around a successful project linking each of them by way of river travel and transcending political boundaries. The project is building the capacity of the RRP and focusing attention on river related tourism as one example of sustainable development.

The spring of 2002 witnessed a noticeable growth in paddling on the Roanoke. It is unclear how much of a paddling destination the Roanoke has become. So far the area has minimal paddling impacts. A simple monitoring system by the RRP has detected no vandalism or environmental impacts. The paddling system has purposefully not been marketed until more paddle camping facilities and access points are developed. Maps and brochures are available, but the word has really gotten out through articles in magazines like *Outdoor*, *Backpacker*, and *National Geographic Explorer*. By next spring, 75 miles of paddling trail will be completed with ten camping platforms available.

The state Wildlife Resources Commission is funded by motorboat licensing and a small percentage of fuel taxes, they provide limited services and facilities for paddlers. Multiple recreationists utilize existing boat launches and no conflicts have emerged.

Local entrepreneurs must see the potential of paddlers as a viable market and buy into the paddle trail movement. To do this, agencies must respond to business needs.

Chapter 4. Conclusions and Recommendations

The intent of this report is to utilize case study examples to provide a description of the impact of water trails in rural communities. Prior to this study, information comparing calm water paddle trail impacts on rural communities could not be found. Little academic information portrays the impact of calm water trails in rural communities.

Community concerns about water trail development are the impact on local residents with regard to the environment and potential economic ramifications. These rational concerns capture the values that will influence the sustainability of a water trail project. Water trails are not a panacea for rural development. However, water trail development can help achieve goals of economic diversification and improved quality of life in rural communities.

Innovative communities managing water trails within a dynamic local economy will be rewarded with a diversified economy and enhanced stewardship. Travel and tourism is one of the largest industries in state economies. Water trails are a rapidly growing component of the marine recreation and tourism industry. Water trails can be successful components of rural communities. Case study communities show an increase in the number and success of retail and service businesses. Case study water trails have impressive paddler profiles (well educated, high incomes), increasing use rates and paddlers desiring a natural environment. To ensure paddlers are affecting a local economy camping opportunities and access to downtowns is important. Trespassing has not manifested along case study water trails because legal access points and public land is designated and clearly signed and mapped.

A water trail offers economic development potential for a small rural community, however, such highly specialized forms of recreation can have serious impacts. A local water trail will play a role in the community life of rural residents. Rural residents will have to share their outdoor experiences with visitors, there will be lines for services, and land values may increase. A shared vision for the water trail and existing tourism support facilities are important community considerations. Events, regional and state level coordination and the quality of local support (strong volunteer groups) and management partnerships have an impact on water trail communities. A water trail must be advocated and maintained locally if the community will reap economic and social benefits. When no retail, service and lodging sites are accessible near the water trail, canoeists won't spend much money. As facilities arise, more people will opt to use the available bed and breakfasts, restaurants, shops and campgrounds. Environmental impacts occur because of improperly disposed human waste, large groups and littering.

Advantages and drawbacks of water trails are outlined. Organizational and infrastructure recommendations for developing successful water trails in rural communities are considered.

Advantages of Water Trails for Rural Economic Development

Enhanced Stewardship and Community Vitality

Water trails are community-based projects that advocate personal experiences with aquatic ecosystems. The quality of the natural environment is an important part of the paddling experience.

Water trails can be a network of recreational and educational opportunities. Hiking and biking trails, greenways, museums, historic sites, parks and preserves are connected by water trails. Waterways contain important natural resources having ecological, geological, or archeological features, which offer excellent educational opportunities. Trail organizations use comprehensive trail guides, signage, public outreach to encourage awareness of the natural, cultural, and historical attributes of the trail.

Water trails provide paddling opportunities for visitors and residents while enhancing a community's quality of life. Water trails strengthen the link between residents and the natural environment through direct interaction and education. The result of this proactive stewardship is evident in volunteer support of water trails. The vast majority of participants in this research indicated water trails are effectively providing recreational opportunities, promoting access to the water and promoting stewardship.

Paddle trails are an effective and healthy approach to economic development and recreational access of otherwise untapped water resources, while conserving and maintaining the natural, scenic, and historic qualities of a community. Increasing visitation indicates developing a water trail makes the region a better place to visit. A water trail is a network of recreational and educational opportunities. Trail organizations use comprehensive trail guides, signage, public outreach to encourage awareness of noteworthy attributes of the trail. Interpreting cultural and environmental amenities enhances community character while making the area more attractive to new residents and employers.

Water trails have important non-cash benefits such as elevating community pride. They provide outlets for social activities, to have fun and to give back to the community. Water trails encourage an intimate relationship with the river, thus promoting a sense of stewardship.

Encouraging the use of the Kickapoo River by paddlers heightens appreciation of the outdoors, according to Marcy West, Director of the Kickapoo Valley Reserve. Paddling increases awareness of the beauty and unique character of the Kickapoo. Grade schools in the county often use canoeing on the Kickapoo River as an educational experience. The community perceives positive social benefits of managing the Kickapoo for paddlers.

Objectives of the Lake Superior Water Trail include providing recreational opportunities and promoting stewardship. Rural economic development was not a goal of this water trail project, but the water trail has a positive economic impact. Most of Minnesota's North Shore is private property. Prior to the development of the LSWT, the rugged shoreline offered few public access or camp locations. Steve Mueller, River Recreation Program Coordinator with the Minnesota Department of Natural Resources, believes the water trail is successfully meeting objectives of providing recreational opportunities and promoting stewardship.

Economic Impact of Water Trails

Water trails are a non-consumptive commercial use of public waterways. In many localities, rivers, lakes and streams remain untapped resources for the local economy. Promoting their use can bring additional income to local businesses.

Water trails as a recreation destination can provide rural communities with income to local boat liveries and outfitters, motels and bed & breakfasts, restaurants, grocery stores, gas stations and shops. Trail users often have an interest in the history and environment of the community, and can help to support museums, nature centers and other cultural assets.

Water trail use is difficult to measure and induces economic impacts even harder to quantify. Secondary water trail data analyzed for this report gathered information on revenue from water trail paddlers in case study communities by looking at visitor expenditures, employment opportunities associated with water trails, and other induced effects of water trails. Case study water trails have all experienced rising visitation over the last five years. Water trails and the associated recreational tourism bring in new dollars into the economy and create job opportunities for local residents. Water trail development can play a significant role in rural economic development. It can be argued that communities already involved in tourism promotion have an advantage when it comes to water trail development.

Table 4.a: Economic Impacts of Water Trails in Case Study Communities

Water Trail	Annual Direct Economic Impact	Paddler Expenditures	Number of outings annually
Kickapoo	\$1,230,800	Non-local \$88 per trip Locals \$41 per trip	16,000
Roanoke	\$193,695	\$26.63 per day \$87.25 per trip	2,220
Lake Superior	\$106, 191	\$34.50 per day \$63 per day with resort lodging	3,078

Case study community trends indicate paddlers will spend between \$27 and \$63 per day. A destination paddler on a multiple day water trail trip will spend about \$88 in a community. Eating and drinking establishments, lodging and camping businesses, retail sales and recreational service industries will see direct economic impacts from water trail paddlers. Case study communities are witnessing between 2,200 and 16,000 paddle outings annually. Canoeists on the Kickapoo spend over \$1.2 million in rural southwest Wisconsin. Table 4.a illustrates the economic impact of water trails.

Water trail impacts can be construed in monetary terms, not at all equivalent to intrinsic values of the river. Case study communities with similar rural characteristics promote the water trail as an economic development tool. These communities are recovering from the downturns experienced by the timber, farm, and other extractive industries that were once the boon of rural economies.

Economic and social trends described in case study analyses indicate that conditions are stabilizing and showing small improvements. Nevertheless, these rural counties exhibit unemployment above and incomes below state averages, above average poverty rates, below average annual wages, and a below average percentage of adults with college degrees. These rural counties are experiencing population stagnation and slow economic transitions from agriculture and timber to service and retail industries. The water trails' significant impacts on the economies have not wrestled these rural counties out of recession. Water trail development is not an effective single strategy to enhance rural economic opportunities. However, as a tool in a community's strategic toolbox, a water trail provides significant opportunity.

The economic impact of canoeists in a water trail community depends more on water trail trip expenses than on annual canoeing expenses. Annual canoeing

expenses like buying a new boat usually happen near home. Water trail visitors spend money on goods and services. Retail trade and services important for tourism development are gaining strength in all three case study communities. Guides, outfitters and equipment rental businesses, restaurants, gas stations, hotels and bed and breakfasts all compliment a tourist destination. Increased numbers of quality local service and retail businesses will enhance opportunities for water trail visitors to spend money in rural economies.

Destinations

Case studies indicate that a successful destination community is one that supports a move towards tourism development. Elements of the local community must be willing to make personal investments to support tourism. Local entrepreneurship is critical to growing a sustainable eco-tourism destination. To a large extent, communities will see increased benefits when tourism services are in place.

Destinations offer a variety of accessible activities. A true destination offers enough opportunity and services to attract visitors for multiple days to enhance potential economic impacts. Water trails can act as a catalyst, spawning additional tourism related development like bed and breakfasts, restaurants, lodges and outfitters. Paddlers are looking to eat at local restaurants and meet the locals, go fishing or to look for local arts, hike, view wildlife and visit museums. More businesses, recreation and cultural opportunities will have a combined effect of attracting visitors from further distances to the region. If the overall lack of additional opportunities persists in a rural area, it is likely that water trail tourism will stagnate. Overnight trips are key. Water trails should have camping, lodging or bed and breakfast opportunities and easy access to downtown. It is difficult to capture revenue from canoeists unless visitor services and businesses are available. In summary, water trail development should be part of a larger development strategy in order to capture economic benefits.

Community and environmental attributes that attract paddlers include unpolluted waters, sounds of nature, fresh air, wild animals and birds, getting away from the city, and finding out about local history and culture. Attributes that repel paddlers include safety concerns, being hassled by locals, threat of the car getting broken into and the fact that medical care is a long distance away.

A guide should provide descriptions of the trail including locations of, and descriptions of access sites and facilities supporting the trail, water trail length, distance between access sites and camping facilities, degree of difficulty (skill required of trail users), and a detailed description of rates of water movement, wind and tides. Points of interest such as surrounding land uses, other groups

using the water trail, vegetation, wildlife and areas connected by the trail should be documented. The relation to urban areas and populations within a two-hour drive of the water trail along with guides, tours and other services in the area is useful to potential visitors. The majority of paddlers preferred to paddle 6-10 miles a day.

Most paddlers enjoy the LSWT as a day trip. Short kayak jaunts are generally focused on observing a particular natural feature such as cliffs or caves. The creation and increased maintenance of campsites along the trail will enhance opportunities for multi-day paddle trips in the future. The Lake Superior North Shore is full of tourists in the summers. Two Harbors makes it easy for water trail users to get to the downtown by providing a sandy beach access area in town. This is a strategy to help downtown businesses more effectively capture revenue from water trail visitors. Two Harbors is also planning a new marina that will appeal to paddlers and draw people into the downtown.

Destination tourists are traveling to the water trails and their numbers are rising. Seventy-eight percent of the Eastern North Carolina water trail trips were primarily for paddling (Thigpen, 2001). The LSWT is more of a tourist destination for paddlers than the North Shore as a whole (LSWT, 2001). The vast majority of Kickapoo canoeists come from outside the area, in the mid-west region (Anderson, 2000). It is unclear if water trails are acting as true destinations for the majority of paddlers or if the trail is a stopover or ancillary target for people who happen to be in the area or just passing through.

Some Kickapoo Water Trail visitors probably don't spend much in Ontario because there are limited opportunities for shopping and lodging. Some businesses are better at marketing themselves to canoeists. The Rockton Tavern is an example of an establishment that has capitalized on the paddling market by offering good food, a beguiling atmosphere, and easy access to the river.

Events

Water trail events stimulate economic growth by introducing a new market to the local economy. Gordy Anderson is the Director of the Chamber of Commerce in Two Harbors, Minnesota. The community's Lake Superior Water Trail is gaining public notice. The Two Harbors Kayak Festival is a major summer event that draws people from around the region. Each year the festival is bigger and better and nearby campgrounds are filling up. Anderson believes the Two Harbors Kayak Festival will soon be a national event. This festival is drawing in a large number of kayak destination tourists and offering a great opportunity for locals and other travelers to experience kayaking on the lake.

Water trail maps and guides are available if asked for specifically, but are not directly offered to most tourists. Events, sites and waterway features (river experience, historic narratives, establishments accessible by water, wildlife, natural sights and landscapes) constitute something of the exotic for most visitors. Promotional water trail materials present prime images corresponding to these unique assets. Communities promoting their water trail events have a greater influence on destination travelers.

Up-Front Monetary Investment

More kayakers to the LSWT are bringing economic growth to communities near the water trail. Water trails are a sustainable form of development without major infrastructure demands.

Small-scale tourism developments associated with water trails are less costly and easier to start up than traditional tourism facilities. Initial water trail development does not require significant up-front investments of money, but does require significant in-kind support within the local community. Water Trail development does not need to be exorbitantly expensive especially if a community has existing tourism services, river access points and accessible businesses.

A water trail can act as an anchor attraction around which the local economy can develop to supply related services and goods. To capture profits, the community must market goods and services that paddlers want. Profits from water trail development will come over the long haul as the market will take a number of years to become aware of and visit the water trail. To incorporate goals of healthy river management and tourism development, a locality can assess its own services and activities and re-orient the characteristics and patterns of local growth and development.

Drawbacks of Water Trails for Rural Economic Development

Risks of Commodifying the River

Tourism is not a free thing. There is some cost associated with planning for increased access and protecting the marketed resources. Increasing demand for the river adds competition for this and other resources in a community. Marketing and promotion reaches outsiders. A brochure will promote the river that, in turn will commodify the river. Tourists will visit the community "consuming" the river and other services in the area. Tourists may decide to invest in a seasonal home near the trail. Locals will wait in lines, deal with traffic more, and share their river outings with strangers during tourist seasons.

Business opportunities develop due to increased tourist visitation. Rural areas, because of pristine settings, will continue to attract entrepreneurs who come specifically to tap into the nature-related tourism market. This group is often at an economic and educational advantage compared to local folks. A challenge will be finding ways to enhance options for local individuals while accepting outside stimulation.

Taking advantage of the recreational and commercial value of a river increases land use competition and the potential for conflict. Tourism can lead to gentrification; luring outsiders into a community drives up competition, land and retail prices in the area. Tourism is affecting land prices around the Lake Superior Water Trail. About 70 percent of homes around the lake are seasonal and land is getting more expensive.

If steps are not taken to promote local business, “outsiders” will eventually dominate the local tourism market and associated retail and service industries. In instances where valued resources are in short supply, the conflict between locals and outsiders can be highly charged. This is evident in the Kickapoo Valley where “outsiders” own shuttle and rental services and few local businesses are effectively capturing the paddling market. Local actions can stimulate market forces.

Framed and packaged as a tourist attraction, the quality and natural beauty of the water trail is presented as in a larger strategy. Natural characteristics of the waterway are an obvious marketable product. Outsiders will eventually recognize this potential and take advantage of niches. Non-resident ownership and investment in paddle rental and service businesses in rural water trail communities reduces induced economic impacts on the local economy.

Environmental Impacts

Many rural communities are turning back to their river as an important cultural and economic asset. Eco-tourism, responsible travel to natural areas that conserves the environment and sustains the well being of local people, is one of the fastest growing types of tourism. The impacts of eco-tourism may harm the very resource that makes it viable. Inventory and assessment of existing conditions (natural environment, historic sites, cultural resources, economics, local culture, visitor service infrastructure) documents current conditions and can be used to set limits of acceptable use. No case study water trails have limits of acceptable use and human waste and litter are an issue. Expansion of a region’s nature-based tourism opportunities must recognize the vibrancy of such tourism depends on the quality of the region’s cultural and natural experiences.

Conflicts may arise in policies that encourage high use water trails. On one hand, water trails encourage improved access for low impact recreation, while on the other hand increased visitation will degrade the condition of the natural environment if steps are not taken to protect the resource. Steps to mitigate visitor impacts on the environment include promoting and enforcing 'Leave no Trace' ethics or providing adequately maintained facilities for human waste and litter disposal. Conflicts between economic goals (recreation and public access) and resource protection are a common sustainability conundrum.

Water trail paddlers are looking for a near 'wilderness experience' and uncrowded waters. Visitors to a rural community's water trail expect to wander in unpolluted waters, hear the sounds of nature, breathe fresh air and see wild animals and birds. Maintaining a wilderness experience and minimizing ecological impacts will enhance water trail visitor satisfaction and recognition.

North Carolina land management agencies are making an effort to reduce visitor impacts to the environment along canoe trails. Environmental impacts occur through large groups, improperly disposed human waste, broken glass containers, camping or landing on private land, building fires outside of designated areas, using soap too close to the river, and cleaning fish in the water. These behaviors harm the riverine ecosystem and degrade visitors' experiences on the river.

A growing management concern with the Lake Superior Water Trail is human waste disposal. The rugged shoreline does not offer soil conditions that permit 'Leave No Trace' principles for human waste disposal. Currently many access points and campsites do not offer adequate human waste facilities. Several options for self-decomposing waste stations and/or portable toilets are currently being investigated for access points and campsites.

Few access points along the Kickapoo River Water Trail have potable water supplies or restroom facilities. In addition, garbage receptacles on these sites are not maintained adequately during peak season (summer weekends) or during the off-season. Public entities are facing budget shortfalls and do not have resources to manage the increased traffic (human waste, garbage, party atmosphere) on the river. Businesses profiting directly from the water trail such as rental and shuttle services take little responsibility for the condition of the river or access points.

Water Trails Require Work!

Dedicated Local Support and Partnerships are Necessary

Waterways cross political boundaries, people are generally not aware of local rules that differ. A water trail system creates continuity between owners of

access sites and consolidates information about safety and downstream access. Through cooperative planning and management, local governments can combine their resources and expertise to provide the best possible recreational experience.

Community support and input throughout the stages of water trail planning will ensure that residents are invested in the water trail concept and benefits to the community are maximized. Communities that wish to pursue water trail opportunities should start the process by exploring partnership opportunities and applying for grants and offers of assistance. Case study water trail partnerships include government and business support as well as dedicated volunteers.

Water trails are often promoted along government land. Public agencies and local governments are in a position to use financial investments that are not dependent upon bottom-line profitability. A water trail is considered a public good. Public-private partnerships can be sought out and leveraged to add features and possibilities to a project. Case study organizations indicate that there continues to be a lack of funding to adequately maintain water trails without volunteer support. A greater spectrum of stakeholders become water trail benefactors when various entities partner and share expertise.

A “friends of the trail” group can serve as a good mediator between the managing agency and the local community. Trail projects that do not have a “Friends of the trail” group or other champion can stagnate and cause environmental problems because of unmanaged use. When working with an agency, these volunteer groups can help move the project along. They may also participate in fundraising, construction, and management of the trail. In some instances, volunteer group takes on the managing agency role as well. Paddlers are trail builders and a respected constituency who advocate for resource protection and participate in resource restoration.

Volunteers are an integral part of LSWT management and development. The MNDNR was given authority by the MN legislature to manage the Lake Superior Water Trail. Money for Minnesota water recreation programs is from a pre-existing dedicated account from the licensing of motorized and non-motorized boats and a percentage of the gas tax. This fund also procures other water recreation programs including the state’s Canoe and Boating routes on rivers (similar to the LSWT). However, only 20 percent of one MNDNR’s staff time was allocated to run LSWT program and no budget was granted to the trail. Therefore, it was apparent early on that partnerships are crucial in the development and maintenance of the LSWT. Public/ private partnerships continue to be key in the water trail’s success. Development and maintenance of the water trail is a joint effort of the Minnesota Department of Natural Resources

(MNDNR), the Lake Superior Water Trail Association (LSWTA), and a growing cadre of resorts and other private businesses. The LSWTA, a volunteer organization, has taken primary responsibility for the management and maintenance of the water trail.

Not all case studies involved public input or an involved planning process. Promoting paddling along the Kickapoo River was instigated by canoe rental businesses. There was no public input process to introduce the idea to locals. Ontario has now embraced canoeing; the town's sign as you drive in boasts 'The Heart of Kickapoo Canoeing'.

Private Property Concerns

Trespassing, vandalism and littering are concerns of landowners along water trails. Initial concerns have not manifested because trails are well mapped and well signed with adequate public access points. Landowners suggest paddling has considerable impacts on local businesses but little impact on their property. Canoeists don't seem to get out or congregate except at access points and campgrounds.

The Lake Superior Water Trail has no impact on George Nelson's lakefront property. Private landowners on the lake have enjoyed a serene view with little human activity for decades. No occurrences of trespassing or littering have occurred on his property. Nelson has noticed an increase in the number of cars with kayaks around the North Shore, but he has not witnessed many impacts on his property.

Jerry Hardison lives along the Roanoke Paddle Trail and Camping System. Hardison was not familiar with the paddle trail. He does not see canoes often, there are more during fall and spring. Canoeing the Roanoke is not the most popular activity along the river. Motorboats are much more noticeable on the river. Martin County is not close to a metropolitan area, the river is not utilized very much.

Tourism brings the potential for increased land prices. Land prices and property taxes may increase as a result of tourism. It is unclear whether this is a result of water trail development.

Opportunities for Future Research

This report serves as an introduction to water trail impacts in rural communities. It covers basic information that local government officials and citizens need to be aware of when developing a successful water trail in their community. However, the study of these "basics" has brought up many related issues that should be explored further.

Future research should consider some of the changes that are currently taking place in the recreation (particularly paddle sport) and tourism industry, and the effect that these changes will have upon water trail resources.

Topics that should be explored should broaden the body of knowledge on the subject of water trails as an economic development and/or social tool for rural communities and assist local governments that are considering efforts to develop water trails in their communities.

Recommendations for Developing a Successful Water Trail

Rural communities interested in water trail development should be aware of impacts on local culture, the environment and businesses. Negative impacts can be mitigated if the community is supportive of water trail development and there is dedicated management. The following recommendations should help project leaders plan, organize and create facilities for water trails while minimizing impacts on rural communities.

Planning and Organizational Needs

1. A shared vision for a water trail is a goal that community members believe in and are willing to work towards. Dedicated local support for a goal-oriented project will sustain local water trail benefits. A dedicated group of volunteers is key to water trail success. A water trail must be advocated and maintained locally if the community will reap economic and social benefits.
2. Address landowner and citizen concerns through outreach to the community early in the project. A designated contact person should respond quickly and accurately to suggestions, concerns and other comments. A pre-opening/pre-construction trail paddle will allow community members to see the proposed blueway for themselves.
3. Solidify funding, planning and overall water trail management with clear leadership and goals. These factors should be considered before marketing a water trail.
4. Investigate local goals, norms and land use patterns that are inconsistent with the water trail vision or threaten the integrity of a paddling experience should be evaluated. Tourism development in rural areas will have social implications including increased land values.
5. Explore partnership opportunities and apply for grants and offers of assistance. Local officials, government agencies, businesses and the community should commit to water trail project goals. Successful water trails are the result of a cooperative effort between an active citizen group, a responsive public agency, and a supportive community all of whom

- share a vision for the trail. Partner with lodging, eating and drinking, retail sales, and recreational services businesses.
6. Host events to advertise the trail, build support and draw new volunteers. Noteworthy events such as water trail grand openings and annual paddling festivals provide excellent opportunity to make contact with the community, present accurate information and generate positive media attention.

Infrastructure Needs

7. Designate and clearly sign legal access points and public land at reasonable intervals to minimize landowner concerns.
8. Promote 'leave no trace' ethics or provide adequately maintained facilities to mitigate for environmental impacts from improperly disposed human waste, large groups and littering.
9. Improve access to parking at river put-ins. Information and access are two big issues to improve trail system usage.
10. Manage a river experience, the quality of the natural environment and uncrowded river conditions are important to paddlers. These aspects of the river experience are vital for all management actions.
11. Explore the history of the waterway and interpret these stories to paddlers in creative ways. Trail users often have an interest in the history and environment of the community, and can help to support museums, nature centers and other cultural assets. The interpretation of history and linkages with the past is a marketable concept.
12. Offer a variety of accessible activities. Paddlers are often interested in easy access to downtown, restaurants, campgrounds and bed and breakfasts, in other outdoor recreation experiences and learning about local history and culture. Successful paddle destinations offer diverse activities with a wide variety of opportunities. Overnight trips are key.

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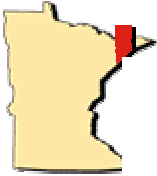
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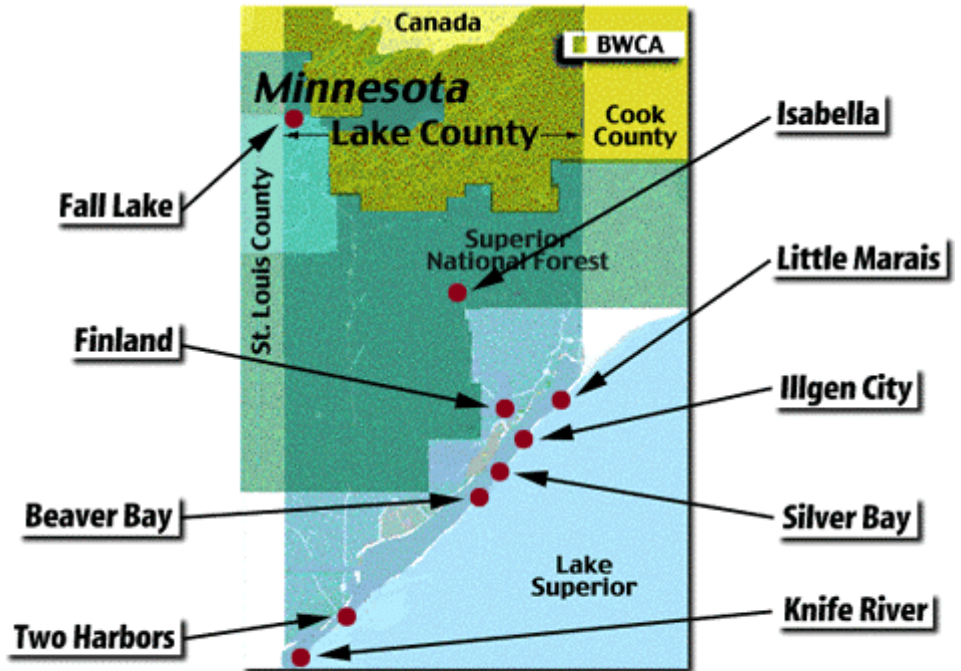
Appendix

The appendix includes a detailed analysis of case study communities including economic arenas, social indicators and phone survey accounts of water trail impacts on rural communities.

Lake County, Minnesota



Lake County is located in Northeastern Minnesota on the shore of Lake Superior in a scenic area composed of deep forests and rugged coastlines. Lake County boasts the Lake Superior Water Trail the Superior National Forest and the Boundary Waters Canoe Area Wilderness.



Source: Lake, 2001

The area is rich in wildlife as a result of the extensive forest reserves. Fish in Lake Superior include lake trout, herring, smelt and Coho salmon. Big animals are found and the moose population is legendary. Lake County enjoys one of the most populated remaining wolf habitats in the contiguous states and is home to pine marten, whitetail deer, fox, beaver, and black bear. Songbirds and bald eagles, osprey, great gray owls, waterfowl and game birds inhabit in the woods and waters.

Lake County is a recreationists dream with outdoor activities year round. Autumn befalls an explosion of yellow and gold birch, aspen, and tamarack. Winter comes early and stays late, bringing a refreshing solitude and plenty of snow. World-class groomed and tracked cross-country ski trails and snowmobile trails offer exciting experiences.

Two Harbors

Two Harbors, a Lake County community, is the commencement of the Lake Superior Water Trail. Two natural harbors, Agate Bay and Burlington Bay, are the community's major assets. The Lake

Source: THDC, 2001



is captivating and dramatic - crashing waves one day; stunning silence the next. Ore and timber are abundant resources, transported from Two Harbors to eastern ports. Two Harbors owes its very existence to the railroad and iron ore industry.

Located 28 miles from Duluth and 181 miles from Minneapolis on the shores of Lake Superior, Two Harbors has long been a destination for tourists. It is becoming a bedroom community for the larger Duluth MSA. The city of just over 3,600 contains a historic downtown area, a railroad museum, and a lighthouse. Mike Valentine, Two Harbors Development Commission (THDC), says, "It has a park-like setting, where you can sit on a bench, enjoy a beautiful view of the lake, and watch ore boats being loaded. We also have a municipal campground, an 18-hole golf course, a lighted cross-country ski trail, and a scenic tour train that runs from Two Harbors to Duluth" (THDC, 2001).

The Superior Hiking Trail spans the North Shore from Two Harbors all the way to the Canadian border offering over 200 miles of maintained hiking trails with short loops of varied lengths and terrain including mountains and shoreline. The Boundary Waters Canoe Area is a Mecca for paddlers. The Lake Superior Water Trail offers a perspective of the great freshwater lake without muddy portages!



Source: Canoe, 2001

Two Harbors Kayak Festival

The 2001 Forth Annual Kayak Festival lured paddlers from as far as North Carolina and Canada to Lake County. Over 110 kayak racers, more than 300 adults and kids of all ages participated in kayak demos during the three-day event. The support of 60 volunteers, 38 sponsors, and a dedicated Lake Superior Water Trail Association (LSWTA) made the celebration the biggest yet. Festival events include 6 racing categories in the 18-mile marathon and 5 categories in the 5-mile race. According to the LSWTA website, "The festival is hardly just a race, however. New happenings for this year's event include guided tours, on-site camping, and the First Annual LSWTA Gear Swap. This was in addition to the traditional seminars and boat demos. Seminars covered kayak design, navigation, trip planning and risk management" (LSWTA, 2002).

The event has increased participation three fold since 1998. The fifth annual festival occurred August 2, 3 and 4, 2002. According to Scott Neustel, a business owner of the Ski Hut (a Duluth outfitting store) and a sponsor of the festival said "The city is real easy to work with, they've really embraced the festival. People like coming to Two Harbors because the atmosphere is more relaxed. With the reception, banquet, bonfires and activities for kids, families feel comfortable. The festival has turned out

to be a perfect way to introduce new people to the sport” (Isley, 2002). Information is available at www.kayakfestival.org.

Tourism and Minnesota

Gross sales generated by the Minnesota tourism industry grew at an average annual growth rate of 4 percent according to the Minnesota Department of Trade and Economic Development. Annual economic impact indicators show over 120,000 jobs and more than \$1 billion in state and local tax revenue associated with travel and tourism (MDTED, 2002).

Population

Lake is one of eighty-three counties in Minnesota; the county’s population ranked 75th in the state. Two Harbors, Lake County, Duluth and Minnesota population statistics are shown in Table 5.a. The county is rural with 5.3 persons per square mile compared with Minnesota’s average of 61.8 persons per square mile. The rate of population growth between 1990 and 2000 in Lake County was 6.2 percent, considerably lower than the state average of 12.4%.

Table 5.a: Population of Lake County, Two Harbors

Area:	2000 Census	1990 Census
Two Harbors	3,613	3,651
County	11,058	10,415
Duluth MSA	243,815	239,971
Minnesota	4,919,479	4,375,099

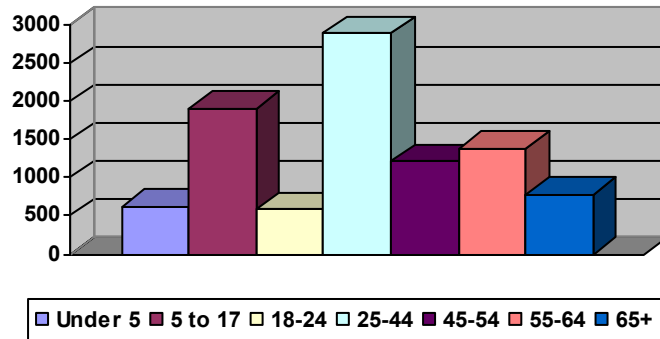
Source: Census 2000, MNTED 2002

Demographics

Age distribution in the county has stayed relatively stable through the past 10 years. Ninety eight percent of the population in Lake County is white. Around 50 percent of the county’s population 25 years of age and above have a high school degree. Less than one tenth of the county has a college degree. Almost 30 percent of the county’s households have children younger than 18 years of age. Despite these statistics, the county has a lower rate of poverty than the state of Minnesota (8.1 percent compared with 8.9percent) (Census, 2000).

The county is not witnessing a sharp decline in working aged people common in many rural areas. A negligible growth in retirement populations is due to the aging baby boom population. Chart 5.b illustrates age distribution.

Chart 5.b: Age Distribution in Lake County, 2000



Source: Census, 2000

Social Characteristics

Eighty four percent of housing units in the county are owner occupied and only 16 percent are renter occupied. The median rent in the county is \$255 a month (MNTED, 2002). Almost one third of the housing units are vacant, around 26 percent of all housing units are seasonal. Eighty four percent of the Lake County reported living in the area for over 5 years. Only 5 percent of the county's migrated from another state (Census, 2000).

Of the 8,873 residents over 16 years of age only 62 percent are in the labor force. Of the 5,114 residents in the workforce, over 75 percent commute to work by driving alone. The mean travel time to work is 21.4 minutes (Census, 2000). These Lake County residents commute to the Duluth MSA (St. Louis County) for employment. Lake County unemployment rates, labor force and employment rates suggested are by place of residence, not by where the job is located. This data counts a person employed only once, no matter how many jobs the individual may hold.

Personal Income and Unemployment

Between 1990 and 2000, Lake County's per capita personal income was the second lowest in the state at \$15,796. This is almost half the national average of \$29,469. Lake County's average annual growth rate of per capita personal income over the past 10 years was 3.5 percent, far behind the national growth rate of 4.2 percent (BEA, 2000). According to the Minnesota Department of Trade and Economic Development in 2002 the average wage per hour working in the service industry is between \$8.25 and \$11.45.

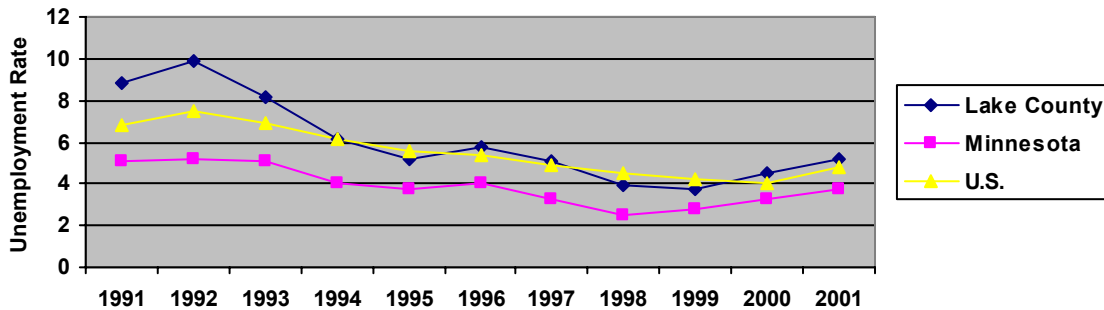
Table 5.c: Income Levels in Lake County

Household Income	Percent of Population	
	1999	1990
Less than \$10,000	7.6	16.7
\$10,000 to \$14,999	7.3	12.6
\$15,000 to \$24,999	14.1	23.8
\$25,000 to \$34,999	13.6	17.9
\$35,000 to \$49,999	19.1	14.7
\$50,000 to \$74,999	24.7	9
\$75,000 to \$99,999	8.6	1.7
Over \$100,000	5.1	.5

Table 5.c illustrates gentrification in Lake County. The median household income for Lake County is considerably lower than the state; \$37,366 compared to the state's median of \$45,311 (Census, 2000).

Source: Census, 2000

Chart 5.d: Lake County Unemployment Rate (Estimated by place of residence)



Source: MNDES, 2002

Industry Earnings

The largest industry earnings in 2000 were reported in services with 29.2 percent of earnings; state and local government with 21.0 percent; and durable goods manufacturing. In 1990, the largest industries were state and local government, 28.9 percent of earnings; retail trade, 22.2 percent; and services with 20.0 percent. The slowest growing industry from 1990 to 2000 was retail trade while the fastest was durable goods manufacturing (BEA, 2000). Ten percent of the workforce is involved with agriculture and mining. Over 23 percent of county workers are in educational, health and social services (Census, 2000).

More than half of the total establishments in the county (160 of 258) employ less than four people (Census, 2000). A healthy number of small, local businesses exist.

Lake Superior

Lake Superior is the world's largest freshwater lake. It is a huge, rock-bound lake capable of producing ocean-sized currents and waves; Waves as large as 31 feet have been recorded. Lying between the 47th and 49th parallels of latitude it stretches 380 miles east to west and 160 miles across at the widest. The big lake has 2900 miles of shoreline, 31820 square miles of surface area and an average depth of 489 feet. Water clarity is incredible with visibility at 75 feet on a good day. Average water temperature is 40° F while surface temperature will rise to 70 on warm summer days (Deckernet, 2000).

Lake Superior Water Trail

A forty-three mile stretch of water trail is developed in Minnesota along the North Shore of Lake Superior from Two Harbors to just north of Little Marais near the Cook County line. The Lake Superior Water Trail (LSWT) consists of launch sites, rest and primitive camping areas spaced along the shore. Eight state parks are the 'backbone' of the system. Rest sites are planned every three to five miles along the water trail because of the lake's unpredictability. The trail is still being developed, there are several large sections with no public landing sites. The pilot project of the LSWT began as a twenty-mile stretch only 4 years ago. The water trail will eventually extend the entire 150-mile length of the North Shore in Minnesota and connect with Canadian and other U.S. state efforts to form a loop around Lake Superior. Approximately 80 miles are currently mapped in Minnesota (LSWT, 2000).

Intended for sea kayaks, the Lake Superior Water Trail was officially designated in 1993 by the Minnesota Legislature (MS 85.0155). The development and maintenance of the water trail is a joint effort of the Minnesota Department of Natural Resources (MNDNR) and the Lake Superior Water Trail Association (LSWTA) of Minnesota.

Partnership

Minnesota sea-kayaking enthusiasts advocate the LSWT. The MNDNR established the water trail program in 1993 upon request of the legislature. Twenty percent of one MNDNR's staff time was allocated to run the program. Originally an advisory committee oversaw the project direction with a cooperative development and maintenance effort between MNDNR and local interests (including outfitting stores). This advisory committee eventually melded into the Lake Superior Water Trail Association that now advises the LSWT project.



Source: LSWTA 2002

Lake Superior Water Trail Association

The Lake Superior Water Trail Association (LSWTA) is a nonprofit group with 250 members working to establish and maintain a water trail along Minnesota's Lake Superior shoreline. The organization schedules monthly meetings out on the water (and in conference rooms) with an active membership. A board of volunteer directors runs the LSWTA and the group is looking forward to hiring a part-time staff person or Executive Director in the future.

The association is currently implementing the recently completed Lake Superior Water Trail Master Plan. The plan documents existing and potential water trail sites along Minnesota's entire North Shore, prioritizes the identified gaps and budgets the projects. A crucial piece bringing the Master Plan into reality was an \$18,000 grant from Minnesota's Lake Superior Coastal Program, administered by the MNDNR. (LSWTA, web) LHB associates helped conduct public participation charettes in Minneapolis-St. Paul and North Shore communities to advise the planning process.

With the completed master plan, the group is trying to raise funds to complete the Water Trail. Volunteer opportunities are regularly organized for site development on existing and new launches, campsites and rest areas.

Research on the Lake Superior Water Trail

The MNDNR conducted a survey of sea kayakers on the North Shore of Lake Superior in 2000. The analysis of survey results 'Survey of Sea Kayak Owners in Minnesota: Kayaking the North Shore of Lake Superior' was released in February 2001. The purpose of the study is to understand to what extent the trail and associated kayaking facilities are used, what sea kayakers are looking for in terms of facilities, services and experiences on the trail and what barriers exist to the further use of Lake Superior by sea kayakers.

Canoes and Kayaks are licensed in Minnesota. This registration/fee system allows the Minnesota Department of Natural Resources (MNDNR) to maintain projects for paddle sports. Licensing gives the state a database of kayak owners and provides some demographic statistics on paddlers.

Characteristics of Registered Sea Kayak owners in Minnesota

Minnesota had 3,238 sea kayaks registered in early 2000. "The typical sea kayak is used 20 times a year. Sea kayaking is predominately a near-home activity; 62 percent of all sea kayaking occurs within an hour's drive of home" (LSWT, 2001; 4).

The majority of sea kayak owners are in the 40-60 year age range. Males account for three-fourths of owners. Nearly half of kayaking households are in the middle income ranges of \$30,000 to \$80,000, while another 32 percent of sea kayaking households earn over \$100,000 a year. Incomes of sea kayakers are high with a median in the \$70,000 to \$80,000 range, well above the Minnesota household median that is near \$50,000 today (LSWT, 2001).

Age	Percent
29 or less	7
30-39	16
40-49	41
50-59	25
60-69	8
70 or more	2

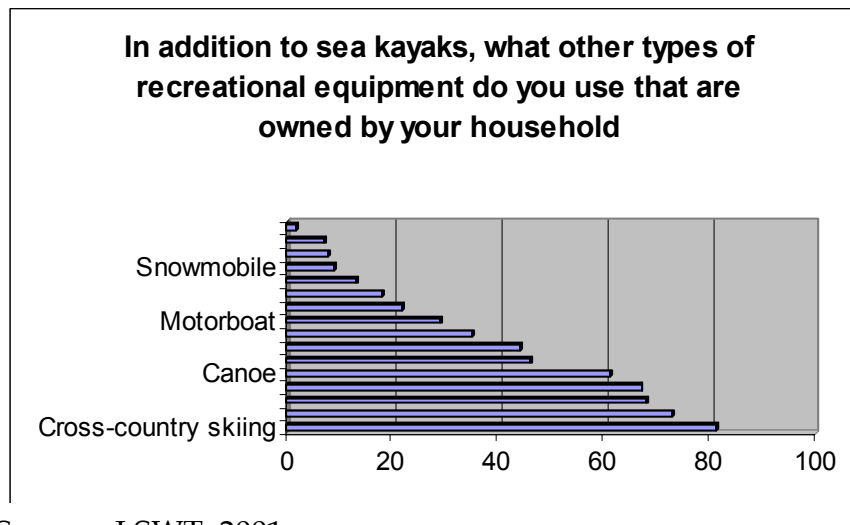
Educational attainment of Minnesota sea kayakers is quite high. Seventy eight percent have a college degree, this includes 38 percent who have completed a postgraduate degree. Another 6 percent have vocational or technical school certificates.

Household Income (annual)	Percent
Under \$20,000	3
\$20,000-\$29,999	6
\$30,000-\$39,999	7
\$40,000-\$49,999	11
\$50,000-\$59,999	11
\$60,000-\$69,999	10
\$70,000-\$79,999	8
\$80,000-\$89,999	6
\$90,000-\$99,999	7
Over \$100,000	32

Most sea kayak owners are in households with one or two kayaks; the mean number of kayaks per household is 1.8. In addition to sea kayaks, owners have and use a distinctive array of household recreational equipment. Chart 5.e illustrates the most common types of equipment. Interestingly, the most favored equipment is associated with other non-motorized physical activities. Over 60 percent of sea kayak owners also have cross-country skiing equipment, backpacking equipment, mountain bike, fishing gear, and a canoe (LSWT, 2001).

Source: LSWT 2001

Chart 5.e: Minnesota Sea Kayak Owners and Other Recreational Equipment, 2001



Source: LSWT, 2001

Paddling the Lake Superior Water Trail

The Lake Superior Water Trail is the destination for about 3,100 outings a year. “The North Shore of Lake Superior is the destination for about 14 percent of all sea-kayak outings from Minnesota-registered sea kayakers (8,672 of 61,007), and the water trail is the destination for five percent of all outings (3,078 of 61,007). The Water Trail accounts for just over one third of North Shore outings (35%)” (LSWT, 2001; 5). Use figures are based on Minnesota sea kayakers registered for pleasure (personal, noncommercial) use and represent the large majority of sea kayaking, but they do not include two additional user groups: outfitters and kayakers registered in other states. Estimates for the former source were obtained directly from the outfitters for both the Water Trail and North Shore, and estimates for out of state kayakers were obtained from access counts for the Water Trail only. Together, the two groups raise water trail use by about 4,000 trips a year. Outfitters raise Minnesota North Shore use into the 12,000 to 12,500 outings. Most outfitter-related trips come from Duluth and Grand Marais (LSWT, 2001).

The Water Trail is more of a tourist destination than the North Shore as a whole. Statewide, some 20 percent of owners report kayaking on the Water Trail in the last 12 months. Sea kayaking, like many recreation activities, is predominately a near home activity. Kayakers who live near the North Shore have a two to three times higher use rate of the paddle trail than other Minnesota sea kayakers. Kayakers from the Twin Cities Metropolitan region comprise the next most significant share of water trail users.

Sea-Kayak owners who have used the Water Trail sometime in the past (28 percent) were asked to describe their most recent outing. Eighty nine percent of Water Trail outings are loop trips that start and stop at the same place. The typical trip is 10 miles in length. Typical party size is two to three people in the same number of kayakers. Kayaking along the Water Trail is almost entirely an adult pursuit; few teens and children are part of the outings. Kayak owners who know at least ‘a few things’ about the water trail were likely to have received information from the Lake Superior Water Trail Association. “Owners who have kayaked in the last year on the water trail have a high interest in kayaking more (90+percent), and the large majority (80+percent) have plans to do so” (LSWT, 2001).

Four paddle trail campgrounds are provided by the MNDNR. Nearly three-fourths of Water Trail outings involve an overnight somewhere, typically 2 nights in length. Camping is the most frequent type of overnight accommodation with 23 percent of overnights occurring on water-accessible kayak-campgrounds and another 35 percent at other types of campgrounds. Resorts provide 17 percent of overnight accommodations. Twenty percent of Water Trail excursions were destination trips and the remaining 80 percent were day use expeditions. This translates into about 590 overnight water trail outings a year (LSWT, 2001).

Economic Impacts

In 1999 trip spending totaled just over \$100,000 annually as seen in Table 5.f. The typical kayaker spends \$34.53 per day. Most spending is on essentials: food, transportation and lodging. Kayakers who spend the night away from home spend more each day than day users, mainly because of overnight accommodation costs. Kayakers who stay in campgrounds spend less than those who stay at resorts. The 17 percent of kayakers who stayed at a resort incurred trip expenses of \$63 per day (LSWT, 2001).

Table 5.f: Minnesota-registered Kayaker Trip Spending Associated with the Use of the Lake Superior Water Trail

Total Kayaker Trip Spending (annual)	\$106,282		
Dollars Spent per Person per Day	\$34.53		
Annual Person/Days of Water Trail use	3,078		
Expense Item	All Users (percent)	Day Users (percent)	Overnight Users (percent)
Overnight lodging/camping	24	0	28
Restaurant food/beverage/snacks	26	28	25
Groceries	17	18	17
Gasoline	21	32	19
Entertainment, tickets, festivals	1	0	2
Shopping, souvenirs	6	10	5
Equipment rental/repair	5	10	4
Other	1	2	1
Dollars spent per person per day	\$34.53	\$21.68	\$38.73

Source: LSWT, 2001

Local Perceptions of Trail Impacts

Management Perspective

Steve Mueller is the River Recreation Program Coordinator with the MNDNR and the only paid staff person working on the LSWT. Mueller works at the MNDNR headquarters about 150 miles away from the Lake Superior Water Trail (LSWT) in the Twin Cities metro area (Minneapolis/ St. Paul). Mueller has worked with the MNDNR for over 16 years and was involved with the inception of the LSWT. Mueller is an ex-officio director on the LSWTA Board and a kayaker. Mueller was instrumental in the development of the 'Survey of Sea Kayak Owners in Minnesota' (LSWT, 2001) document cited in this report.

The Water Trail emerged as a project of local kayakers with a common interest in paddling and Lake Superior. Early advocates included a local park and trail organization, the Minnesota Parks and Trails Association, Craig Blacklock, a nature photographer, and two paddling legends of the area, John Anderson and Andy Knapp. John Anderson organized a paddling cultural exchange with kayakers from the largest freshwater lakes on earth- Lake Baikall in Russia and Lake Superior. The Water Trail idea became a reality in 1993 when the Minnesota Legislature formally established the trail and provided guidelines for its management (MS 85.0155). Objectives of the trail include providing recreational opportunities and promoting stewardship. Rural economic development was not a goal of the water trail program.

The MNDNR was given authority by the MN legislature to manage the Lake Superior Water Trail. Money for Minnesota water recreation programs is from a pre-existing dedicated account from the licensing of motorized and non-motorized boats and a percentage of the gas tax. This fund also procures other water recreation programs including the state's 'Canoe and Boating Routes' on rivers. However, only 20 percent of one MNDNR's staff time was allocated to run the program and no budget was granted to the trail. Therefore, it was apparent early on that partnerships are crucial in the development and maintenance of the LSWT. Public/ private partnerships continue to be key in the water trail's success. Development and maintenance of the water trail is a joint effort of the Minnesota Department of Natural Resources (MNDNR), the Lake Superior Water Trail Association (LSWTA) and a growing cadre of resorts and other private businesses.

An advisory committee was created and sponsored by the MNDNR to oversee the initial LSWT project and development direction. The committee included landowners, kayakers, governments (including the MNDNR, city, county, and the RTCA), outfitters and local resort interests. This advisory committee organized public open houses and information booths at outdoor shows to deliver the idea of a Lake Superior Water Trail to communities and actively solicit feedback. The committee has since melded into the Lake Superior Water Trail Association.

Community response to the Lake Superior Water Trail concept was generally favorable. There were early concerns about trespassing, human waste disposal and unauthorized camping on private lands. But, the reality was that kayakers were already using the North Shore to paddle and the idea of managing the area for kayakers was desirable. One early project was to map a 20-mile pilot project section of the water trail between Gooseberry Falls and Tettegouche State Parks. Mapping and clearly indicating public lands and appropriate access points has

helped alleviate trespassing concerns. An early draft of the map drew attention to natural features (a cave and arch) near an outspoken landowner's property. Upon learning of this concern the advisory committee removed these features from later editions of the map as the features were deemed insignificant.

Kayaking was a relatively obscure sport 10 years ago; there was very little academic information about the demographics of the sport. Some community members were concerned that promoting a water trail may bring in "a bunch of hippies from the city." One report by the Inland Sea Society indicated that kayakers were not young party-minded groups, but instead were middle-aged, professional individuals. Results of this study were circulated to curb anxieties regarding a potential party atmosphere around the water trail.

Another early concern about the water trail was the potential cost to taxpayers. The legislature stipulated in 1993 that the trail would utilize existing public lands. Land acquisition is the most expensive potential drain on state taxpayers. Up until now, existing public lands have been adequate for the trail, but future land acquisitions are under consideration in order to maintain the goal of access points at 3 to 5 mile intervals. There is potential to get a budget or increase staff time with the trail. A trail master plan, funded by a coastal zone mgmt grant, was just completed. The plan includes recommendations for land acquisition, development and staffing. The plan will be used to back up funding requests made to the state legislature and for grants.

By and large, reasonable accommodations have resolved delicate issues like private property concerns. Maps and signage are the primary tools delivering information to the public; they indicate public lands and redline (clearly mark) areas with access points further than 5 miles apart. The lake is witnessing increased kayak use since the water trail was established. By providing adequate space for public discourse, many potential negative impacts of the water trail were mitigated or have not been realized.

State Highway 61 is a scenic byway that runs along the North Shore of Lake Superior. Mueller relayed stories about people who drove the highway many times but didn't really get an appreciation for the environment until they saw it from the water. The water trail encourages people to view the natural environment from a new perspective. A growing assemblage of advocates is taking note of responsible shoreline development and other environmental issues around the lake. This is evident in the growing membership of the LSWTA that is more than 200 strong.

Mueller was hard pressed to come up with negative impacts of the water trail. There are concerns about the water trail encouraging people with limited

experience to kayak on Lake Superior. The lake is a formidable creature and should be paddled by experienced groups. All information (maps, guides, DNR and LSWTA websites) about the trail clearly discourages novice and inexperienced paddlers.

The news media's (North Shore communities, Duluth's, and the Twin Cities' TV news, newspaper, and magazine articles) increased attention over the past couple years has helped spread the word about the water trail. The MNDNR and LSWTA (the advisory committee no longer exists) actively write news releases about developments and events surrounding the trail.

Successful destinations offer a variety of accessible activities. An assortment of attractions greatly increases the tourist draw of an area and the potential economic impact. For North Shore communities, the LSWT is an addition to the array of impressive outdoor recreation opportunities accessible to tourists. As a destination, the North Shore now offers excellent opportunities for SCUBA diving and rock climbing, the Superior Hiking Trail, a Biking Trail (road and trail rides), golfing opportunities, fishing, cross country and alpine skiing, the Lake Superior Water Trail and is within 20 miles of the internationally famous Boundary Waters Canoe Area – the most heavily used wilderness in the country and the largest east of the Rocky Mountains. The North Shore is building a reputation as an outdoor adventure destination both regionally and nationally. More recreationists (kayakers) to the North Shore are bringing economic growth to communities near the water trail. The trail is a sustainable form of development without major infrastructure demands.

Mueller believes the water trail is successfully meeting objectives of providing recreational opportunities and promoting stewardship. Because of a lack of adequate funding, operations and maintenance is challenging. Active partnerships with the LSWTA and recent opportunities with private businesses (resorts and outfitters) have contributed to the success of the water trail. Day use on the trail is increasing dramatically. Destination trips are limited because of gaps in access points, maintenance of existing sites and the strong reliance on volunteer support. However, more consistent maintenance of access points and campsites is beginning to reach critical mass. Destination trips are expected to increase as gaps in the trail are developed.

Paddler Perspective

According to the survey, “the facilities that were regularly found lacking were kayak campgrounds, safe landing places in case of bad weather, and good water access” (LSWT, 2001; 6).

Water trail users have a desire for an undeveloped shoreline and natural environment. "Many kayakers view their trail outing as a chance to connect to nature, feel a sense of wildness and attain spiritual renewal, all of which are facilitated by more primitive, less developed settings." A majority of kayakers participate in nature observation and sightseeing while over one-third participate in photography and birdwatching. Kayak-campers, as opposed to day users, are far more likely to do park-type activities, including hiking, a self-guided nature walk, rock climbing, visiting historic sites, and photography" (LSWT, 2001; 7).

Andy Knapp is the current president of the Lake Superior Water Trail Association (LSWTA). Knapp lives in Minneapolis and works with Midwest Mountaineering, a retail company specializing in outdoor gear. Knapp has paddled Lake Superior for over 20 years and was involved with the inception of the Lake Superior Water Trail (LSWT).

The Boundary Waters Canoe Area and the Apostle Islands are historically popular areas for paddlers. Back in the 80's and early 90's Lake Superior was a paddling area for local kayakers and was viewed as an alternative destination. In the 1980's when sea kayaking were still relatively unknown local paddlers began formulating the idea of a water trail around the entire Lake Superior shoreline. Local nature photographer Craig Blacklock was a visionary who brought the idea all the way to the Minnesota legislature. The water trail was officially enabled in 1993 by the MN legislature and less than a year later the LSWTA was formed as a non-profit organization dedicated to creating and maintaining the water trail. Objectives of the water trail consist of safety and environmental education as well as the promotion of local stewardship.

Delivering the water trail concept to local communities is a gradual and ongoing process. In general, most communities and landowners were neutral or supportive of the Lake Superior Water Trail concept. The North Shore of Lake Superior has a high proportion of privately owned land. Because of the proximity of State Highway 61, public land is limited along the shoreline. Landowners generally receive kayakers favorably, especially when compared with motorized users. Landowners seem to be supportive of developing less noisy (non-motorized) forms of recreation on the lake, however some are wary of anybody using public waters bordering their property. A number of landowners have given easements for emergency landing locations.

Private landowners on the lake have enjoyed a serene view with little human activity for decades. By encouraging the use of the water trail we are encouraging people to get out on the water. Property owners are encouraged to participate in the ongoing water trail planning and development process although most initial public hearings attracted only paddlers and others

sympathetic to the Water Trail. Concerns about trespassing presented themselves early. This issue has not become a serious problem because legal access points and public land is designated and clearly signed at 3 to 5 mile intervals, and the number of kayakers has not overwhelmed current trail facilities.

Businesses that viewed the water trail concept favorably were encountered at the beginning of trail planning efforts. These businesses, including hotels/ resorts and restaurants, have continually supported water trail efforts. The Lutsen Resort, the oldest resort on Lake Superior, has created campsites accessible to non-motorized recreationists free of charge.

The map and guide, websites and the new Lake Superior Water Trail Master Plan offer information about recreating on the trail. The water trail is marketed through maps and guides, trade shows, personal contacts and websites. Knapp believes that the World Wide Web is an important tool that will become more efficient at delivering information about the LSWT in the coming years.

Most paddlers enjoy the LSWT as a day trip. Short kayak jaunts are generally focused on observing a particular natural feature such as cliffs or caves. In the future the LSWT will become a more popular destination for multi-day trips. The creation and increased maintenance of campsites along the trail will enhance opportunities for destination paddle trips. Knapp suggests that around 80 percent of water trail users are from Minnesota with the majority traveling from the Twin Cities Metro area.

The trail is increasing stewardship for the Great Lake and is heightening awareness of lakeshore development. This is evident in the growing membership of the LSWTA.

Some community members and local governments are skeptical about the need for another kayak destination area so close to the BWCA and the Apostle Islands. However, North Shore communities are heavily dependant on tourism and see the water trail as an opportunity to attract a larger visitor constituency. Villages and township centers along the North Shore are actively promoting adventure recreation and historic interpretation. The county has concerns about the water trail potentially increasing public lands, taking land off the tax role.

The water trail has positive economic benefits on North Shore communities. Businesses are starting to effectively capture revenue from water trail visitors. North Shore businesses know they can't rely on paddlers alone as the market around this area is a "grab what you can get" atmosphere because of unpredictable weather and short seasons.

Partnerships are a benefit of the Water Trail. Non-motorized interest groups in the area include a cross-country skiing group and a hiking/backpacking constituency. Benefits of pooling resources to advance non-motorized recreation in and around the North Shore are drawing increased attention. By combining resources and expertise, the non-motorized perspective is gaining clout. To promote the future growth of the North Shore as a recreation destination a shuttle service up and down Hwy 61 is recommended to ease the transportation concerns of tourists. This shuttle service and future non-motorized-access-only campsites are a few ideas backed by private businesses and non-motorized recreation groups around the North Shore.

The enabling legislation in 1993 opened the door for government support of the Lake Superior Water Trail. Reliable funding is an ongoing struggle for the water trail. However, the shared vision for a water trail around the lake is a goal that community members believe in and are willing to work towards. A strong volunteer base and a dedicated paddling community continuously work to establish the water trail. These volunteer efforts have been instrumental in the success of the LSWT.

Business Perspective I

Scott Harrison is an educator and owner/manager at the Lutsen Resort located in Grand Marais, Minnesota. During the summer season, Lutsen runs kayak tours of Lake Superior for guests of the resort. The Lutsen Resort was built in 1885 and is the oldest resort in Minnesota. Located on the Lake Superior shoreline Lutsen offers LSWT paddlers two campsites and a trail. Harrison has worked in Lake County since 1988 when he migrated from Duluth.

Harrison is a former member of the board of directors for the Lake Superior Water Trail Association (LSWTA). When the trail was conceived the primary objective of the LSWTA was education and promotion of the trail to enhance tourism. This coalition of dedicated local paddlers is the driving force behind the LSWT. Early promotional efforts by the LSWTA board in cooperation with the MNDNR developed three water trail maps. This process was long and drawn out because it relied on volunteers.

Most community members showed little interest in the then unpopular sport of sea kayaking and its potential impacts in North Shore communities. Early water trail planning and development outreach was focused on a small group of local paddlers. The board purchased a distribution list of kayak owners to contact paddlers statewide. There was no other significant public involvement process in the development of the LSWT. Paddlers and word of mouth spread the water

trail concept locally. Very little controversy was evident as the project did not have high visibility.

In keeping with the goal of access points at 3-5 mile intervals the board set out to contact landowners in strategic stretches of shoreline. No cold calls were made in this process as board members generally had acquaintances approach landowners. Most shoreline property owners were hesitant to allow public access on their land. However, some were open to emergency landing access or even campsite development.

One landlord willing to accommodate requests for campsite development is the Lutsen Resort. The resort was approached by early LSWTA board members to grant the MNDNR to develop and maintain a water trail accessible campsite. The campsite is free but paddlers must register with Lutsen for liability reasons. Fortunately no serious liability concerns have arisen in connection with the camp area. No contract between MNDNR and Lutsen Resort identifies liability concerns. Lutsen Resort has liability insurance for the property irrespective of the paddle camp.

Because Lake Superior is cold (year round water temperature around 42 degrees) and unpredictable the lake sees little boating traffic. Most visitors to the North Shore prefer to gaze at the view rather than hop in or on the water. Harrison helped establish an early effort at sea kayak guiding on the lake. Lutsen purchased six kayaks in 1992 and contracted with the University of Minnesota at Duluth's Canoe and Kayak Institute (through the Outdoor Program) to guide kayak tours of the Lake. The guided sea kayak tour opportunities were promoted only to registered guests of Lutsen Resort. The kayak tours did not break even after two years and were scrapped.

More recently, the Resort has resumed sea-kayaking tours with a new marketing approach. Instead of charging guests outright for a tour, the resort now charges a four percent activity fee to all guests that pays for a myriad of activities. Now offered as a 'free' activity for Lutsen guests, sea kayak tours set out four times a week during the summer and are almost always booked solid. This sea kayaking pilot project at the resort will expand next year to ten trips a week. Other opportunities supported by the activity fee and offered 'free' to guests include a 3 hole golf course, discounted green fees at the Superior National Golf Course, a swimming pool and whirlpool, shuffleboard, guided hikes, discounted charter fishing, a mountain bike park, guided dog mushing tours and a game room.

Lutsen spends more than \$150,000 a year marketing the resort. The water trail is not highlighted as an amenity in Lutsen's promotional effort although sea kayaking is featured on the Lutsen website. The Lutsen Resort participates in the

Lutsen-Tofte Tourism Association's shared marketing of the North Shore as a tourist destination. This association pools funds from 52 local businesses to promote regional travel to this tourism dependant economy.

Sea-kayaking the LSWT is not the primary reason for travelers to the resort. Kayaking is offered to guests as an added bonus to create a memorable vacation and encourage repeat customers. The economic margins are in the lodging property- in filling rooms at the resort. Rooms drive business and the overall marketing strategy for the resort aims to fill rooms. Offering activities to guests keeps them happy during their visit and potentially encourages extended stays and future reservations.

It is difficult to measure the economic benefits of the water trail. Most travelers to the North Shore of Lake Superior are not primarily interested in the water trail. Travelers are generally from the twin cities area looking for an escape from fast paced city life. It is unclear if the community is effectively capturing revenue from water trail paddlers or if there are significant numbers of destination travelers visiting the North Shore primarily to paddle Lake Superior.

Harrison does not believe that many locals or visitors to the area kayak the Lake Superior Water Trail as there is very little boating traffic on the lake. The small number of active paddlers on the lake has grown considerably over the last 10 years, but Harrison considers water trail use minimal.

Most sea kayakers on the trail are guests of lodges not destination travelers to the LSWT. A few lodges on the North Shore run similar sea kayak tours, these tours are typically two-hour trips that offer a chance to see the lake from a different perspective. Harrison does not think that much other traffic on the water trail exists. Kayakers attracted to the area primarily for the LSWT would most likely travel point to point along the trail, camp and offer little economic benefit to the community.

The LSWT has met its objective of offering safe access for paddlers on the North Shore of Lake Superior. Fundamental (but not sufficient) to the water trail's success is the strength, character and support of key properties and resorts on the lake.

Business Perspective II

Nate Clay works as the Activity Director for the Bluefin Bay Resort in Tofte Minnesota. Clay leads kayak tours with Bluefin Bay Resort and as a private business venture called Superior Trails Kayak Tours. Clay has lived on Lake Superior for two years and is currently on the board of directors for the Lake Superior Water Trail Association (LSWTA).

An objective of the trail is to increase access for paddle sports on the great lake. Most of Minnesota's North Shore is private property. Prior to the development of the LSWT the rugged shoreline offered few public access or camp locations. The water trail joins other outdoor recreation opportunities like the Gitchi Gami (currently being developed) Bike Trail and the Superior Hiking Trail to offer tourists a high quality year-round recreation destination.

The community response to the idea of a water trail was mixed. Initially, people were hesitant about private property, land acquisition and the types of people that would be attracted to the water trail. No private property concerns have manifested to Clay's knowledge. A well-marked trail will decrease trespassing concerns. Signs noting tent pads and access points are posted but are sometimes hard to see from the water. Land acquisition has not manifested between Two Harbors and Duluth as most access sites for the water trail exist on public land. Tourism may be increasing land prices as about 70 percent of homes around the lake are seasonal and land is getting more expensive. Clay relays that unimproved land along the lakeshore can sell for hundreds of thousands of dollars an acre. Water trail paddlers generally respect the land and have a low impact on the environment. Most concerns about the water trail have not manifested.

Clay is concerned about water trail facilities and access points. The creation of more safe harbors and docks along the shore that are open to the public can create problems. Some inexperienced paddlers may be tempted to kayak the North Shore and these visitors may not be aware of the dangers on Lake Superior. Additionally, more access points encourage motorized watercraft and paddlers on the lake.

A growing management issues is human waste disposal. The rugged shoreline does not offer soil conditions that permit 'Leave No Trace' principles for human waste disposal (Dig a hole 4-8 inches deep, 200 feet from any water, camp, or trail. Cover with soil and pine needles or other decomposing matter). Currently many access points and campsites do not offer adequate human waste facilities. Several options for self-decomposing waste stations are currently being investigated for access points and campsites. The LSWTA would potentially acquire and maintain these additional facilities.

Tourists bring increased economic activity to Lake County. Tourism associated with recreational opportunities is probably the most significant moneymaker for local communities.

Besides economic benefits, the water trail encourages people to view nature from a different point of view. Opportunities for people to get out on the water encourage stewardship for the natural environment. Many locals take day trips on the water trail to “get away” and view scenic locations. The community is generally supportive of the LSWT. Countless residents who live on the shore are naturalists at heart. Landowners generally support paddle sports on the lake as opposed to noisy motorized boats.

Marketing the water trail has not been aggressively pursued. Word of mouth, the Two Harbors Sea Kayak Festival, and maps handed out at resorts and visitor centers are drawing tourists. There is potential to attract more destination tourists to the area. The draw of the water trail will increase once the entire shoreline is accessible including Wisconsin, Michigan, and Minnesota. More advertising, hits and links on websites (LSWTA, MNDNR, Private Businesses like the Bluefin Resort), and more maps distributed to paddlers will increase the number of water trail paddlers. Currently the Bluefin Resort welcomes more than 250 kayak lessons a season. The Lutsen Tofte Tourism Association (LTTA) is a local partnership among resorts and townships to increase the promotion of the region by pooling resources. The LTTA also helps support trail maintenance projects.

Elements that are important to the success of a water trail include a dedicated volunteer base, a supportive community, and local events. Partnerships are essential to a water trail and support from the DNR (or other management agency) is necessary. Local events are a great way to advertise the trail, build support in the community and draw new volunteers.

Business Perspective III

Gordy Anderson is the Director of the Chamber of Commerce in Two Harbors, Minnesota. The Lake Superior Water Trail is gaining notoriety. The Two Harbors Kayak Festival is a major summer event that draws people from around the region. Each year the festival is bigger and better, they’re filling up the campgrounds. Anderson believes the Two Harbors Kayak Festival will soon be a national event. This festival is drawing in a large number of kayak destination tourists and offering a great opportunity for other travelers and locals to experience kayaking on the lake.

The North Shore is full of tourists in the summers. The economy is diversified, but tourism is definitely an important component. The old downtown area of Two Harbors is struggling. Downtown is seven blocks off the main thoroughfare and most businesses are attracted to this highly traveled highway. Downtown, on the other hand, is right on the lakeshore. It is easy for water trail users to get to the downtown as a sandy beach access area is provided in town. This is a

method to help downtown businesses more effectively capture revenue from water trail visitors. A new marina is being planned to attract people into the downtown.

Two Harbors is seeing more kayakers around all summer. Kayakers are easy to spot because they carry their boats on their cars. These kayak tourists are spending money at gas stations, lodging establishments and restaurants.

As soon as the chamber was made aware of the water trail effort, they began marketing it with the other outdoor recreational opportunities in the area. The LSWT is mentioned on Two Harbor's brochures and free DNR water trail maps are distributed to visitors.

Overall the community is supportive of tourism, although locals do have to wait in lines at gas stations and in traffic more in the summer.

Landowner Perspective

George Nelson is a 73-year veteran of Lake County, Minnesota. Nelson owns Lake Superior shoreline property along the current LSWT. As a previous owner of Lutsen Resort Nelson knows the tourism industry in the North Shore.

The water trail has no impact on Nelson's lakefront property. He sees no more than ten kayaks a year on the lake. Nelson believes the water trail would have to get a lot busier to affect his property. No trespassing has occurred. Nelson has noticed an increase in the number of cars with kayaks on top around the North Shore but he has not witnessed many kayakers on the lake around his property.

Vernon County, Wisconsin



Vernon County is located in southwestern Wisconsin. The county is in the “Driftless” or unglaciated uplands of the state bounded on the west by the Mississippi River. The county contains 805 square miles of varied terrain, differences in elevation between stream bottoms and ridge tops range from 300 to 500ft. The natural resources of Vernon County make it one of the most picturesque and colorful areas of the state in any season.



Source: SWW. 2002

Visitors and residents are attracted to Vernon County because it is the heart of the famous Mississippi and Kickapoo River Valleys. The size and commercial traffic make the main channel of the Mississippi undesirable for canoeists. The Mississippi River backwaters, especially the Kickapoo are suitable for canoeing. Cold and shallow waters of the Kickapoo River have carved a valley less than a mile wide at its best and to a narrow gap in other reaches. The Kickapoo stretches 50 miles through Vernon County as it winds from Ontario to Readstown. The gently flowing river’s upper stretch from Ontario to Wildcat Mountain State Park is arguably the most scenic, if not the most accessible for the public to enjoy. The Kickapoo is an acclaimed canoeing

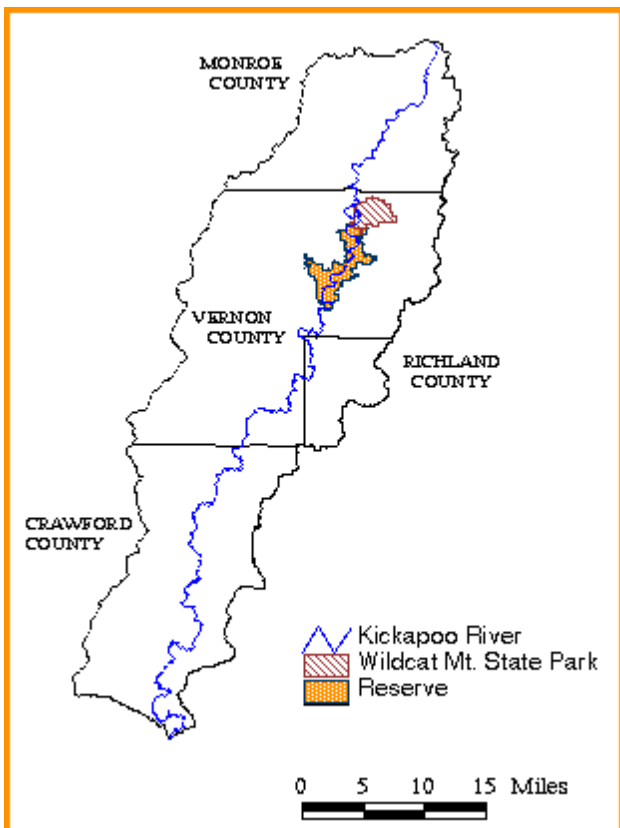
river; it is extremely unique, flowing past limestone and sandstone bluffs covered with ferns and mosses and plentiful wildlife. About 40 access points to the river can be found in Vernon County, four private canoe rental and shuttle outfitters are located in the Ontario-Rockton-LaFarge area (Fisher, 2000).

Winters are long, cold and snowy; snow will blanket the valley from November to March. Summers are warm with brief periods of hot and humid weather. Spring and fall are seasons of rapid change. Thunderstorms occur about 93 days a year (Fisher, 2000).

Population

Vernon County is growing slower than Wisconsin or the U.S. During the 1980’s the county population declined by one percent. The current population of 26,923 residents

Source: KVR, 2002



witnessed a natural increase as well as net migration in the 1990's. Fifty five percent of the county resides in unincorporated areas (Kickapoo Valley Reserve EA, 2002). Rural Vernon County residents find outdoor recreational experiences on their own land. Snowmobiling, cross-country skiing, hunting, hiking, and scenery viewing can all be done without a government sponsored recreation facility. Rural residents depend on public recreation services primarily for support of team sports like softball (Fisher, 2000).

Like most of Wisconsin, Vernon County is experiencing a decline in population aged between 25 and 39 years, and increasing populations in the 40-54 years age group (WDWD, 2001). This trend is prevalent in rural agricultural communities across the country.

The Economy

Land use patterns are dominated by farming. Vernon County is one of only four Wisconsin counties where 40 percent or more of total county employment is directly related to farming or farm related products (WDWD, 2000). In 1998 the total number of farms in the county totaled 2,240 with an average size of 169 acres



Source: KVR, 2002

per farm. Approximately 57 percent of Vernon County's farming revenue comes from dairy farms (Kickapoo Reserve EA, 2002). Vernon County is considered farm dependant and is in financial distress as a result of the ongoing farm crisis (Fisher, 2000).

The county is slowly transitioning into a more service-based economy. Eating and drinking establishments are considered the fourth largest industry and employer behind only agriculture, health and educational services (WDWD, 2001).

Projections from the Wisconsin Department of Workforce Development show increasing numbers of jobs in the medical field and in assembly and production to the year 2008. Jobs in recreation are predicted to grow, but at half the rate of the aforementioned fields (WDWD, 2001).

Table 5.h: Vernon County Unemployment Rates

	1994	1995	1996	1997	1998	1999
Labor Force	13,300	13,500	13,600	13,800	14,000	13,400
Employed	12,600	12,900	13,000	13,200	13,400	12,900
Unemployed	740	650	620	640	590	530
Unemployment Rate	5.6%	4.8%	4.5%	4.6%	4.2%	3.9%

Source: WDWD, 2001

As shown in Table 5.h, Vernon County's unemployment rate has steadily decreased since 1994. In a five-year time span between 1994 and 1999 employment in Vernon County increased by 1,300 jobs. Vernon County has a number of residents who commute outside of the county for their careers; county unemployment rates, labor force and employment rates are by place of residence, not by where the job is located. However, the population/ employment ratio (2:1) suggests the county is not a "bedroom community" for another area (Parker, 2002).

Vernon County has the highest poverty rate in the nine-county Mississippi River Region with almost 16 percent of the population below poverty. This rate has steadily decreased since the early 1970's when more than 22 percent of the population was reported below the poverty line (Kickapoo Reserve EA, 2002).

Vernon County consists of 21 towns, 9 villages, and 3 cities. Ontario has the most dramatic growth rate in the county at 17 percent. The per capita income for the county is \$14, 302, 64 percent of the state average. Incorporated areas had an average per capita income of \$10,086 or 76 percent of the state while towns average \$9,837. Towns in the county show the most economic distress, while the cities and villages were better off (Kickapoo Reserve EA, 2002).

Outdoor-based recreation still only accounts for a small portion of the regional economy. However, many destination communities in the county are towns. The infusion of dollars from canoeists is important, as evidenced by the increased numbers of canoe livery businesses (Anderson, 2001).

Resources

Canoeing is only one type of leisure interest that draws visitors to the Valley. A variety of accessible outdoor recreation and cultural activities complement each other, and increase the tourist draw and the potential economic impacts. The first, and said to be one of the best rail-to-trail bikeways is just seven miles north of Ontario with three old railway tunnels (one that is over 3000 feet long). The

largest Amish community in Wisconsin is adjacent to the Kickapoo. "The [Kickapoo and other] studies show that people aren't just paddling or just biking. They're combining activities," said Angie Tornes of the National Park Service Milwaukee's office" (Ivey, 2002; 2).



The Kickapoo River segment was included in the inventory because of its outstanding scenic and geological values (Kickapoo Reserve EA, 2002). Canoeing is a natural match for the awesome views and unique character of the Kickapoo River. Over 20 miles of river way are in public ownership. For the fishing enthusiast Vernon County has over 200 miles of trout streams.

Source: VVC, 2002

Bikers enjoy the Sparta-Elroy biking trail as well as several world-class bicycle loop trails. Winter offers options for snowmobiling, or Alpine skiing with the highest vertical drop and the longest downhill run in Wisconsin.

The state of Wisconsin owns a large amount of land in the county public facilities include the Upper Mississippi River National Wildlife and Fish Refuge, the Kickapoo Valley Reserve (the Reserve), and Wildcat Mountain State Park. The Reserve includes 8,500 acres bisected by the Kickapoo River. There are few other places in the southern part of Wisconsin that are in "near wilderness" condition and protected by the public. Cultural and historic features are abundant with over 300 archeological sites are identified in the National Register of Historic Places. The natural features within the Reserve are a National Natural Landmark designated by the National Park Service. The Reserve's north boundary is shared by another 3,646-acre public land holding Wildcat Mountain State Park. Canoes can access the Kickapoo River within the state park. Thirty campsites, horse and hiking trails, three group camp areas, and a nature museum are offered in Wildcat Mountain.

Non-point pollution consisting of soil run-off from farms, construction projects and other disturbed soil and animal wastes from inadequately protected farms and home septic systems are other significant causes of water quality degradation. Siltation and water turbidity affect water quality and opportunities for recreation. Resource management agencies and conservation groups are

working to improve habitats in streams that were previously impacted by farming practices (Fisher, 2000).

The increasing numbers of river recreationists are another source of river pollution; the popular Kickapoo becomes crowded causing adverse impacts on the natural environment. A local watershed protection group will investigate water quality changes in the Kickapoo River during the peak-season Summer 2003.

Canoeing and Economic Development

Bike trails have sparked investment in everything from bed & breakfast inns to restaurants and souvenir shops around Wisconsin. In the rural Kickapoo River Valley region of Southwestern Wisconsin canoeing provides important opportunities for tourism and the associated business growth. The last statewide comprehensive outdoor plan suggested 17 percent of Wisconsin residents canoe. (Fisher, 2000). Canoeing uses the region's river systems and attracts an increasingly large number of outside visitors who spend money in local establishments (Anderson, 2000).

There is a growing effort to develop waterways as a resource rich in history, scenic beauty, wildlife habitat and money-generating potential (Ivey, 2002). The Center for Community Economic Development of the University of Wisconsin-Extension studies canoeing, community development and change through time. The most recent canoeing impact studies describe the 1999 summer season from Memorial Day to Labor Day. The report by Alan Anderson and the University of Wisconsin-Extension focuses on canoeing characteristics and local impacts in Southwestern Wisconsin. For purposes of comparison, this research replicated an earlier canoeing impact study from 1993.

The 1999 Kickapoo Study suggests that canoeing has a dramatic effect on rural economic development in Southwestern Wisconsin and it is growing. The most striking finding from the 1999 analysis was a sharp increase in visitors and their dollars to the area. Approximately 16,000 canoeists used the Kickapoo River during the 1999 season which is a 35% increase compared with the 1993 canoeing season's 12,000 canoeists. The vast majority of canoeists come from outside the area (Anderson, 2000).

"The region is experiencing increased numbers of non-local canoeist visits; which, in turn, results in an increased level of total spending in local businesses." (Anderson, 2000; i). According to the 1999 study, canoeist expenditures increased by almost 300 percent in 5 years. Total expenditures of canoeists increased from the previous studies due to increased visitation levels, especially non-locals, and changes in expenditure patterns.

Anderson's analysis estimates the induced effects of canoeist visitor spending using a multiplier of less than 2. This suggests that for every dollar spent on that activity, it ripples through the economy for an overall effect of \$1.50 (direct effect = \$1, induced/indirect effect=\$1.50). An induced effect of less than one is conservative, and implies a multiplier of less than 2 (Irvin, 2002).

Non-local canoeists created about \$1,200,000 of new spending in the local Kickapoo area during 1999 that led to a total economic impact of just over \$1,750,000. Non-local canoeists contribute to a total of 45 local jobs. Key industries affected by these visitors are local lodging, restaurant, sporting goods, and recreational service industries (Anderson, 2000). Canoeist expenditures are explained in Table 5.i.

Non-local canoeists spend more than local canoeists. Individual per-trip spending for non-local canoeists was \$88 compared to \$41 for locals. Categories where non-locals spent more than locals were lodging and eating/drinking (Anderson, 2000).

Table 5.i: Individual per-trip canoeist expenditures of non-local recreationists and expansion to total spending during the 1999 recreational season in the region

Spending Category	Individual per-trip canoeist expenditure (1999 dollars)	Total canoeist expenditures (1999 dollars)
Lodging	\$20.65	\$289,000
Groceries	12.05	168,700
Automobile-related	8.92	124,800
Eating/ Drinking	17.37	243,800
Canoe Rentals	18.97	265,500
Canoe shuttling	0.63	8,800
Souvenirs/ Gifts	3.55	49,700
Entertainment	1.72	24,100
Miscellaneous	4.08	57,100
Total	\$87.94	\$1,230,000

Source: Anderson, 2000

Expenditures of non-local canoeists is estimated at \$933,000 for the 1999 season; a significant increase (274%) from the 1993 season. This can be explained by two factors. Non-local canoeists increased by about 60 percent (up from 8,750 non locals in 1993 to 16,000 in 1999) compared to a 33 percent increase on total canoeists. Secondly, non-local spending on lodging increased dramatically

between 1993 and 1999. Expenditures for lodging rose by over 600 percent when adjusted for inflation.

Increased spending by visitors is important to the local communities who directly benefit from canoeist spending. More money is being spent in local restaurants than was apparent in 1993. Additionally, 80 percent of the canoeists rented boats from local liveries. Expenditures are a small amount compared to the local regional economy, however destination communities directly affected are quite small. Ontario “known as the heart of Kickapoo Canoeing” has a population of about 476 people (Anderson, 2000).

The increased numbers of visitors to the region may be due to the heightened awareness of the Kickapoo River Valley as a canoeing destination in the region. The increase in visits has increased overall tourist spending. Per capita paddler spending has increased a bit between survey periods.

Table 5.j: Annual economic impact of spending by non-local canoeists as driven by visitor expenditures (source: MicroIMPLAN model—in 1997 dollars)

Industrial Sector	Direct Income (dollars)	Jobs	Indirect Income (dollars)	Jobs	Induced Income (dollars)	Jobs
Agriculture/Forestry	\$6,600	1	\$2,800	0	\$1,100	0
Construction	0	0	13,200	0	3,200	0
Manufacturing	0	0	12,700	0	4,600	0
Transportation/ Utilities	0	0	29,400	0	13,100	0
Trade	360,000	19	19,700	1	52,800	2
Finance, Insurance, Real Estate	0	0	37,000	1	37,600	0
Services	286,400	16	43,700	2	51,000	2
Government	4,300	0	4,500	0	2,900	0
Total	\$657,300	36	\$163,100	4	\$167,300	5

Source: Anderson, 2000

Canoeist economic impacts on the local economy for 1999 were \$1,750,000. About \$620,000 in labor income and \$240,000 in property income was generated from canoeists (Anderson, 2000). See Tables 5.j and 5.k for a detailed breakdown of economic effects of paddling in the Kickapoo Region.

Table 5.k: Summary of annual economic effects: spending by non-local canoeists (1997 dollars)

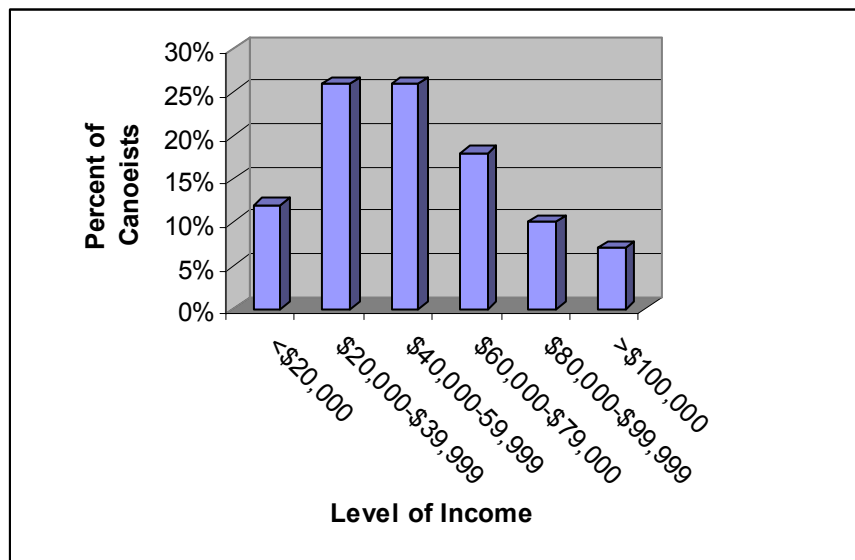
Source of Effect	Total Gross Output (dollars)	Labor Income (dollars)	Property Income (dollars)	Indirect Business Taxes (dollars)	Total Value Added (dollars)	Employment (# jobs)
Direct Effect	\$1,230,000	\$421,700	\$143,000	\$92,600	\$657,300	36
Indirect Effect	291,400	100,000	49,500	13,600	163,100	4
Induced Effect	278,000	101,100	48,000	18,100	167,300	5
Total Effect	\$1,753,500	\$622,900	\$240,000	\$124,300	\$987,700	45

Source: Anderson, 2000

Canoeist Demographics

Most canoeists took short trips with 80 percent canoeing from Ontario to Wildcat Mountain State Park, a three-mile trip. Almost 85 percent put in at Ontario, helping to support local businesses. Canoeists were fairly split between men (44 percent) and women (56 percent) (Anderson, 2000).

Chart 5.I: Income Levels of Canoeists, 1999



Source: Anderson, 2000

Chart 5.1 shows that canoeists in the Kickapoo Region have high incomes. Over half of the paddlers encountered in study had incomes over \$40,000.

The majority of canoeists are well-educated, holding professional or managerial jobs. In general, the average Kickapoo angler comes for longer periods of time, stays in smaller groups and tends to spend more than the average canoeist. However, because canoeists are usually in larger groups and there are more of them, they have a greater direct economic impact (Anderson, 2000). "Canoeists tend to come in larger mixed groups of family and friends and stay for shorter periods of time" (Anderson, 2000; 64).

Eighty five percent of all canoeists stopped for a break on their trip. About 43 percent stopped for five to ten minutes while half stopped for ten to thirty minutes. Another twenty percent stopped for thirty to sixty minutes and only seven percent spent more than an hour on a break. Surprisingly, only 52 percent of canoeists stopped for a bathroom break. "Accounting for multiple activities, 49 percent of the canoeists encountered stopped for a rest, 51 percent picknicked, and about 46 percent took a swim. Smaller proportion stopped to hike or birdwatch" (Anderson, 2000; 33).

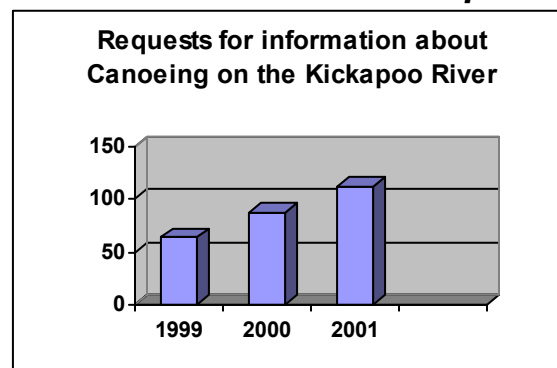
Community Impacts

"In rural amenity-rich regions, increased leisure-based visits place an increasing demand on environmental resources as a recreational "product" (Anderson, 2000; 68). The ramifications of increased tourism to an area are multi-dimensional and significant. "Local communities view the increasing importance of recreation to the local economy as a mixed blessing.

While more canoeists are bringing the promise of increased economic activity, their presence also threatens to change the character of the landscape and communities" (Anderson [Pamphlet], 2000; 2).

"Since 1993, when the first economic impact study was conducted on canoeing in this area, there has been an increase in both the total numbers of canoes available for rental as well as an increase in the number of businesses renting canoes. Two new canoe rental businesses have started and the existing businesses have increased the numbers of canoes available for rental. This includes a growing interest in canoeing sections of the river south of the traditional segment of the river" (Anderson, 2000; 4).

Chart 5.m: Information Requests



Source: Viroqua Chamber, 2002

Local Perceptions of Trail Impacts

Canoeist Perspective

Charles Hatfield was born and raised in the Kickapoo Valley. He is an educator, he spent 35 years teaching in Greenbay. Hatfield's family ties and love of the valley kept him coming back to Vernon County. He retained land in the valley and has since retired in a house overlooking the Kickapoo River.

The river's turbulent history is a source of identity for valley residents. The Corps of Engineers' plan to dam the river was halted and deauthorized during the rising tide of national environmentalism in the 1970's. The dam would have eliminated the majority of current canoeable stretches of the Kickapoo. The Sierra Club and other urbanites (from Madison, Milwaukee, etc.) were outside influences bringing ideas of canoeing and tourism. Paddle rental/shuttle businesses located in the area. Before this, the river was not very accessible to canoes and logjams in narrow sections prevented extensive paddling trips. The Kickapoo Valley Association, a tourism committee, worked with these fledgling businesses and other dedicated volunteers to increase the navigability of the river in anticipation of economic benefits. A large public landholder along the river, Wildcat Mountain State Park offered primitive camping opportunities for paddlers and backpackers. But the idea of recreational tourism associated with paddling drew a mixed community response.

This rural society has an apparent division between locals and outsiders. The locals have long-standing family ties in the valley. Many people who grow up in this area and move away for a career will eventually come back to the valley. Newcomers are often migrants from larger Mid-West cities like Chicago and Milwaukee. Both groups find a common interest in the Kickapoo River, both taking pride in being "Kickapoogians".

The valley's socio-economic/historical relationship is quite complicated. There is a danger of oversimplifying it in a paragraph or two. People who consider themselves as a local are more likely to be involved in occupations that would benefit from development. These include farming, timbering, retail, service providers, commuters, factory workers, etc. They tend to favor more commercial/industrial development, improved roads, less restrictions on land use, less interference from the outside, especially from government. However, many would still call themselves "conservationists", but would be more utilitarian in defining the scope to what is to be "conserved" and what is to be "used".

On the other hand, those often labeled as "outsiders" are more likely to have sources of income that are not so tied to development (i.e. retirement,

investments, cottage industries, internet supported home jobs, sustainable agriculture, specialty services, etc.) They may support less development, more carefully planned growth, lower impact roads, and more specific environmental protection.

Hatfield relayed these ideological differences within the context of a recent development dispute. A popular roadway in the county is a narrow two lane curvy route, much like the Kickapoo River itself. The proposal to change and improve the highway from LaFarge to Ontario was made as part of the (now deauthorized) Dam Project. The first half, completed in the early 1970's, is a highly engineered, gently sloping, nearly straight roadway cut through the foothills along the proposed lakeshore. When the project was stopped, the remaining road improvements were held hostage by the federal government until the mid 1990's when the creation of the Kickapoo Valley Reserve brought the issue back before congress. In the meantime, that stretch of state highway had deteriorated to the point that not only were the width and alignment substandard, but a survey of Wisconsin's 10 most unsafe state highway bridges showed that 4 of them were located in this 6 mile stretch. For several years truck traffic has been either prohibited, or limited by weight and size. After many public and private meetings, a highway plan was approved which would straighten and widen the road, raise the speed to 45 and add a bike lane. This expansion could potentially attract more tourists. Many "outsiders" saw this proposal as a threat to the valley's character and fought the initiative. They unsuccessfully sought to have the old two-lane roadway considered as a scenic byway that would preserve the antique, natural atmosphere they value. In July the proposed highway project was approved and is expected to reach completion by the end of 2002. In contrast, many "locals" felt that the proposed highway improvement was necessary for safety, increased tourist use, added recreational biking, easier commuting, easier trucking of goods and raw materials, and because, after all its failures, "the government should keep its promises for a change."

Locals try to avoid the river during summer weekends, but many get on the river during less crowded times. A delicate issue apparent in Vernon County that is associated with tourism development is the potential for increased land prices. Locals are not interested in selling their land or paying higher taxes on inherited land. Land prices have increased dramatically in the valley in the last 10 years, as have property taxes. The high land prices have made it difficult for those need more land for grazing, crops, or timber. At the same time, these inflated prices tempt some to break up their land into small parcels and sell them, mainly for recreational uses.

Most land adjacent to the canoeable Kickapoo is in public ownership. Wildcat Mountain State Park and the Kickapoo Valley Reserve contain campsites (The Reserve did not begin to officially offer any campsites until the late 1990's) and many of the most popular access points for paddlers. No access points (except those at Ontario or LaFarge) have potable water supplies or restroom facilities. In addition, garbage receptacles on these sites are not maintained adequately during peak season (summer weekends) or during the off-season. These public entities are facing budget shortfalls and do not have resources to manage the increased traffic (human waste, garbage, party atmosphere) on the river. Shuttle services take little responsibility for the condition of the river or access points. A 'river management' partnership between state and local interests may develop in the future. State regulations deeming it illegal to charge a camping fee without providing sanitation facilities may help resolve the current situation. But with state and federal budgets in such dire straights, improvement is likely to be put on hold for some time.

Hatfield recognizes that it is difficult to capture revenue from canoeists. These people often will bring food with them and will camp in primitive sites. Some visitors probably don't spend much money. The hardware store sees limited economic benefit from paddlers and it is now closed. On the other hand restaurants do capture revenue from water trail users.

There is a limited connection between local businesses and river recreation. Some businesses are better at marketing themselves to canoeists. The Rockton Tavern is well known by paddlers and locals alike, they promote themselves and have specialized to offer services that paddlers want. Besides shuttle services, various Bed and Breakfast establishments, motels, and seasonal restaurants are dependant on tourism. The portion of the Kickapoo River water trail most used is only approximately 20 river miles and 13 road miles long, from Ontario to LaFarge. The majority of the canoe shuttle services are on the first 10 miles below Ontario. The primary communities affected by paddlers on the Kickapoo are also quite limited; they are Ontario (Pop. 448) and LaFarge (Pop. 775) with Rockton (unincorporated) in between. Down river, a separate canoeable section is from Readstown to Gays Mills with Crooked River Canoes, cabins, and camping servicing that area. The section between LaFarge and Readstown is not maintained for canoes--thus making a real adventure to even get through. The small size of both the population and the canoeable section of the river make its influence different that one such as the Lake Superior water trail with dwarfs the Kickapoo in length, area, and population affected.

The water trail does encourage an appreciation of the river, of the geologic features of the region and the variety of birds associated with the river's ecology. The appearance of the valley walls is unique, highlighting an ancient time.

Word of mouth and repeat visitors are probably the best source of promotion for Vernon County. Regional publications market the Kickapoo to urban populations in the mid-west. There are a variety of paddling books that feature the Kickapoo. The state markets the Kickapoo as a tourist destination in brochures, guides and even on TV programs. Other popular destinations in the region will have racks of information about nearby locations, the shuttle and rental businesses on the Kickapoo are always represented.

Elements contributing to the success of the Kickapoo Water Trail are the natural ambiance of the river, the ability to control access points, and financial interests. The endearing qualities of the river include its swift moving current, exquisite views and interesting history. The management of public land on the river could promote a respect for the river. These public entities are falling short in promoting Leave No Trace ethics and in providing and maintaining facilities for the increasing numbers of paddlers. Shuttle services and limited support services do provide basic goods for paddlers, but communities are not effectively capturing revenue from the water trail.

Canoeists express a strong desire for solitude and crowding is an issue during weekends according to the 1999 Kickapoo study. On weekends 37 percent of respondents felt that the river was moderately or extremely crowded. During the week, more than 70 percent of respondents reported no crowding whatsoever.

Littering along the shorelines, lack of bathrooms and availability of drinking water were perceived as below satisfactory with canoeists (Anderson [Pamphlet], 2000). Canoeists ranked scenic beauty and clean water as two of the most important factors in their recreational experience.

Management Perspective

Marcy West is the Executive Director of the Kickapoo Valley Reserve (the Reserve). She has lived in Vernon County for six years. The Reserve comprises 8600 acres and is owned by the state of Wisconsin and managed by a local board of citizens. The mission of the Reserve is to preserve, protect, and to provide educational and recreational experiences.

Only two rivers in Vernon County are canoeable, one is the Kickapoo River. Vernon County has a long running history (since the 1950's) of publishing canoe maps and guides of the Kickapoo River. The primary purpose of marketing the canoeability of the river is to increase economic development. The Reserve primarily uses canoeing as an educational tool, encouraging the interpretation and appreciation of unique natural landscapes.

Vernon County communities have a mixed response to tourism related to canoeing. There is public frustration about garbage. The three mile stretch of the Kickapoo River that receives 80 percent of the canoeist traffic is popular among the “party type” paddlers. This stretch is overcrowded during the peak season (summer weekends) and incurs a large amount of litter.

The Reserve is working cooperatively with private rental/shuttle businesses to relieve the litter problem because many of the high use access points are located within the Reserve. The shuttle services are now handing out garbage bags to their clientele and the Reserve has stepped up providing and maintaining garbage bins at access points. These measures along with an annual clean up day and increased signage are effectively reducing the litter problem. To alleviate overcrowding, the Reserve is improving alternate landings to access other stretches of the Kickapoo.

The Kickapoo has developed into a destination for canoeists primarily due to private businesses marketing rental/shuttle services. Non-motorized aquatic recreational tourism is part of the economy of Vernon County; however only a small segment of the population and economy of Vernon County benefits from tourism dollars. Community members believe that the majority of paddlers bring their supplies from out of town. Most local businesses including grocery stores are not effectively capturing revenue from these tourists. Gas stations and rental/ shuttle services are the only businesses that profit from canoeists. West does see an increase in the number of Bed and Breakfast and other businesses attempting to capitalize on the potential economic benefit associated with tourism.

Wisconsin does not license paddlecraft (with the exception of rowboats with motors). The Wisconsin Constitution explicitly states that the water of the state shall forever remain free. This stipulation is interpreted to mean that no fees can be charged to use the public waters of Wisconsin. Motorized boats are licensed (fuel tax) and it is legal to charge parking and guide fees associated with recreational use of public waterways. Shuttle services in Wisconsin have low overhead since they utilize public access points free of charge.

Encouraging the use of the Kickapoo by non-motorized recreationists has heightened appreciation of the outdoors, according to West. Paddling often increases one’s awareness of the beauty and unique character of the river. Grade schools in the county often use canoeing on the Kickapoo River as an educational experience. The community does perceive positive social benefits of managing the river for paddlers.

The Kickapoo Valley Association (KVA), a local economic development organization, produces a Canoe Trail guide. This group worked with the RTCA to develop this trail guide. The Audubon Society (in cooperation with WDNR) publishes a birding trail map/guide associated with the Kickapoo and Mississippi Rivers.

Programs of the State of Wisconsin primarily affect water-based recreation in southwest Wisconsin. "These include direct regulation of recreational use by the Wisconsin Department of Natural Resources (WDNR) to indirect management and marketing carried out by the Wisconsin Department of Tourism" (Anderson, 2000; 6). County and municipal administration of lands and access points and local community tourism promotion organizations also affect use.

"As we move toward more integrated approaches to rural development that views tourism as one of many economic activities appropriate to amenity-rich regions, progressive policies that are holistic and systemic need to be crafted. These policies could realistically incorporate the linkages required to equalize benefits and costs of producing the stock resources upon which tourism is based. Indeed, there are costs associated with natural resource management for public goods that are rarely recovered by those who produce these goods. This is particularly acute for public goods that are produced on private lands and demanded by tourism interests" (Anderson, 2000; ii).

The Capital Times article by Mike Ivey highlights the Kickapoo Water Trail and the new Wingra Water Trail in Madison. "One advantage of water trails, says Steve Falter, founder of Capitol Water Trails LLC, is their low cost to establish and maintain. Falter's organization has spent on average \$285 a mile to build water trails, with the main costs the signs to mark the route. That compares, he said, to the \$63,000 per mile to construct the asphalt paved Capitol City bike trail across Madison's south side and Fitchburg. "Do the math on pay back time and a water trail is a great investment in your local economy," said Falter.'" (Ivey, 2002;2).

Volunteer groups assist in maintaining the Kickapoo and other canoe rivers in Wisconsin. Examples of these groups include the Boy and Girl Scouts, other local civic groups, private individuals, and organizations such as the Minnesota and Wisconsin Canoe Associations (Anderson, 2000; 7).

Landowner Perspective

Bill Hagerman has lived in Ontario, Wisconsin since 1974. His property lies along the Kickapoo River on the busiest canoeing stretch from Ontario to Wildcat Mountain State Park. There is a 20-foot deep gorge on Hagerman's property next to the river that makes his property quite inaccessible from the water. Bill's

house is 200 yards from the water and he barely notices canoeists on the river. On summer weekends he is able to hear noise like laughter and cheering but generally he has not experienced negative impacts from water trail users.

Hagerman believes most private property owners along the river are in a similar situation. There are not many houses right on the river. Private land that is accessible from the river is pastureland, not very tempting for canoeists. Most landowners don't store anything expensive next to the river, so there's not much to worry about. Canoeists are partying in canoes, they don't seem to get out or congregate except at access points and campgrounds. A couple people walking around a field isn't going to do any damage to farmlands, anyway. Hagerman does think he heard a story once about a canoe being stolen from a neighbor's property but this is the only negative incident he could recall.

Hagerman is a local. He used the word 'outsider' to describe canoeing businesses in town. When he moved to town in the 70's there was one canoe rental business, now there are three. Ontario also has two restaurants, a gas station and a grocery store. The hardware store recently went out of business. With such a small town Hagerman thinks canoeing is very important to the local economy. It has a big impact on local businesses, weekends in the summer are getting more congested with tourist traffic.

In addition the river is becoming more crowded. Canoeists on the river have increased three fold since Hagerman moved to the valley. On big weekends there is a party atmosphere. It's never stop-and-go traffic but there are crowds and large groups using the river. Tubing has also picked up along the river. Because 95 percent of the high use stretch is three feet or less of water, the Kickapoo is a good family excursion.

Hagerman thinks the idea of a 'water trail' was created by the first canoe rental business. There was no public input process to introduce the idea to locals. Ontario has embraced canoeing, though. The town's sign as you drive into Ontario boasts 'The Heart of Kickapoo Canoeing'.

Ontario offers limited support services for tourism with an unmanned visitors center. Hagerman considers the Kickapoo Valley relatively undiscovered. Canoeing is probably not the only reason tourists visit the Kickapoo Valley. Hagerman thinks canoeing is only one component of people's vacations.

A road construction project is currently widening Highway 131 and improving five bridges across the Kickapoo River. This public works project may have negative effects on a canoeists' experience on the river. Currently the river offers a rural, scenic wilderness atmosphere. Hagerman believes the new highway will

encourage thru truck traffic and cause excessive noise in this pristine area. The tranquil quality of the river experience may be degraded by this road project.

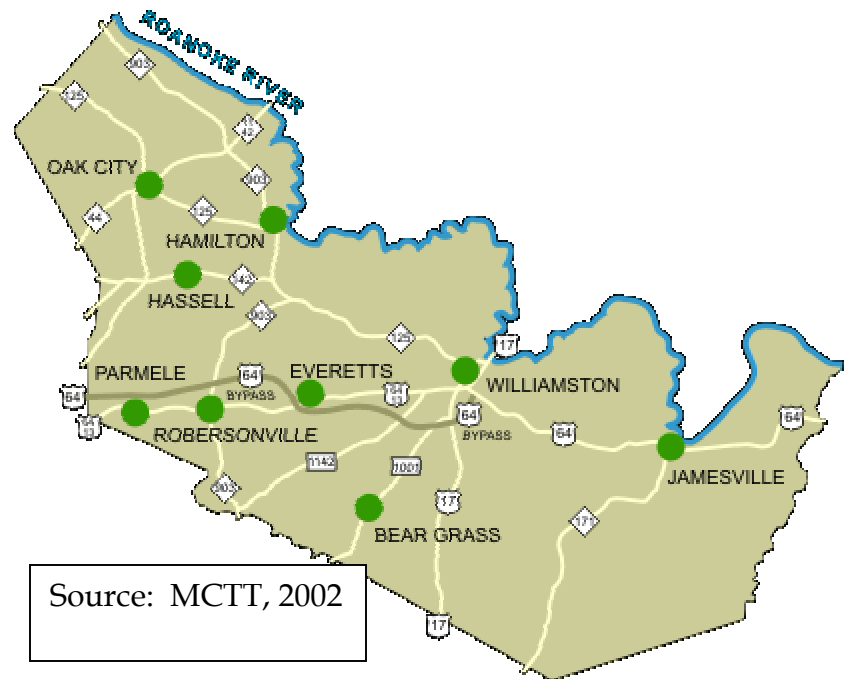
Business Perspective

The Rockton Tavern is a legendary stop for paddlers on the Kickapoo River. The tavern is one of the only establishments serving food along the popular paddling stretch, but this is not their lone draw. The gathering place offers a fun atmosphere both locals and visitors seek out. The tavern markets itself to fisherman, hunters, paddlers, and locals on the World Wide Web, in brochures and most importantly through word of mouth. Canoe rentals are available as the tavern offers easy and convenient access from the river. This establishment has capitalized on the paddling market on the Kickapoo River by offering good food, a beguiling atmosphere and easy access to the river.

Martin County, North Carolina



Source: EDIS, 2000



Martin County is located in North Carolina's northeastern Coastal Plain Region. Its northern boundary is the Roanoke River. The county convenes 80 miles from the Atlantic Ocean, protected by the Albemarle Sound and the outer banks.

Martin County has a total area of 462.11 square miles of land. The county's average temperature in January is 41 degrees F and 79 degrees in July. Rainfall averages 48 inches annually. The elevation of Martin County is 60 feet above sea level. The county was chartered in 1774 and is 75 miles east of Raleigh.

Martin County has gently rolling hills of sandy loam soils. More than twenty creeks, streams, and swamps are within the county. The Roanoke River originates in the Blue Ridge Mountains of Virginia and flows east-southeast through the piedmont and coastal plain to the Albemarle Sound. Flow of the Roanoke River in North Carolina is intensively regulated. Extensive floodplain forests border the Roanoke River in Martin County. The Nature Conservancy has identified these high quality alluvial bottomland hardwood forests as the largest intact and least disturbed ecosystem of this type in the mid- Atlantic region. Gardner's Creek, Sweet Water Creek, Conoho Creek, Cooper Swamp and Flat Swamp are other creeks and swamps in the county. The Roanoke River National Wildlife Refuge is a 33,000-acre preserve drawing sports enthusiasts at every season.

Williamston

Williamston is Martin County's largest town and the county seat. Williamston has an estimated population of 5,834. Commercial traffic in Williamston's downtown reached a high point in the 1950's when a thriving tobacco market and warehouse district. Four decades of suspended growth have set aside the architecturally and historically rich downtown, what was once the commercial center, of a small farming community (WDI, 2002).

Williamston's current downtown revitalization is focused on an agricultural center that is to attract horse show visitors into downtown. Rehabilitation and investment in older commercial areas is needed to increase new business traffic. There is a core of uniquely Williamston gift stores, galleries, restaurants, and antique shops. The horse arena and development of a "horse industry" in Martin County will play role in transforming downtown Williamston (WDI, 2002).

Population

In 1998, there were 25,545 residents in Martin County. The population according to Census 2000 is 25,374. In the last decade, the county's growth rate has languished while North Carolina's grew. The county population is projected to decline to 25,322 by the year 2008 (Census, 2000).

This rural county has 55.6 people per acre of land. Eighty six percent of county residents have lived in the county for at least 5 years. Forty five percent of the county is African American according to Census 2000, this is compared to the state's 21 percent African American population. Twenty five percent of county businesses are minority owned, the state average of minority owned firms is around 11 percent (Census, 2000).

Income and Poverty

Per capita personal income in 2000 was 23,532. The median family income for 2002 is \$39,100. The median household income according to the 1997 Economic Census was \$26,053, the state average for this time period was almost \$10,000 higher. More than 20 percent of Martin County's population is below the poverty line compared with the state average of 13.1 percent. More than 27 percent of the county's children are in poverty compared to 12.6 percent of children in poverty in the State of North Carolina (EDIS, 2002).

In March of 2002, Martin County's unemployment rate was 5.1%. Forty five percent of the population is in the labor force. Compared to the state, the county has an above average poverty rate and nonwhite population, a below average percentage of the population in the labor force, below average annual wages, and a below average percentage of adults with college degrees. Sixty three percent of

the population has a high school degree while only 12 percent have a college degree. Average SAT scores in the county are low at 888. The county has 23 physicians with the ratio of population to physicians at 1:1,113. The ratio of population to dentists is 1:5,119.

Land and Homes

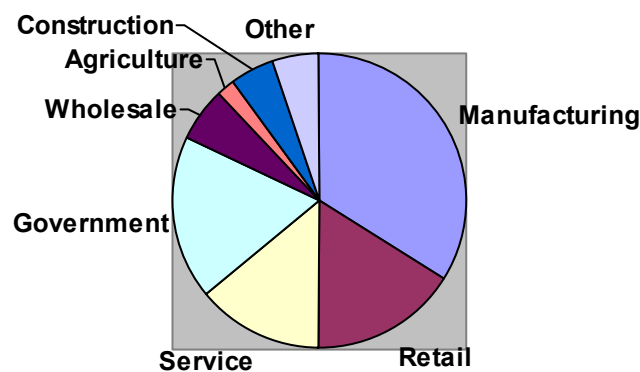
Of the total 290,800 acres of land in Martin County, more than half are farmland. The landscape includes 74,417 acres of harvested cropland, 6,274 acres of unimproved pastureland, and 69,678 acres of woods and home sites (MCCC, 2002).

In 1960, the personal and real estate property within the county was valued at approximately forty million dollars. The county tax rate in 1960 was \$1.78 per \$100.00 valuation. Property taxes in 2001 show approximately one billion dollars of property value within the county, with a tax rate of \$0.77 per \$100.00 valuation. The county's homeownership rate is a high 71 percent (MCCC, 2002).

Workforce

The largest employment sectors are manufacturing, wholesale/retail trade and governments while the fastest growing sector is services. The primary employers in the county are Perdue Farms, Fruit of the Loom, and Liberty Fabrics. Chart 5.n illustrates county workforce by industry.

Chart 5.n: Martin County Workforce by Industry



Source: EDIS, 2000

Private non-farm employment decreased by 9.9 percent in Martin County between 1990 and 1999. During this same time period, North Carolina's non-farm employment increased by 24 percent (Census, 2000).

The annual unemployment rate of the county in 2001 was 8.2 percent. Forty percent of the county's population is in the workforce. The largest employers include manufacturing with 32 percent of the workforce, government with 19 percent, retail trade at 17 percent, and service industries with 16 percent of the workforce. An employee in the manufacturing industry earn more than state averages, all other industry employee earnings were lower than state averages in 2001 (EDIS, 2002). Per capita personal income for 2000 was \$20,638, the median family income was at \$38,700.

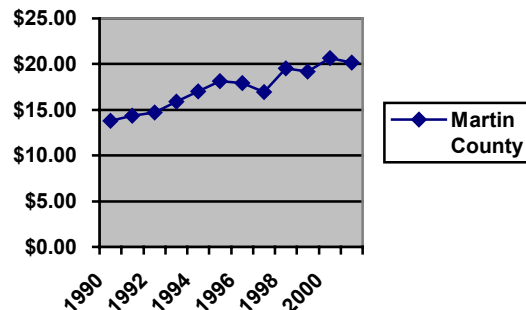
Economic Development

The Partnership for the Sounds is a nonprofit organization in Eastern North Carolina that promotes eco-tourism in the Albemarle-Pamlico Region by marketing to those who appreciate the sustainable use of natural, cultural, and historic resources. Environmental awareness and eco-tourism are two key themes of the partnership. Activities promoted by the partnership include canoeing, sailing, cycling, hiking trails, birding trips, photography tours, fishing, historic tours, and regional arts appreciation.

Travel and tourism is a significant industry in Martin County. Travel generated a \$2.61 million payroll in 1990. State and local tax revenues from travel to Martin County amounted to \$0.85 million. Travel spending in the county in 1999 was \$13,030,000, to \$928 per capita (EDIS, 2000).

Domestic Tourism in Martin County generated an economic impact of \$20.65 million in 2000. This was a 7.4 percent increase over 1999. More than 260 jobs in Martin County were directly attributable to travel and tourism. Chart 5.o illustrates tourism revenue for Martin County.

Chart 5.o: Martin County Tourism Revenue (\$ Millions)



Source: EDIS, 2000

More than 250 jobs in Martin County were directly attributable to travel and tourism in 2000. Travel generated a \$3.9 million payroll in 2000. State and local tax revenues from travel to Martin County amounted to \$1.75 million. This represents a \$68 tax saving to each county resident.

Roanoke River Partners

Flowing through the Coastal plain to the Atlantic Ocean, the Roanoke is the largest intact bottomland hardwood swamp forest east of the Mississippi. Mistletoe and Spanish moss drape the Cypress trees in the swamps creating a lush and unique swamp experience. The area is home to black bear, river otter, whitetail deer, bobcat, beaver and mink. Over 200 bird species have been identified including bald eagles, barred owl, in the region. The River is renowned for its abundance of striped bass, largemouth bass.

The Roanoke River Partners (RRP) is a non-profit group creating a positive, healthy vision and future for the Roanoke River and Albemarle Sound. People join the RRP because they understand that lives in the Roanoke region are intricately linked to the health of the environment, the health of businesses, and the health of local culture. The RRP facilitates economic opportunities in the region within community and regional projects. The RRP works with new and established businesses that embrace, highlight, steward and sustain the unique environment of the Roanoke River communities and culture. RRP volunteers coordinated the creation of paddle trails with camping platforms in the Roanoke River backwaters and this system is called the Roanoke Paddle Trail and Camping System (RRP, 2002).

Roanoke Paddle Trail and Camping System

For thousands of years, canoes have been exploring these waters. The Roanoke Paddle Trail is within a 200-mile wilderness. The trail and camping system currently features a series of four tent camping platforms allowing paddlers to overnight in the water jungles of NC's coastal plain. While RRP manages the Trail System, three platforms are located on significant wetlands owned by Plum Creek Corporation and managed by The Nature Conservancy. Another is on land owned by Weyerhaeuser Company. Up to six more are under construction or being planned. The RRP believe the paddling and camping trail provides opportunities for the development of businesses geared to the needs of eco-tourists (RRP, 2002).

Paddle Trails in North Carolina

The 2000 National Survey on Recreation and the Environment (NSRE) suggested that about 40,000 people in North Carolina participate in canoeing, while around 120,000 kayak. Almost three million people in North Carolina participate in wildlife viewing in water-based surroundings (Rebach, 2001). In all probability

the large number of kayakers and water-based wildlife viewing participants in North Carolina is due to the accessibility of quality water resources. Non-motorized boats in N.C. are not registered.

North Carolina boasts over 3,800 miles of estuarine resources including sounds, swamps, creeks and rivers ideal for canoe and sea kayaks. "Water trails flow along corridors of flat waters that are part of freshwater lakes, saltwater sounds, rivers, and estuaries" (Thigpen, 2001; 12). By 1999, 141 paddling trails (totaling over 1,200 miles) were developed in North Carolina. Current trail projects will push the number of water trail miles over 3,000 in the coming five years.

The State Trails Program has adopted criteria for the development of paddle trails. All waterways are considered public and can be used by anyone. A state trail coordinator designates paddling trails in cooperation with local officials. Criteria for paddle trails include a request by the local government having jurisdiction and active management of the trail by an agency or organization. Various descriptions of the trail must be provided including ownership, locations of, and descriptions of access sites and facilities supporting the trail, water trail length, distance between access sites and camping facilities, degree of difficulty (skill required of trail users), and a detailed description of rates of water movement, wind and tides shall be provided. Points of interest such as surrounding land uses, other groups using the water trail, vegetation, wildlife and areas connected by the trail must be documented. The relation to urban areas and populations within a two-hour drive of the water trail along with guides, tours and other services in the area is considered. A management plan documents this information along with a description of any fees, potential problems and solutions. A trail guide is published and available regionally and sometimes locally (Rebach, 2001).

Local paddle groups, local recreation departments, and local non-profits with assistance from the North Carolina Division of Parks and Recreation, State Trails Program create and maintain these blueways. Most of the trails developed over the last five years involve partnerships with a variety of government agencies at local, regional, state and federal levels. A North Carolina Coastal Plain Paddle Trails effort is underway to capture the potentially significant economic impacts of paddlers in local communities. Web-based and printed paddle trail maps to promote these water trails as destinations.

The North Carolina Coastal Plains Paddle Trails Initiative

The North Carolina Coastal Plains Paddle Trails Initiative (The Initiative) sees a need to manage the coastal areas for paddlers as well as to gain knowledge about what attracts paddlers to particular sites. The Initiative's objectives include developing a system of information for the public that will provide information

on water-based paddle trails and local infrastructure. The Initiative is a collaborative effort by the North Carolina Sea Grant, N.C. Division of Parks and Recreation, Partnership for the Sounds, and Confluence Water sports. This group has established a website of existing coastal paddling trails, a coastal paddling trail guide, and has conducted and documented survey analysis and a paddle trails symposium. The project seeks to better understand the potential of nature-based eco-tourism as a development option for rural coastal counties in North Carolina (Thigpen, 2001).

A North Carolina Coastal Plain Paddle Trails Guide was published and distributed to welcome centers, chambers of commerce, NC Division of Parks and Recreation, and tourism bureaus. The guide includes information about trails like names, difficulty rating, skill level required, access sites, length, and contact information. Additionally, a web-based guide is available at <http://ils.unc.edu/parkproject/nctrails.html>. Digital geographic data (a GIS paddle trails layer) accurately maps paddle trails. A streamlined process allows the maintenance and addition of trails and information to the inventory. This effort is a service provided by the N.C. Division of Parks and Recreation to market eastern North Carolina as a paddlers' destination (Thigpen, 2001).

The North Carolina Division of Parks conducted a statewide survey in 1998 to determine what attracts paddlers to waterways and communities and the economic, environmental, and quality of life impacts paddlers have in an area. The study investigated stakeholders and identifies potential partners. The survey population was defined as individuals who have paddled in the NC coastal plains (east of Interstate 95) within the last year (Thigpen, 2001).

The Future of Paddle Trails: Paddle Trail Fee System

The number of days spent canoeing in North Carolina is expected to increase 30 percent more than the population growth through 2050. The majority of respondents supported developing additional paddle trails (85%), developing additional access sites (84%), developing separate access sites from power boats (65%), providing more signs and maps for paddle trails (84%), and providing more information about local amenities and services (69%). Seventy-nine percent of the sample supports construction of overnight campsites along paddle trails. The majority of paddlers preferred to paddle 6-10 miles between overnight campsites (Thigpen, 2001)

Interest in water trails has led trail planners to study policy issues that will shape the management and development of paddle trails in Eastern North Carolina. The collection of revenue from paddle trails and fee systems are one policy alternative. A study by Sideralis, Whitehead and Thigpen examines the potential economic effects and user benefits from two fee policies on paddling trips to

water trails in eastern North Carolina. One policy is an annual fee for water trail use (an access pass like the North West Forest Pass) and the other policy is a daily fee for available campsites along water trails.

Revenue from annual passes will provide users with information about local community services and water trail amenities. Additionally, revenue will be spent to add to the network of water trails, new put-in and take-out areas, and separate launch areas for powerboats (Sideralis, 2001).

“One thought in creating the capital to provide these attractive items is through a user fee. Eighty-eight percent of the respondents claimed they would purchase a \$5 annual access permit, with 99 percent of the paddlers taking the same number or more trips. The permit would provide funds for signs, maps, brochures and information about the local services. Fifty-five percent of the respondents claimed they would pay an annual access permit at the cost of \$25, with 99 percent taking the same number or more trips. The \$25 permit would create funds for additional access, separate access from power boats, and developing additional paddle trails in addition to the information provided by the \$5 scenario” (Thigpen, 2001; 52).

Economic Impacts of Paddle Trails

“Tourism and recreation may very well be the coastal region’s most important economic activity” (Springuel, 2001). The coast offers 490 lodging establishments, 6,190 campsites and 2,673 food establishments and the economic impact from domestic tourism for the North Carolina coastal areas was 2.3 billion dollars in 1998.

“Coastal plains water trails contributed to the paddling service industry by producing paddling experiences, which is found to be 2.4 percent (\$55.14 million) of reported tourism economic impact of the eastern NC region. When combining local and non-local expenditures, the coastal paddling experiences produced \$103.9 million” (Thigpen, 2001; 54).

The survey concluded 3.6 percent of North Carolina residents went canoeing and .8 percent went kayaking over the previous 12 months. An additional 1.8 percent of the population had an interest in canoeing or kayaking. About 37 percent of survey respondents knew about North Carolina’s paddle trails. The majority of survey respondents gave the future development of water trails priority over other types of trails. Respondents plan to take about 10 trips during the next 12 months (Thigpen, 2001).

The survey successfully reported information from 601 paddlers. Survey respondents mean age was 47 years and mean annual income was \$76,570 with

an average 38-hour workweek. Respondents took about 10 destination-paddling trips a year, these trips averaged between 1.3 and 2.4 days. Respondents reported spending money for lodging, restaurant meals, food, ice, beverages, gasoline, retail purchases, boat rentals, and guides or outfitters. Average expenses for a single person paddling trip ranged between \$158 and \$42 (Thigpen, 2001).

On average, groups of paddlers varied in their sizes from 5 to 3 persons. The average total expense per paddler per trip was \$83.42. Seventy-eight percent of the parties' trip purposes were primarily for paddling. Groups that primarily went paddling spent less money for lodging, restaurant meals, gas and auto care than did the total group of respondents (Thigpen, 2001).

Regional Analysis of Coastal Paddling

The study area was divided into nine regions. Martin County is in region 9, the Roanoke Region. Overall, the highest average expenses per paddler per trip were \$141 in the Southern Coast and \$128 in the Carteret paddling area.

Paddlers to the Roanoke region took 5 trips a year at 2 days a trip, drove 58 miles one-way and paddled in a group of 4 people. Eighty seven percent of Roanoke paddlers were on a destination paddling trip to the region. The average trip expense per paddler in the region was \$26.63, a low figure compared to the average for all areas \$83.43. The 1999 economic impact of all domestic tourism in the Roanoke region was \$242 million (Thigpen, 2001).

Paddler Preferences

The slow moving flat Eastern waters are attractive to paddlers for various reasons. Community and environmental attributes that attract NC Coastal Paddlers include unpolluted waters, sounds of nature, fresh air, wild animals and birds, getting away from the city, and finding out about local history and culture. Paddlers are also attracted to the coast of N.C to eat at local restaurants and meet the locals, go fishing or to look for local arts. About 52 percent of paddlers like to stay in local campgrounds.



Source: NENC, 2001

Attributes that repel coastal paddlers include safety concerns, being hassled by locals, threat of the car getting broken into and the fact that medical care is a long distance away.

Environmental Impacts of Paddling

North Carolina land management agencies are making an effort to reduce visitor impacts to the environment along canoe trails. Environmental impacts occur from improperly disposed human waste, large groups, broken glass containers, camping or landing on private land, building fires outside of



Source: NENC, 2001

designated areas, using soap too close to the river, and cleaning fish in the water. These behaviors harm the riverine ecosystem and degrade visitors' experiences on the river (Barry, 2001).

Management strategies to regulate visitor behavior include posting the rule (passive use of simple, strategically placed regulatory signs), removing cues that encourage bad behavior (i.e. Illegal fire pits), provide reasonable alternatives, inform visitors how their actions hurt others or themselves to encourage identification with management goals by explaining why decisions are needed (Barry, 2001).

Sixty-four percent of survey respondents felt litter would increase as paddling activity increases. Almost half of respondents believe there would be no negative impact on water quality, plant or animal life and waterfowl. In fact, almost 40 percent of the sample thought water quality would improve as paddling activity increased. It is unclear if these perceptions are real impacts (Thigpen, 2001).

Local Perceptions of Trail Impacts

Community Impacts

There is the perception that an increase in paddling activity will change the local economy, may impact the natural environment, and will impact quality of life in a community. Eighty-four percent of NC coastal paddlers surveyed believed paddling activity would have a positive effect on new businesses, 72 percent felt an increase in paddling would help the coastal job market. The only perceived negative effect, reported by 8.5 percent of survey respondents, was an increase in property taxes.

Paddling is perceived to increase community pride. Most survey respondents believed increased paddling activity would have little impact on highway congestion, noise, crime, and local customs. Seasonal conflicts like water access congestion is perceived as a future issue.

The NC coast is struggling, “conflicts over coastal access and aesthetics between leisure and commercial industry and conflicts over land use policy (principally agriculture), zoning, and their relationship to water quality and general ecosystem health” is of concern (Griffith, 2001; 43). Conventional tourism depends on a labor force that cannot afford to live and work in the same community. Heritage tourism and paddle trails celebrate what is local.

The Williamson chamber of commerce has noticed more paddlers. The city of Williamson’s downtown is only a mile from the river. The city is actively promoting access to the downtown from the river. A rail-trail project is now underway and will connect the river and downtown of Williamson. A wildlife landing and Moratoc city park are accessible along the river trail. Moratoc Park offers a riverside building available for rental for group activities. The city is considering a new campsite for paddlers closer to town.

Business Perspective

Caroline Roberson was born and raised in rural Martin County. Her husband’s family started the Robertson Marina almost a hundred years ago. Roberson now manages the marina and is a member of the Roanoke River Partners. Roberson takes reservations for the Roanoke Paddle Trail tent platforms and she rents out three canoes to paddlers.

The idea of the paddle trail began back in 1996 when a group of blind Englishmen contacted the RRP asking about camping and paddling along the river. The RRP helped pull the idea together to introduce low impact recreation and appreciation of the unique ecosystem, and as an economic development tool for the distressed areas along the Roanoke. The first platform was contracted and built in 2000; paddlers must rent the platforms online or by calling Mrs. Roberson. The river now has four platforms for swamp camping, there should be 10 platforms by the end of 2003. The last two tent platforms were developed with grant monies.

Roberson has noticed an increase in reservations for the tent platforms, especially since last spring. Over a hundred groups, between two and eight people, have reserved platforms so far. Roberson says most destination paddlers are from outside of the region. In fact, many people that live in the region think paddling the swamps is a funny way to advertise the region. Most paddlers making reservations for tent platforms are from metropolitan areas like Cincinnati and

Cleveland, Ohio; Alexandria and Salem, Virginia; Hillsboro, New Jersey; Huntsville, Alabama; Bradenton, Florida; and even all the way from Montana. Roberson was surprised at the Florida visitors, she didn't think the Roanoke could compete with the Okefenokee.

The Roanoke and the Albemarle Sound have traditionally been popular for fishing. The Cypress Grill is a seasonal restaurant accessible by water and frequented by fisherman and a growing group of paddlers. Herring are a popular sport fish abundant in the Roanoke in the springtime.

Roberson's nephew is skeptical about inviting paddlers into the region. He thinks they might interfere with hunting in the area. This issue has not manifested.

Regional Business Perspective

Steve Peet is the Brand Manager for Wilderness Systems, a division of Confluence Water Sports. Confluence has a long history supporting water trails in the coastal region of North Carolina. For years Confluence administered grants to communities and paddling organizations increasing access for paddle craft. In recent years, Confluence made a large donation of \$75,000 to North American Water Trails. This fund is to be administered as a grant fund for future paddling trail projects.

Peet acknowledges Confluence's motivation is not entirely altruistic. "We are paddlers and we want places to paddle." The North Carolina coastal region is not entirely developed, we're interested in ensuring people will always have a place to explore. As part of the Initiative, we have donated money to print paddle maps and brochures. These water trails take some of the fear of unknown out of paddling in unfamiliar territory. You know there's going to be a place to camp up a couple creeks. The maps show you the personality of the river, so you can plan a trip with good information. The maps distinguish public and private lands so people are aware of safe areas to rest and avoid trespassing. Paddle trails help protect the resources that bless North Carolina.

Management Perspective I

Jeff Horton works with the Nature Conservancy as the Roanoke/Albemarle Regional Steward and as a board member of the Roanoke River Partners (RRP). Horton has been involved with the Roanoke River Paddle Trail and Camping System since its inception about six years ago. The paddle trail was established to focus positive attention on the natural resources of the area, encourage stewardship of the unique ecosystem and help incite economic benefits of increasing non-motorized recreational tourism. Additionally one of the underlying goals was to bring the five counties together around a successful

project linking each of them by way of river travel and transcending political boundaries. The project is building the capacity of the RRP and focusing attention on river related tourism as one example of sustainable development.

Some communities have embraced the paddle trail, Windsor from Bertie County and Williamston from Martin County are the most active. Williamston's current rails-to-trails project will connect the downtown to the Roanoke River through an existing riverfront park. Most local people don't seem to realize what they have, they don't see paddling as a draw for the area. But more Bed and Breakfasts are noticing paddling tourists and more cars are coming into the area with canoes on top. The spring of 2002 witnessed a noticeable growth in paddling on the Roanoke.

Hunting clubs were concerned about potential user conflicts. The RRP encourages open communication with these local interest groups and although the hunting clubs have not entirely embraced the idea, they are buying into the concept. Camping platforms are located in areas not frequented by hunters. The Roanoke paddle trail does not traverse a wilderness area like the everglades but its natural beauty combined with the very real human interactions creates an undeniable attraction.

Horton is unsure how much of a paddling destination the Roanoke has become. So far the area has minimal paddling impacts. A simple monitoring system has detected no vandalism or environmental impacts. The paddling system has purposefully not been marketed until more paddle camping facilities and access points are developed. Maps and brochures are available, but the word has really gotten out through articles in magazines like *Outdoor*, *Backpacker*, and *National Geographic Explorer*. By next spring, 75 miles of paddling trail will be completed with up to 10 camping platforms available.

Local communities will need to invest in more tourist support services in order to effectively capture revenue from water trail visitors. Growth in private business establishments such as outfitters and guides, bed and breakfasts, and an effort to connect the paddle trail and other recreational and cultural amenities will offer paddlers more of a destination.

Management Perspective II

Crystal Baity works with the Martin County Travel and Tourism Department in Williamston. She is also on the board of directors for the Roanoke River Partners, a volunteer association. Baity has been involved with the Roanoke Paddling/Camping Trail from its inception in 1996.

At that time a group of interested paddlers from England contacted the county about camping and paddling the Roanoke area. The idea of a paddle/camping canoe trail was spearheaded by the RRP soon after. The objectives of the trail are to provide access to paddling and camping opportunities along the river and to use the trail as an economic development tool for the distressed areas along the Roanoke River. The RRP have conducted a number of community meetings and focus groups to encourage involvement of local interests. The first platform was built in 1999.

The river has always been a motorboat and trade river. People have been coming to the Roanoke to fish for a long time. Locals have paddled the river, but up until recently there has been no active promotion of the river for canoes.

Baity believes towns are beginning to pick up on the idea of marketing to paddlers. She thinks the county is still on a learning curve, but towns like Williamston, Windsor and Plymouth are actively supporting paddle trail recreation and tourism. The first platforms are on the lower stretch of river near these three towns. More planned platforms will encourage paddlers to venture further upriver.

The RRP have not marketed the paddle/camping trail heavily because they want more platforms in place. The trail is encountering destination travelers who may have read about the water trail in National Geographic Adventure or Backpacker Magazine. The RRP has recently finished a Trail Guide and Map of the Roanoke.

Regional Management Perspective

Tom Potter currently works as the Conservation Reserve Enhancement Program (CREP) Manager for the State of North Carolina's Division of Soil and Water Conservation. He coordinates resource easements for riparian buffers in the Eastern Coastal area. Potter consults with private landowners (farmers) about conservation and economic diversification opportunities. Because of his previous experience, Potter knows the value of developing choice riverbank areas as low impact campgrounds for paddle trail visitors. Potter previously served as the Eastern Trails Specialist with the North Carolina Division of Parks and Recreation.

Potter was influential in the development of paddle trails in Eastern North Carolina. Paddle trails emerged as both a recreational opportunity and as an economic development tool through the North Carolina Coastal Plains Paddle Trails Initiative (NCCPPTI). North Carolina Sea Grant was instrumental in getting the NCCPPTI movement together. The paddle trail movement has resulted in the useable North Carolina Coastal Plain Paddle Trails Guide distributed widely in the region. This first draft of the guide identifies 1200 miles

of paddle trails, mostly day trips (without opportunities for camping). Phase II of the paddle trails initiative is underway with 800+ miles in planning, the mission is to develop increased opportunities for destination paddlers by encouraging overnight excursions. The NCCPPTI hosts bi-annual paddling symposiums to spur local opportunities.

Progressive counties are developing additional detailed maps of local paddle trail opportunities and using particular marketing techniques to more effectively capture revenue from water trail visitors. All counties in the NCCPPTI region have drafted official resolutions of support. Communities are encouraged to apply for a variety of grant funds including private foundations or businesses such as Confluence Water Sports and public monies from state parks administered RTP, TEA-21 funds; 40 percent of this fund is dedicated to non-motorized recreation.

At first some locals were apprehensive about canoeists taking away from fishing or hunting opportunities, these delicate issues have not manifested. The state Wildlife Resources Commission is funded by motorboat licensing and a small percentage of fuel taxes, they provide limited services and facilities for paddlers. Multiple recreationists with no reported conflicts utilize existing boat launches.

One narrow stretch of channel has become contentious among commercial fishing and recreationists. Public meetings were held to discuss options.

Potter believes rural communities are deriving economic benefits from paddle trails. The rural farming and fishing communities don't have adequate infrastructure for most types of large industries. But the area has wonderful natural resources, the initiative to market the coastal plains as a paddlers destination brings in new business and money. Currently, the area is not fully capturing revenue from water trail visitors. There is not enough development of tourist services to adequately capture the destination paddler. There are not a lot of Bed and Breakfasts or restaurants. The need is becoming more obvious and opportunistic rural communities will fill this niche. A local conservation group, Roanoke River Partners is leading the paddle camping movement. Hunting lodges in the area are starting to market full service paddling expeditions, lengthening their seasons and diversifying their business without changing their "product". An increasing number of guides and outfitters in the area are also marketing to paddlers.

The Albemarle region hosts annual summer events through the Sound Country Celebration. One event in the fourth year of the celebration is the East Coast Flatwater Championship Canoe and Kayak Races. This paddling event on the Albemarle Sound will be held on Saturday, October 19, 2002 in Edenton, North

Carolina, and is sanctioned by the NC Canoe Racing Association and the US Canoe Association. Canoe and kayaks will race an 8-mile course in three divisions including racing, recreation, and a business challenge for co-workers looking to build teamwork. The races will start at the Edenton waterfront go up Pembroke Creek approximately 2 ½ miles, go around three islands, return to the waterfront and go up Queen Anne Creek approximately 1 ½ miles to a buoy, then return to the finish back at the waterfront. A guided recreational paddle will follow an afternoon triathlon for children and adults. The event will bring paddlers into town, spending money at local establishments. Edenton is a good example of a town that is embracing the paddling movement. The town was weary of the idea at first, but now it sees potential.

Successful paddle destinations offer diverse trails with a wide variety of opportunities. Overnight trips are key, camping opportunities and lodging or bed and breakfast opportunities with easy access to downtown. Local entrepreneurs must see potential and buy into the paddle trail movement. To do this, agencies must respond to business needs. Human waste and litter will become an issue, 'Leave no Trace' should be stridently encouraged.

State Management Perspective

Lundie Spense works with the NC Sea Grant Extension. Local groups manage some of the paddling trails in the region but some areas don't have a dedicated local group of volunteers. Nothing is consistent at this point. Paddling trails are still a new idea. The Roanoke River Partners are the best local group to talk with about managing a destination paddle trail. They maintain and promote the only true paddle/camping flatwater trail in the coastal region of North Carolina.

Sea grant has tried to partner with the Wildlife Resources Dept and the Dept. of Transportation. The concept is to manage existing and new sites (bridges and motorized boat launches) for paddling access points. The National Seashore is becoming a popular place for canoeists to camp, but this area is not designated for canoe camping. The number of canoeists using shore land has not necessitated managing the area for canoeist/campers. This may become an issue in the future.

There is an effort to establish a Back barriers Island Paddling Trail that will cover 200+ miles from Virginia down through North Carolina.

Landowner Perspective

Jerry Hardison lives along the Roanoke Paddle Trail and Camping System. Hardison was not familiar with the paddle trail. He does not see canoes often, there are more during fall and spring. Canoeing the Roanoke is not the most popular activity along the river. Motorboats are much more noticeable on the

river. Martin County is not close to a metropolitan area so the river is not utilized very much. Most people get out on the water to fish or hunt and use motorboats. Hardison believes fishing brings in money into the local economy and canoeing has potential.