A Sustainability Case Study of Jackson County, North Carolina

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Introduction

Jackson County is 491 square miles of mountainous land in western North Carolina (City-data.com, 2010). According to Emily Elders, the director of the Jackson County Greenways Project, and Carrie Blaskowski, the Assistant Director of the Jackson County Green Energy Park (personal communication, January 4, 2010), through the implementation of sustainable tourism programs, the county has flourished while protecting its natural resources; both residents and local leaders wish to conserve and preserve its many resources as well as its heritage while continuing to drive tourism and commerce. Jackson County residents affirm the idea that “sustainability is an issue for all communities,” even “small rural towns that are losing the natural environment upon which their jobs depend” (A better view, 2006). In the following pages, this case study describes Jackson County, outlines how the county’s leaders and residents are embracing sustainability through their current practices, and presents the challenges people living in the county face to ensure a sustainable future.

A Brief Description of the County

Jackson County has a population of 36,891, an increase of 11.4% from 2000 to 2009 (U.S. Census Bureau, 2010). The geography of the area includes mountains, waterfalls, rivers, and many landmarks, including the Blue Ridge Parkway. The varied landscape offers residents and visitors the opportunity to enjoy many outdoor activities such as viewing waterfalls, hiking, bicycling, fishing, golf, horseback riding, snow skiing, and rafting (Jackson County Travel & Tourism Authority, 2010).

State and local government organizations are the largest employers in Jackson County (N.C. Employment Security, 2010). In the last quarter of 2009, Osc-Payroll, C.J. Harris Community Hospital, Jackson County Public Schools and Jackson County Human Resources were four out of the five largest employers, with Wal-Mart at number five (N.C. Employment Security, 2010). Other employers on the list of the top 25 serve the manufacturing and leisure and hospitality industries. AdvantageWest Economic Development Group (AdvantageWest, 2006) is the regional development commission of western North Carolina, providing resources for the expansion of industries in the 23 westernmost counties in the state. Advanced manufacturing is one of its areas of focus, along with entrepreneur development, film development, food ventures, tourism development, and “green” businesses (AdvantageWest, 2006). The group provides site and workforce information to manufacturing firms interested in coming to western North Carolina. Jackson County is also home to Western Carolina University, a state university with over 9,000 students (Western Carolina, 2010).

Despite significant population growth, Jackson County remains heavily wooded—much of its area lies within the Nantahala National Forest. Farms dot the region although Jackson County’s farms average 77 acres and are relatively small when compared to those in the eastern part of the state (Agricultural Advisory, n.d.). In an attempt to preserve farming as an occupation and land for farm use, the Jackson County Board of Commissioners established the Voluntary and Enhanced Voluntary Farmland Preservation Program (Agricultural Advisory, n.d.). The Board oversees and administers this programs that provides grants and other resources to farmers to maintain the farming industry throughout the county while preserving rural lands (Agricultural Advisory, n.d.).

The geography, history, and availability of year-round outdoor activities make Jackson County a popular tourist destination. In 2009, tourism expenditures in the County totaled over $61 million, paying out $10.8 million in payroll to around 600 employees (U.S. Travel
Association, 2010). It is home to several small towns, which feature many types of accommodations ranging from small bed and breakfast inns to full-scale resorts and several restaurants that provide visitors with a wide array of dining options. Southern Living Magazine called Lulu’s on Main their “favorite restaurant in the region” and Annie’s Naturally Bakery is family owned and operated and produces all natural and organic breads, cookies and pastries (E. Elders, personal communication, January 4, 2010). There are also more eclectic choices available, such as Guadalupe Café, which offers tapas and wine with a Caribbean influence.

**History of Jackson County**

Centuries prior to the arrival and settlement of Europeans, Native Americans, primarily Cherokee, lived in the area now known as Appalachia (“Lake Logan,” 2008). The low hills, deep valleys, and abundance of fish, wildlife and agriculture helped early Native communities thrive (Osment-b, 2008). By the 1700s, European settlers began to expand westward across North America (Osment-a, 2008). In Jackson County, the areas around Caney Fork and Scotts Creek were settled very early, some parts prior to 1800, and as various treaties made with the Cherokees opened the way, white settlers quickly moved into the area now called Jackson County, North Carolina (Crawford, 1999).

George Frizzell, Head of Special Collections at Hunter Library at Western Carolina University, recounted that the railroad reached Jackson County in the mid-1880s and brought about a number of economic developments (G. Frizzell, personal communication, May 18, 2010). Mining and logging began in earnest and tourism increased as people experienced greater ease of access to the region (G. Frizzell, personal communication, May 18, 2010). In the early 1900s, several inns were established in the Cashiers area to serve Southern gentry who visited the mountains in the summer to escape the heat of the lowlands (“Jackson County”, n.d.). Emily Elders, the Project Manager for the Greenways Committee, added that, “By the 1920s, automobile travel was coming into vogue and new highways were being built to accommodate the needs of travelers” (E. Elders, personal communication, May 24, 2010).

On June 15, 1934, the Great Smoky Mountains National Park was officially established (History of the Great, 2010). This park encompasses over 800 square miles and is one of the most pristine natural areas in the East (National Park, 2009). Great Smoky Mountains National Park is America’s most visited national park (National Park, 2009) and the park plays a central role in bringing tourists to Jackson County (E. Elders and C. Blaskowski, personal communication, January 4, 2010). The county is also home to the final southern stretch of the Blue Ridge Parkway - more than 40 miles of serene, scenic beauty (Jackson County Travel & Tourism Authority-b, 2010). “The Blue Ridge Parkway is a product of the New Deal’s efforts to provide jobs to the unemployed during the Great Depression. Construction began in September 1935 at Cumberland Knob near the North Carolina and Virginia state line” (History-a, n.d.). It was recognized that the Parkway would bring with it both visitors and economic benefits (Osment-a, 2008) and the Parkway succeeded in bringing both to Jackson County.

Although the Great Depression of the 1930s and World War II “dampened large scale tourist travel, by the 1950s the county was experiencing a noticeable rise in tourism” (G. Frizzell, personal communication, May 18, 2010). In the 1950s, several farmers in Jackson County opened Christmas tree farms. While they shipped the trees to various locations, they soon had a large number of individuals arriving in the area to cut their own trees; this brought a large influx of people from as far away as Atlanta and Charlotte during the holiday season (S. Philyaw, Mountain Heritage Center Museum in Cullowhee, NC, personal communication, May 19, 2010).
Major new road construction in the 1960s and 1970s, in the form of four-lane highways helped open the area to greater tourist activity. In addition, over the last few years, second-home development has increased and the county has begun to engage in sustainability efforts to promote positive development and yet conserve resources and a high quality of life for both residents and visitors (E. Elders personal communication, January 4, 2010).

What Is Sustainability?

With sustainability as a rising issue in many communities, including Jackson County, it is important to have an understanding of what it is and how it can be achieved. Sustainability has been defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (World Commission, 1987). Building on this definition, The Environmental Protection Agency views sustainable development as having two components, a public policy perspective and a business perspective (Environmental Protection Agency, 2010). The policy perspective satisfies the basic economic, social, and security needs of today and the future without undermining natural resources, the environment, and quality of life. The business perspective satisfies the goal of increasing long-term shareholder and social value, while decreasing use of natural materials and reducing negative environmental impacts. Efforts in which Jackson County uses aspects of both perspectives in the design of policies and programs to promote sustainability are described in the following paragraphs.

Examples of Sustainability Efforts in the County

Private business owners, community leaders, and members of non-profit organizations take an active role in the protection of crucial resources like the Jackson County’s waterways, forests, air, and landmarks. For example, Fish and Wildlife Associates, Inc. is a Whittier, NC based environmental consulting business that specializes in environmental issues regarding development (Fish and Wildlife Associates, Inc., 2010). Fish and Wildlife Associates professionals have worked on several projects in Jackson County, including monitoring the water quality in the upscale development of the Balsam Mountain Preserve. Another example is a non-profit organization, the Friends of the Great Smoky Mountains National Park (2010), whose mission is to protect, bring awareness to, and raise funds to preserve the Smoky Mountains. The Jackson County Greenway Advisory Committee is comprised of residents and members of the community with varied outdoor interests, including people who are fly fishermen, cyclists, hikers and walkers who have dedicated their time to work on the committee as part of the County’s Greenways Project (Jackson County Recreation/Parks, 2009). Additionally, on an individual level, many local citizens are avid outdoor enthusiasts and nature lovers who take an active role in maintaining the resources of the area for generations to come (E. Elders, personal communication, January 4, 2010).

Due to its progress in sustainability efforts, Jackson County has managed to increase opportunities for tourism through the protection and sustenance of its resources (E. Elders, personal communication, January 4, 2010). One example of this is the Western North Carolina Fly Fishing Trail (2010); it is the first and only fly fishing trail in the nation, attracting fly fisherman from all over the United States. The Cherokee Indian Reservation at Qualla Boundary, based in Jackson County and Swain County, is another example. The Reservation is home to centuries of history and heritage for the Cherokee Indians and it also brings revenue to the local economy (Cherokee NC, 2010). The United States National Forests in North Carolina
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attract more than 20 million visitors annually (National Forests in North Carolina, 2010). As noted previously, much of Jackson County is covered by the Nantahala National Forest, which is 531,212 acres of land and home to threatened and endangered plants and animals as well as locally rare plants and animals preserved through the efforts of the National Forests in North Carolina and the United States Forest Service (National Forests in North Carolina, 2009). The national forest brings visitors to Jackson County, thus adding to revenues for the county.

Partnerships between county officials, leaders of non-profit organizations and owners and operators of local businesses help ensure that while Jackson County works to increase its tourism industry, it maintains a sense of environmental responsibility. Promoting green building designs, recycling programs, conservation of greenways, green event planning and sustainability education are some examples of how these alliances are benefiting the community (E. Elders, personal communication, May 24, 2010). One example is the Southern Appalachian Sustainable Building Council (2010), a non-profit organization that promotes green building in rural areas, and advocates for land use planning to preserve farms and large wilderness areas. Additionally, the council’s website provides landowners and homeowners with a directory of resources related to green building and sustainable development. The Mountain Landscapes Initiative (MLI) (2008) is another community-based organization working for the protection of the Jackson County landscape in partnership with six other North Carolina counties, based on a week-long charrette held in the spring of 2008. A charrette is a meeting of citizens, local decision makers, and experts with interests in the same set of issues meeting to discuss issues, propose solutions, and compose a plan in the form of a published “Tool Box.” The Tool Box created by those involved in the charrette is a set of recommendations and best practices for “responsible planning and development in the mountain region of North Carolina” (Mountain Landscapes Initiative, 2008).

In 2008 the Jackson County Board of Commissioners adopted “Strategies for Land Conservation in Jackson County”, a report on the negative effects of development on the local environment (McMahan, B., Cowan, J., Shelton, W.R., Massie, T.L., & Jones, M.R., 2008). The Commissioners noted that “the rapid growth in Jackson County is threatening its cherished rural character and scenic areas” through effects like “removal of natural vegetation, increased storm water run-off, pollution in nearby creeks and streams, mountainside removal, and landslides” (McMahan et al, 2008, p.3). The report lists recommendations for residents in the acquisition and maintenance of land, incentives for participation, resources for conservation, and an action plan (McMahan, et al, 2008). The report also cites county ordinances that require minimum building design standards for use in the development of mountainous areas, and while the goal is to build a healthy economy, the authors of the report stress that the benefits of growth and progress must be carefully balanced with the harmful effects that development can cause the environment and community (McMahan, et al, 2008).

Jackson County’s ambitious greenways project will increase property values of adjacent properties in addition to preserving land for public use and enjoyment, according to greenways specialist Ed McMahon (Majors-Duff, 2000). The county lists some of its goals for the Greenway project as “the preservation of open space, cultural resources and natural resources,” “hiking, biking and walking trails that connect people with the places they want to go,” and “educational facilities that teach children and adults about the importance of greenways and natural resource protection” (Jackson County Recreation/Parks, 2009). These desired results of the project serve both the people and the resources of the community in a joint effort to increase sustainability.
To be environmentally sustainable, communities must be socially sustainable (Polese & Stren, 2000). With this in mind, it is important to note that many of Jackson County’s efforts at environmental sustainability also increase the area’s social sustainability. One example of this is shown through part of the Greenways Project in Jackson County that focuses on building “community support for greenway and preservation projects, bringing together diverse groups to work towards our common goals” and to provide “recreational opportunities for people of all ages, interests and abilities” (Jackson County Recreation/Parks, 2009).

Other initiatives to build community support include promoting the use of local food, which encourages residents to support the region’s farms and reap the benefits of healthier food while patronizing community farmers. The Appalachian Sustainable Agriculture Project (2010) helps western North Carolinians “meet neighbors and give your food dollar directly to the person who grew your food.” Jackson County’s Farmers’ Market features “only locally grown produce, products and crafts. Most of [their] growers use organic practices” (Appalachian Sustainable, 2010). The project’s site also has a buyer’s guide that features organizations for farmers to sell to and vendors for consumers to buy from throughout the local area. Tailgate markets and farmers’ markets draw local residents and tourists, while providing a sense of “kinship” as people gather and support local businesses (Appalachian Sustainable, 2010).

Additional community efforts showcase the commitment from the people of Jackson County to maintaining their natural resources and local heritage through sustainability. Organizations such as AdvantageWest believe that, “as a people, there is an emerging creative class designing a wave of green innovations and a tradition of stewardship of natural resources that leads to green lifestyles and many ‘early adopters’ of new green products and services” (AdvantageWest, 2006). Another indication of the dedication of local citizens is the support of the Greening Up the Mountains festival held in the Jackson County seat, the town of Sylva, North Carolina, annually since 1997 (Downtown Sylva Association, 2010). The manager of the Jackson County Farmers’ Market, Susannah Patty, boasted that “the extent of the growth of the ‘green’ section of Greening Up, and of other community-driven initiatives like the farmers’ market, really speaks to the dedication of the people in the Sylva area” (Jackson County Farmers’ Market, 2010). Quintin Ellison, a writer for the Sylva Herald and Ruralite, found that the residents of Jackson County are striving “to bolster and expand everyday opportunities to make decisions that are socially and environmentally sound” (Ellison, 2010). In addition to the various efforts of the citizens, the leaders of the county remain committed to conservation. The town of Sylva has been designated as a Tree City USA by the National Arbor Day Foundation for six years (Ellison, 2010). Designation as a Tree City requires Sylva to maintain a tree board or department, a tree care ordinance, a community forestry program with an annual budget of at least $2 per capita, and an Arbor Day observance and proclamation (Arbor Day Foundation, 2010). As evidence of the county’s commitment to the environment, Jackson County’s commissioners were honored for their conservation efforts by the North Carolina Wildlife Federation in 2008 (Commissioners, 2008).

**Specific Sustainable Programs, Policies and Events in the County**

A number of programs and policies to integrate sustainability into its future have been implemented by Jackson County. These programs include efforts focused on infrastructure, energy, and alternative fuel, and initiatives designed and orchestrated by community members. The topics discussed in this section include traffic, recycling, water and energy-related activities, the Jackson County Green Energy Park, alternative fuels, organic and local food, sustainable
event planning, community conservation groups, the Greening Up the Mountains festival, and the Relay for Clean Air. Some of these items have been mentioned previously, but they will be discussed in more detail in the paragraphs that follow.

**Traffic**
Given the steady growth of Jackson County and the expansion of existing roads, alleviation of traffic problems and repair of current roads are all pressing issues for local leaders. Several roads in the county are designated as “over-growth” and many are approaching capacity (Jackson County Transportation, 2009). A survey conducted by the Jackson County Transportation Task Force noted that “the citizens of Jackson County, and those who to commute to work here, take an active interest in the transportation system” (Jackson County Transportation, 2009). The survey also revealed that residents “want to preserve the rural character and natural beauty of the mountains and towns areas” and citizens of Jackson County would like the town of Sylva to be more accessible to bicyclists and pedestrians. In addition, safety, environmental protection, and increased transportation options were perceived as important (Jackson County Transportation, 2009).

In response to the transportation issues facing the county, concerned citizens joined together to form the Smart Roads Alliance, with the goal of developing realistic alternatives and smart solutions to Jackson County’s traffic and transportation issues (Smart Roads-a, n.d.). Since its founding in 2002, the Smart Roads Alliance has developed strategies for improving existing roads, conducted community meetings with national experts on transportation issues, involved Jackson County residents in a community-based decision making process, assisted in the creation of the Transportation Task Force, and encouraged Jackson County Transit to offer daily bus routes and expand public transportation (Smart Roads-b, n.d.).

In December of 2009, the Smart Roads Alliance expressed concerns “over the inclusion of a bypass, called the 107 Connector, in the Jackson County Transportation Task Force’s Comprehensive Transportation Plan (CTP)” (Smart Roads-b, 2009). According to the North Carolina Department of Transportation “The N.C. 107 Connector provides a way to improve traffic bottlenecks, address safety concerns and repair deficient road conditions along N.C. 107 in Jackson County” (N.C. 107, n.d.). However, the Smart Roads Alliance insists that “a new bypass has enormous potential to drastically change our community's traffic patterns, economy and landscape. A bypass would divert 10,000-12,000 vehicles/day from our commercial districts, use 135 million dollars in taxpayer funds, dislocate approximately 50 residences and consume a ¼ mile swath of private property, 5 miles long, in Jackson County” (Smart Roads-b, 2009).

Due to concern over the environmental impact of the proposed 107 connector, the Smart Roads Alliance has suggested substitutes to road expansion such as alternative transportation options as well as rail options. The ideas for expansion that the Alliance has provided will allow the county to consider embracing forward thinking and environmentally conscience transportation options to take the county into the future (Smart Roads-b, 2009).

**Recycling**
In terms of per capita recovery from recycling efforts, Jackson County ranks 17 out of the 100 counties that comprise the state of North Carolina (North Carolina Recycling, 2010). In 2009, the county recycled about 1300 tons of fiber, 550 tons of bottles and cans, and 600 tons of metal. Jackson County currently has eight staffed recycling centers and one transfer station
In 2010, the county expects to negotiate contracts with third-party companies that will greatly enhance the county’s ability to conduct recycling. The new partnerships will be designed to handle electronics recycling in accordance with new North Carolina regulations that mandate recycling of televisions and computers (Parker, 2009). These items will be collected and transferred to facilities that can properly dispose of them.

Jackson County’s Waste Management leadership team is taking measures to encourage community participation in recycling efforts. In 2010, local schools were provided with large recycling bins to aid the school system in recycling. During the 2010 school year, Waste Management and Jackson County Schools’ leaders held a contest to reward the school that recycled the most. The Waste Management team has a commercial drop off facility at their transfer station and Chad Parker, Solid Waste Director for Jackson County, estimates that 50% of the local business operators recycle (C. Parker personal communication, June 9, 2010).

Jackson County encourages those hosting events in the county to offer composting as a waste management strategy, if food is available at the event. The county also advises event holders to “staff trash cans, recycling bins, and compost collectors with a volunteer, and encourage guests to compost food waste and paper waste” (C. Parker personal communication, June 9, 2010). The county’s Sustainable Event Planning Resource Guide provides helpful tips to event planners to encourage reduction of trash and maximization of recycling (Jackson County TTA - c, n.d.).

**Water- and Energy-Related Activities**

Jackson County is part of the Little Tennessee River Basin (Rivers, 2010). The basin is named for the Little Tennessee River, which flows north into North Carolina from Georgia (Little Tennessee, n.d.). One of the major tributaries of the Little Tennessee River is the Tuckasegee River, which begins in and flows through Jackson County. As one of Jackson County’s largest natural resources (Tuck River Cleanup, 2010) the Tuckasegee River is a major tourist attraction. The river is particularly beloved by fishermen who are drawn to the river for the abundance of trout that provides “some of the most impressive fly fishing waters in the eastern half of the country” (Tuckaseggee River Fishing, 2010). In addition to fishing, the river is a popular attraction for rafters, paddlers, and outdoor enthusiasts.

Given the critical role that the river plays as a tourist attraction and natural resource, a considerable amount of attention has been given to protecting the river. One group that has dedicated itself to preservation of the river is the Watershed Association of the Tuckasegee River (WATR). WATR is a grassroots organization that is working to improve the water quality and habitat of the Tuckasegee River (Watershed Association, n.d.). The group aids local authorities in monitoring the river, collects samples for water quality analysis, assists other groups in river clean-ups and environmental stewardship activities, and works to educate the local citizenry in regard to river conservation issues (About, n.d.).

Recently “a joint team of Western Carolina University (WCU) and the Watershed Authority of the Tuckasegee River (WATR) worked to create a comprehensive network for water quality measurements in the Tuckasegee River basin” (Howell et al., 2009). The two groups will use this network to provide compliance monitoring, observe the microclimate of the surrounding watershed, gather scientific data for hydraulics and ecosystem modeling, and provide outreach to the community and schools in the area (Howell et al., 2009).

In addition to the WCU and WATR partnership, Jackson County recently received a grant from the Rivers, Trails, and Conservation Assistance program that will allow the county
leadership team to move forward with a conservation plan for the river. Pursuing blueway designation for the Tuckasegee is a key component of the project, as is developing and implementing a volunteer stewardship program to maintain and manage new and existing access areas and trails. “Creating policy recommendations for riverfront property development and stream protection, along with conservation incentives for private landowners, is crucial for ensuring future access remains available” (E. Elders, personal communication, May 24, 2010).

County efforts aimed at cost reduction include planned energy and water audits on county buildings. These are possible through a grant from the State Energy Office, utilizing the services of Waste Reduction Partners of Asheville. The hope is that the audits will pinpoint areas to focus on to make county buildings more energy and water efficient. The plan is to perform audits on three of the county’s facilities before the end of the summer 2010 (E. Elders, personal communication, May 24, 2010).

In 2009, in the midst of one of the worst droughts on record in Jackson County, a Water Study Task Force was formed to study the current water shortage and to draft options to address those issues. The task force completed and submitted recommendations in a report to the joint governments on March 10, 2009 (Jackson County Board, 2009). The purpose of the current Water Resources Board is to consider and carry out the recommendations that were made by the Task Force. Additionally, a ten-year local water management plan was created through a joint effort by Jackson County Parks, Planning and Environmental Services and the Southwest Regional Development Commission (2008). Some of the goals of the five-year implementation plan include improving surface water quality, meeting feedlot and subsurface sewage treatment system standards, managing drainage, protecting groundwater, and providing consistency between local, state, and regional water management plans (Jackson Co. Parks, Planning 2008). The projected costs for each of these actions range from free, in-kind services to $1.5 million (Jackson Co. Parks, Planning 2008).

_The Jackson County Green Energy Park_

The Jackson County Green Energy Park (JCGEP) plays a major role in the sustainability efforts taking place in the county. The creation of the JCGEP came about when the Dillsboro, North Carolina landfill closed in 1996, with roughly 750,000 tons of trash in place. Concerns over methane migration prompted Jackson County to examine landfill gas (LFG capture). All municipal landfills emit LFG, composed roughly of 50% methane and 50% carbon dioxide and other trace gases. Methane gas is created naturally when organic wastes (food scraps, yard wastes, etc.) decompose and flammable gas can be burned as a fuel in furnaces, kilns, engines, or boilers. Methane gas is very damaging to the environment, worsening local smog and air quality problems. Methane gas has roughly 27 times the environmental impact of carbon dioxide. By burning it in a controlled fashion, an area receives immediate environmental benefits and therefore, the JCGEP helps improve local air quality by preventing methane from escaping into the environment and removing odors caused by leaking LFG. Methane emissions saved are estimated at 222 tons annually, 4,440 tons over the lifetime of the project, or a carbon dioxide (CO₂) equivalent of 120,000 tons. Annual environmental benefits are estimated as being equivalent to removing 916 vehicles from the road, planting 1,305 acres of forest, preventing the use of 11,104 barrels of oil, and displacing 521,870 gallons of gas. The park also captures “waste” heat from kilns and furnaces to reduce overall gas use and is transforming a trash-covered eyesore into a beautiful public place (C. Blaskowski, personal information, January 6, 2010; Jackson County Green Energy Park, 2010).
In 1999, the Jackson County Board of Commissioners made a commitment to develop a landfill gas project and purchased property and buildings adjacent to the landfill. Gas wells were installed March 2005 and the energy park project construction began October 2005. The mission statement of the park is the following:

The Jackson County Green Energy Park utilizes clean, renewable energy resources to
- encourage economic development,
- provide environmental protection,
- and offer educational opportunities that together will help lead towards a more sustainable future for western North Carolina (Jackson County Green Energy Park, 2010).

The JCGEP captures methane gas from the old Dillsboro landfill for use as a fuel. The landfill gas is currently used to provide process heat for blacksmith forgés, greenhouses, and glass blowing studios. In the future it will also provide heat for pottery studios and facility heating. At the present time, the old warehouse and trash transfer buildings are being refurbished for artist studios. The JCGEP serves as an economic engine to encourage the success of new artisans by offering them six-month to three-year residencies in the fully-functioning studios with cost-free fuel as they create and work to develop business skills. The JCGEP also provides opportunities for new agricultural and other greenhouse ventures by greatly reducing energy costs, and the Jackson County Grounds Department will grow its own landscaping plants to reduce costs. At the time of this writing, the park is in operation but the final stage of project is still in development, and is expected to create 21-25 new jobs upon completion with continued turnover of artisans. While offering increased business opportunities in the county, the park also provides eco-tourism and heritage crafts tourism and increased media coverage, putting Jackson County “on the map” (C. Blaskowski, personal communication, April 24, 2010).

Educational opportunities offered by the JCGEP include hands-on demonstrations of renewable energy use and conservation; advanced training in pottery, glass blowing, and blacksmithing; demonstrations of hydroponics, aquaponics, and other new agriculture techniques to the public; and utilizing the park’s native plant gardens to test students’ plant identification skills. Tours are offered to school and civic groups, government organizations, tourists, and research professionals. The JCGEP creates a bridge between “academic” learning at local schools and real-world applications of skills and knowledge.

A unique learning opportunity is found in the activities that take place in the biodiesel/blacksmith building rehabilitation project at the JCGEP. The old trash transfer station at the landfill was in serious disrepair when purchased, lacking interior walls, ventilation, lighting, and adequate siding. The only blacksmith forgés in the United States fired on landfill gas were developed on site, with temperatures of over 2000° F achieved. The renovated facility provides forge, metalworking equipment, and studio spaces for three tenant smiths. These artisans are selected by juried committee for six-month to three-year residencies.

A greenhouse project on site offers opportunities for agricultural and horticultural activities. Old gutter-connect greenhouses were donated to the project and dismantled by Jackson County Maintenance and Grounds Departments and the Haywood Community College Horticulture Club. A 10-year-old eyesore was removed, returning the land to pasture with a mountain view, and the JCGEP received yet another resource. Savings realized by Jackson County through reusing steel greenhouse framework were roughly $25,000. Over 7,500 square feet of greenhouse space was reconstructed. Jackson County Grounds Department uses one half
of the space to grow and propagate landscaping plants for County properties. Remaining space is leased to a private commercial tenant, resulting in the creation of two full-time jobs and educational workshops offered to the public. The crafts building renovation project at the JCGEP includes taking the existing 17,000 sq. ft. warehouse and renovating it into several facilities, including: pottery studios, a retail gallery, a classroom, a conference room, and offices. “Green” building design features to be incorporated in the renovations include: hydronic in-floor heating, rainwater collection, daylighting, solar hot water collectors, and sustainable floorings and wall coverings. The completion of this structure will allow the JCGEP to expand and enhance its educational and tourism-related offerings to the community (C. Blaskowski, personal information, April 24, 2010; Jackson County Green Energy Park, 2010).

Alternative Fuel Activities

With the dramatic increases in fuel costs over the last few years, many businesses and government agencies are looking for ways to cut back on the cost of gasoline. The Jackson County school district has found a way to save money while contributing to a healthier and safer environment for its school children and citizens via the use of waste vegetable oil. Waste vegetable oil (as well as virgin vegetable oils, or even animal fat) can be converted into biodiesel — a clean-burning, non-toxic, renewable fuel that can be used in any diesel engine (Muth, 2008). ‘In addition to saving taxpayer dollars by running machines off methane, the biodiesel produced at the site will provide cleaner, affordable fuel for county vehicles and reduce the amount of sulphur dioxide emissions that come from regular diesel engines’ (Beadle, 2006).

If the county can collect enough waste vegetable oil, a large portion of the diesel fuel that is currently purchased each year (roughly 80,000 gallons/year) could be offset with biodiesel that the county produces. “This fuel would be used in county buses, vehicles, and heavy equipment only, and would not be available for retail sales” (Muth, 2008).

Organic and Local Food

Jackson County is home to several initiatives that encourage the use of local food, help to support Jackson County farms, and work to connect farms and schools to give children positive experiences with healthy, local foods (Growing, 2010). William Shelton of Shelton Family Farms is a pioneer of Community-Supported Agriculture in Jackson County. “After 25 years of planting large mono-crops of lettuce, strawberries and tomatoes to sell on the wholesale market for grocery store shelves, Shelton entered the new scene of Community Supported Agriculture” (Jackson County, NC Chamber, 2010). Part of Shelton’s goal for embracing the idea of Community Supported Agriculture is to “connect local people with local food” (About, 2010). Last year, Shelton had nearly 100 participants in the program from four counties. He hopes to have 200 families this year (Jackson County, NC Chamber, 2010). “Several local restaurants are also participating in the Shelton’s co-op program and are using the fresh local food in their menus” (J. Spiro, personal communication, May 24, 2010).

The Jackson County school system has expressed interest in buying local food products and has already purchased some local food items for use in school menus. Additionally, via a new program implemented by Jim Hill, the Child Nutrition Director for Jackson County, high school students are growing hydroponic vegetables for use on the school menu” (E. Jackson, personal communication, May 25, 2010). Shelton and Appalachian Sustainable Agriculture Project representative Emily Jackson worked with school officials to design the hydroponic garden (Brantley, 2009).
Public schools in Jackson County are striving to bring local food to the students while also educating students on how to grow and prepare food via the Farm to School program. The national Farm to School Network works to promote regional community-based food systems and connect children to their agricultural heritage. Among the network’s objectives are improving student nutrition and supporting local farmers, (Farm to school, 2010).

Several Jackson County restaurants put an emphasis on organic and sustainable agriculture, bringing seasonal items to their menus (Jackson County restaurant, n.d.). Within the county, at least fifteen local businesses advertise the fact that they offer and promote fresh, healthy, local food; these businesses include a bakery, a café, several farms, a co op, two gardens, a growers’ fair, an inn, and two farmers’ markets (Jackson County, 2009).

Sylva is home to a community garden that was launched in 2007 (Richardson, 2007). The Community Garden is an organic garden maintained by dedicated volunteer gardeners (Welcome to the Community, n.d.). The gardeners volunteer to maintain their own 15 by 30 foot plot to grow plants of their choice and are asked to donate about 2/3 of their harvest to the Community Table that serves meals to those in need (Richardson, 2007). In the spirit of true organic gardening, the volunteers apply non-poisonous pest controls and fertilizer, and Western Carolina University’s equestrian team donates manure to help enrich the soil (Brantley, 2010). The garden receives strong support from the community. It was among those featured in the Jackson County Garden Tour and the garden will be represented in a map of downtown that the Downtown Sylva Association is planning to print. The gardeners would like to further their community involvement by providing education. “We’d like to be able to teach more people about organic gardening,” said Boyd, one of the garden’s coordinators (Richardson, 2007).

The Appalachian Sustainable Agriculture Project (ASAP) is an initiative that works to create and expand local food markets in order to “preserve the agricultural heritage of the Appalachian region” (Appalachian, 2009). The goal of this group is to give everyone access to fresh, healthy food, and to keep local farmers farming. To this end the ASAP organizes family farm tours, hosts events featuring local chefs and local foods, publishes local food guides, provides kid friendly educational events, develops comprehensive research, and develops and supports numerous programs aimed at bringing local food to local tables.

Jackson County is home to two farmers’ markets. The Cashier’s Tailgate Market is “a local farmers market in its second year.” Items such as organic local vegetables and fruits, fresh baked goods, jellies, local fruit pies, honey and more may be purchased at the market (Cashiers, 2010). Located in downtown Sylva, the Jackson County Farmers’ Market is open from May to October (Jackson County Farmers’, 2010). This market features only locally grown produce, products & crafts (Jackson County Farmers’, 2010). Additionally, many of the growers use organic practices (Jackson County Farmers’, 2010).

**Sustainable Event Planning**

The Jackson County Chamber of Commerce has taken steps to encourage as well as mandate aspects of sustainability in regard to events that are held in the county. The County’s Chamber of Commerce (Jackson County TTA – c, 2009) homepage contains a link to the Sustainable Event Planning Resource. This guide is distributed to individuals that are preparing to host events in Jackson County. The guide contains helpful tips for how to host a sustainable event as well as a wealth of information on local businesses. According to Julie Spiro, of the Jackson County Chamber of Commerce, the county mandates recycling and the use of environmentally friendly products at all events (J.Spiro, personal communication, May 24,
The use of Styrofoam is strictly prohibited (J.Spiro, personal communication, May 24, 2010). The guide provides meeting planners with useful tips and comprehensive checklists as well as a comprehensive list of area businesses.

Community Conservation Groups

Jackson County benefits from the efforts of the various conservation groups within the region. For example, the Highlands-Cashiers Land Trust is the oldest land trust in North Carolina and among the first 20 in the United States (History-b, n.d.). “HCLT originated in 1883 with the creation of the Highlands Improvement Association (HIA), a group founded to “protect, preserve and promote the natural beauty of the Highlands.” Its efforts began with trail-building and tree-planting projects. In 1909, the HIA made its first land protection purchase, collecting $500 to buy 56 acres on Satulah Mountain that was slated to become a hilltop hotel. Today, HCLT counts nearly 70 acres on the summit among the hundreds of acres it has protected in the region” (History-b, n.d.). The trust continues its mission today by accepting conservation easement donations, conducting education activities, and working with volunteers to steward those conserved lands (Land Trust Alliance, n.d.).

The Jackson-Macon Conservation Alliance (J-MCA) is a grassroots conservation organization whose mission is to address environmental issue affecting the Highlands-Cashiers area in Macon and Jackson counties through education, advocacy, hands-on initiatives, and collaboration with like-minded organizations (Green, 2008). The Jackson-Macon Conservation Alliance is focused on issues such as pollution, climate degradation, and loss of forest lands (Jackson-Macon, n.d.). Each year the J-MCA organizes events, forums, and workshops all geared to bring awareness and educational knowledge to the public about environmental issues facing this area, as well as the region, state and nation (Jackson-Macon, n.d.).

The Canary Coalition is another local grassroots movement. Based out of Sylva, the Canary Coalition works to raise public awareness about the air quality crisis in the Smoky Mountains, the greater Appalachian region and nationwide (The Canary Coalition, n.d.). The Canary Coalition centers its efforts around coordinating public events to promote increased awareness of the air quality problems that are currently being experienced by our region (Canary Coalition deserves, 2001). In 2008 the director of the group, Avram Friedman, was recognized for work with the Canary Coalition in public education, activism, and generating greater public involvement of air quality and climate change issues (Commissioners, 2008).

Greening Up the Mountains and Relay for Clean Air

Sylva, the seat of Jackson County, is home to the annual Greening Up the Mountains festival. The festival began in 1997 as a celebration of Earth Day. Over the years, the celebration has maintained its roots in environmental protection (Sylva’s 10th, 2007). For example, during the 2010 festival, “the center block of the festival was devoted to environmental education and other ‘green’ initiatives, featuring demonstrations and information from community groups such as the Jackson County Greenways Project and the Jackson County Green Energy Park. Officials gave away seedlings of white cedar trees throughout the festival” (2010 Asheville Travel-a, 2010).

The celebration also serves as a way for citizens to celebrate and remember the region’s rich past. During the 2009 festival, activities and events included a special section of heritage craft demonstrations, called the Traditional Heritage Walk hosted by Catch the Spirit of Appalachia (CSA). Since 1989, CSA has sought to “draw attention to the need to conserve,
protect and save the natural and human heritage of the local mountain people in our region” (Capture the spirit, n.d.). The walk featured 10 crafters demonstrating skills passed down through the generations. These included: caning chairs, quilting, wood carving, canning and preserving, sewing, pottery, cross-stitching, and doll making (Greening Up, 2009).

The Relay for Clean Air is another important conservation-based event that is held annually by Sylva’s Canary Coalition. Since 2004, the Canary Coalition has coordinated the Relay for Clean Air, a 100-mile demonstration along the Blue Ridge Parkway between the Great Smoky Mountains National Park and Asheville (2009 Relay, 2009). The course stretches throughout the Great Smoky Mountains National Park where riders, runners, bicycle and walkers participate as a cooperative demonstration (Canary Coalition, n.d.). The Relay for Clean Air has national impact and attracts media attention throughout the country because it takes place on the grounds of the two most visited and most polluted national parks in America – the Great Smoky Mountains National Park and the Blue Ridge Parkway (Relay, 2007).

Landmarks, Natural Resources, and Heritage Sites

Jackson County is home to many resources, including the natural environment and the heritage and culture of the region. These include greenways, Cashiers’ Village Green, Sylva’s Pinnacle Park, and the county’s own Judaculla Rock.

Greenways: Jackson County is home to an ambitious Greenway project that began in 2000 (Jackson Greenways, 2009). Over the years the leaders and supporters of the Jackson County Greenway have fought a long battle to gain support for the project and to make the venture a reality. In August of 2009, it appeared that the project leaders had finally realized a significant turning point in their efforts when the Jackson County Board of Commissioners gave their unanimous approval to the greenways master plan (Jackson Greenways, 2009). With approval from the commissioners, the project has been given a decisive endorsement and can begin to move forward.

When it is completed, the greenway will serve many important functions. Organizers envision that the greenway will serve as a larger transportation system for the county. As part of the vision statement for the project, leaders have recognized that conservation and preservation priorities should be combined with a practical and flexible commitment to providing safe, multi-modal transportation among the county’s communities and towns (Johnson, 2003). To this end, the final version of the project consists of countywide greenways in each small community from Balsam to Cashiers and from the Swain County border to the Macon County border (Johnson, 2003).

In addition to providing alternative transportation for the county, the greenway will provide increased opportunities for families to explore the outdoors (King, 2004). “The more walkable trails there are, the more pleasant the area is for tourists who plan to spend dollars in area shops. And greenway strips serve to filter water runoff, trapping sediment and pollutants before they enter rivers and streams, supporters say” (King, 2004), providing preservation of open space, cultural resources, and natural resources (Jackson County Recreation/Parks, 2009).

Cashiers Village Green: The Village Green is a park and conservancy in the town of Cashiers. “It was established in 1992 when the land was given to the village of Cashiers for a community park. The park was transferred to the Village Conservancy, a non-profit charitable corporation which was established to preserve, restore and maintain the character of this very special community (Cashiers, 2010). The park features outdoor sculptures, walking paths, boardwalks over wetlands and beautiful gardens (2010 Asheville Travel-b, 2010). The park’s
gardens place an emphasis on native plants and preservation of the area’s natural beauty, and vary from wildflower beds, grassy fields, and wetlands, to wooded areas, while creating outdoor rooms with specific interests, such as the native azalea garden and a fern room” (The Village, 2010).

**Pinnacle Park:** In 2007, the citizens of Jackson County celebrated the permanent conservation of the town’s 1,088-acre Pinnacle Park (Sylva officials, 2007). Through local and state efforts, a $3.5 million grant was made available through the NC Clean Water Management Trust Fund for the permanent conservation of the land to protect the watershed and to allow continued non-motorized recreation on the land (Richardson, 2007). The important conservation effort also served to protect the watershed, protect against soil erosion, constitute essential steps in the water cycle that generates much of the area’s rainfall, and provide habitat for most terrestrial plant and animal species (Coward, 2005).

**Judaculla Rock:** Judaculla Rock is North Carolina’s best-known and largest example of an American Indian petroglyph site (NC Highway, 2008). The soapstone boulder measures roughly 16 feet by 11 feet (Elliston, 2007) and is carved with petroglyphs of unknown origin and meaning from as early as 1,500 BCE (Emily Elders, personal communication, June 24, 2010). The rock is located at a 15-acre site that was a prehistoric Native American settlement, soapstone quarry and sacred place (Western Carolina-b, 2010). “The ancient rock is one of North Carolina’s most-visited cultural sites, in a region that is home to countless Native American Indian settlements and trails on some of the most rural and undeveloped land in the Appalachians. Though the site is far removed from traditional tourism destinations, it has retained its near-magical ability to attract visitors from around the world for hundreds of years, since the neighboring tribes of the Cherokee crossed territory lines on pilgrimage to see it and since the first European settlers discovered its existence” (Emily Elders, personal communication, June 24, 2010). According to Emily Elders, who is the project manager for the greenways project, nearly 11,000 visitors per year travel to the “remarkable and mysterious rock” (E. Elders, personal communication, June 24, 2010).

Since the 1920s, constant erosion due to accumulated dirt along its sides has covered much of Judaculla Rock (Crisp, 2009), and since 1959 a variety of improvements made by the county to the one-acre county-owned area around the rock concluded with unintended negative impacts (Elliston, 2007). Dirt accumulated along the sides of the rock has caused erosion and runoff causes a build-up of sediment, hiding much of the surface of the rock (Crisp, 2009). In fact, many of the more severe effects of sediment covering the rock were brought on by previous well-intended efforts to preserve the historic site. Presently a single piece of rebar is the only barrier between the ancient boulder covered with Native American petroglyphs and its thousands of annual visitors (Merchant, 2009).

Worsening site conditions led the North Carolina Rock Art Project and Western Carolina University professors to initiate preservation efforts. In 2007, Jannie Loubser of Stratum Unlimited and soil scientist Douglas Frink were hired to complete a conservation plan for Judaculla Rock (NC Highway, 2008). The Louis Berger Group, an engineering firm that works internationally with post-conflict and post disaster environments, completed plans for the rock’s facelift in March of 2007 (Crisp, 2009). Engineers from Equinox Environmental, a conservation-based engineering firm based in Asheville, North Carolina have completed engineering and storm water management drawings for the next phase of the project (E. Elders, personal communication, November 9, 2010).

Jackson County, along with the Eastern Band of Cherokee Indians, the Caney Fork
Community Development Council, and the Parker Family, who have owned the land for hundreds of years, are attempting to restore the rock back to where it was in the 1920s (Crisp, 2009). The Judaculla Rock Preservation Project is a restoration effort aimed at preventing further environmental damage to Judaculla Rock and protecting the surrounding land and water, while enhancing the visitor experience. The restoration process will address preservation of the rock, will create a better access system, and will initiate outreach and educational programs across the Southeast, contributing to sustainable tourism efforts. The anticipated completion date for the preservation project is 2012.

The Future of Sustainability in Jackson County

The overall spirit of Jackson County’s commitment to balancing the three strands of sustainability-- people, products, and planet-- is summarized succinctly in the Town of Dillsboro’s vision statement:

“The Town of Dillsboro has and will continue to explore economic and community development while respecting heritage preservation. The Town shall always focus on protecting natural resources and other assets of the community, which make a visit a quality experience” (Government, n.d.).

American Greenways Commission Director Ed McMahon predicted that “The two fastest growing forms of tourism are heritage tourism and eco-tourism. On average people traveling to historic sites or to view natural settings stay longer and spend more money” (Majors-Duff, 2000). Jackson County is well positioned to capture these two important tourism segments due to concentrated sustainability efforts. Cities around the world, including places in the U.S., have revitalized themselves by saying “our trademark is sustainability” (Merchant, 2007).

Future projects will continue to move the county into the direction of establishing sustainability as the standard. The Green Energy Park plans to complete several projects in the 2010 and 2011 calendar years including the installment of a rainwater collection system, a wood-fired pottery kiln, and a heat recovery system that will collect lost heat from appliances, turn it to hydro-thermal energy and use it in other areas of the park (C. Blaskowski, personal communication, November 2, 2010). The Solid Waste Board plans to add recycling containers to schools, convert a former transfer station to a recycling facility, and evaluate alternatives for solid waste disposal in fiscal years 2010-2019 (Parker, 2009). As part of the Jackson County Planning Office’s Smart Growth Plan, in the future “developments should promote sustainable land development patterns” and “environmentally sensitive areas should be identified and preserved while allowing alternatives to development” (Jackson Co. Land, n.d.). As these and other sustainable projects are completed in the future, Jackson County’s tourism industry has an opportunity to benefit as a tourist destination from the preservation of the county’s numerous natural and cultural resources.
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