

Eco-Tourism and GIS

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Abstract

Cumberland County, NJ has an economic situation that is not unique in the Northeast. It is losing its manufacturing base. In order to maintain the economic viability of the County, other strategies have to be formed. Among the many projects initiated was an Eco-Tourism plan.

Cumberland County is a predominantly rural county of 489 square miles and a population of about 150,000. With 51 miles of Delaware Bay shoreline, 155 square miles of wetlands and marshes, 95 square miles of Wildlife Management Areas and State Forests, and over 700 miles of rivers and streams, it is an Eco-Tourism paradise. This presentation explains the process used to market an Eco-Tourism Plan using GIS, building an inventory of tourist attractions focusing on the ecological and historical treasures of Cumberland County, and producing maps and posters for the final presentation products.



Eco-Tourism and GIS

The economy in Cumberland County has been dictated by location and geology. Its location on the Delaware Bay made oyster harvesting one of the largest industries in the 19th and early 20th centuries. In 1880, about 300 oyster boats operated on the Delaware Bay resulting in an annual harvest of 1.5 million bushels. The arrival of the railroad in 1876 caused a boon in the oyster industry by making it possible to ship the large quantities harvested to Philadelphia and New York in a short period of time. At the peak of oystering in the late 1920's the small town of Port Norris on the Maurice River claimed "more millionaires per square mile than any other town in New Jersey."¹ The industry flourished until 1957 when a protozoan parasite named MSX or Multinucleated Sphere Unknown, caused the oyster industry to collapse. The industry has never fully recovered.

The rural character of the County can account for the agricultural activity. Since Colonial times much of the land in Cumberland County has been devoted to agriculture. While farming is still a large part of the local economy, the rising value of developable land has caused a decrease in farmland. In 1959, 118,000 acres or 39 percent of the County was devoted to farming. By 2002 that amount had been reduced to 71,097 acres or 23 percent. The number of farms dropped to 616 in 2002 from 1,600 in 1959.

The geology of Cumberland County consists of sedimentary (Cenozoic, Tertiary) sand, silt, and clay. The three main formations all consist primarily of quartz (silica) sand, the largest of which is the Cohansey Formation. The glass industry was quick to recognize the usefulness of this phenomenon. Established in 1789, Port Elizabeth's Eagle Glass Works was the first glass house in Cumberland County. By 1841 there were five glass houses in Millville and by 1860 there were eleven, and that was just Millville. There were many others spread throughout the County. The glass industry thrived into the 1980's. In 1984 the Bridgeton plant of Owens-Illinois closed causing a loss of 3,000 jobs. The Ball-Foster plant in Millville closed in 1999 after 142 years of operation under various names. Employment in the glass industry was 10,650 in 1970. By 2000 that number had dropped to 5,000.



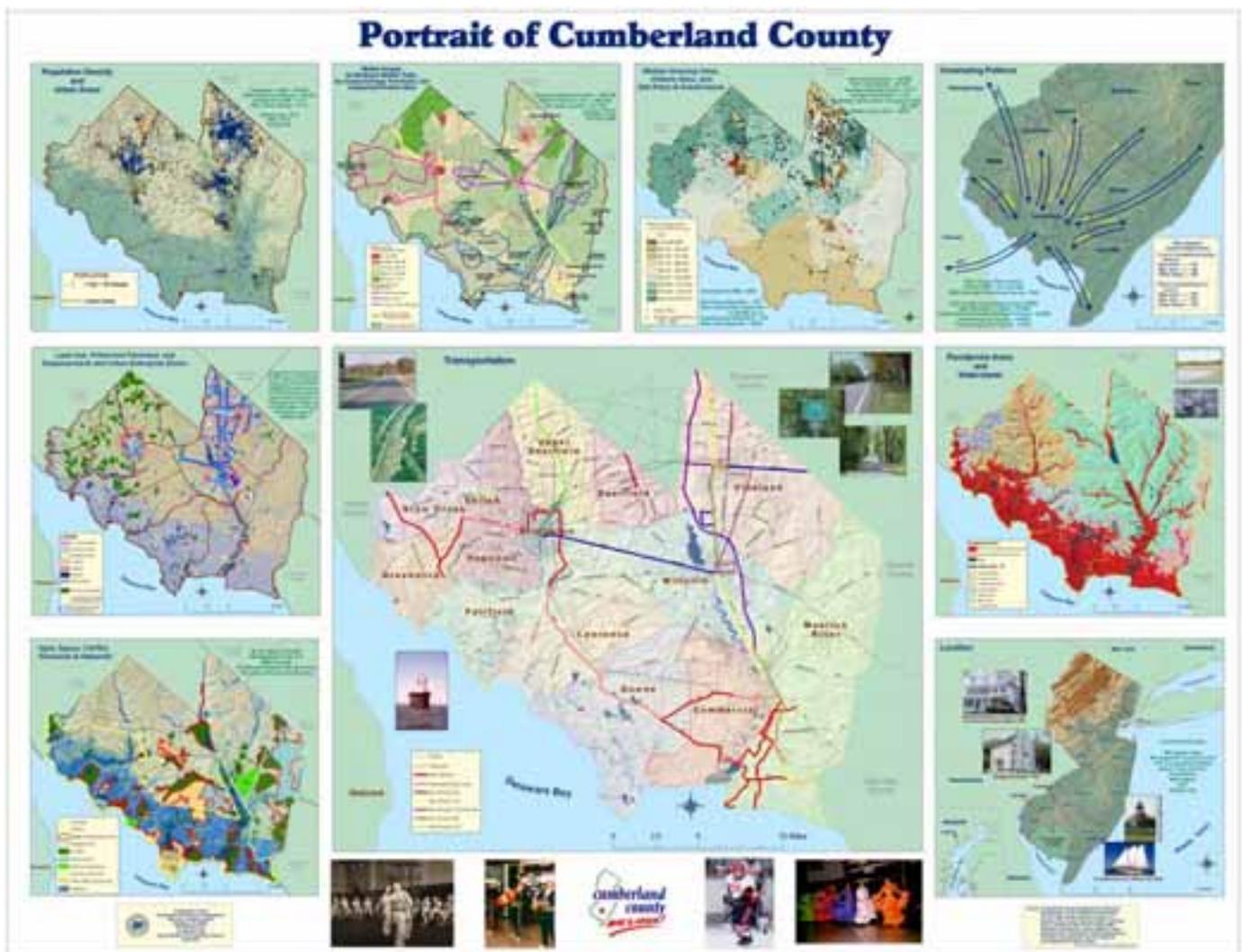
Cumberland County is located in the southwest corner of New Jersey, bordered on the south by the Delaware Bay. It ranks New Jersey's 5th largest County, but ranks 17th in population density. Along with the 95 sq.mi. of wildlife management areas and State Forests, and 700 miles of rivers and streams, Cumberland County also has 193 miles of New Jersey Birding & Wildlife and Coastal Heritage Trails, and over 60 miles of bicycling trails. (note: the topography in the map to the left has had the Z-factor exaggerated by 50%. The highest elevation in New Jersey is 1,803 ft., the highest elevation in Cumberland County is 131 ft.)

¹ Franklin Institute Museum of Science

Manufacturing employment in general fell from 19,483, or 41.5 percent of the total employed in Cumberland County in 1970, to 10,819, or 18.7 percent of the total employed in 2000. It was obvious by the mid 1990's that a strategy to keep the County's economy viable had to be established. In 1996 the Cumberland County Planning Board adopted "The Cumberland County Ecotourism Plan: A Vision and Implementation Strategy for Economic Development and Conservation."

GIS was used in preparing the Ecotourism plan. There were eleven maps in the final plan. The data collected included the locations of marinas and boat rental facilities, State and non-profit owned land, sand mining locations, permanently protected shoreline areas, and cultural and historic sites. Critical corridors for signage improvements were determined along with gaps in habitat protection.

Marketing the plan has included brochures and posters. There are more than 20 brochures touting the natural and historic wonders of Cumberland County, many published by the County. They include brochures on bicycling, lighthouses, farm markets, fishing, marinas, and other activities. Virtually all include a map of some kind requiring GIS data. Posters, including the one shown on page 1 and the one pictured below, have been produced to be displayed at various functions.



The GIS role in the creation of the County’s marina and fishing brochures included locating marinas and their associated information such as launch facilities, boat slips, rental availability, seafood markets, and fishing hot spots. The Farm Market Guide included locating farms, nurseries, green houses, and orchards. The farms and orchards were identified by their specific crops. Christmas tree and horse farms were also identified. The attribute information became an important part of all of the projects.

The Eco-Tourism in Cumberland County poster (page 1) features accommodations, bird viewing areas and platforms, canoe rental locations, fishing “hot spots”, State Forests and parks, city parks, Wildlife management areas, New Jersey Audubon Society’s Birding & Wildlife Trails, marinas, lighthouses, restaurants, wetlands, bicycling trails and the New Jersey Coastal Heritage Route. Another poster, Discover Cumberland County, displays historical and cultural places along with snap shots from some of the various festivals hosted by the County.

In February 2001, Cumberland County held its first Raptor Festival. Renamed the Winter Eagle Festival in 2003, the annual event has increased in attendance each year. Attendance is tracked by zip code and plotted on maps to show where attendees come from. The data shows visitors are traveling from a greater distance each year.



Purple Martin Festival

In late August another County initiated festival takes place. Now hosted by Maurice River Township, the Purple Martin Festival draws a large crowd to see the annual gathering of purple martins along the banks of the Maurice River which was designated by Congress in 1993 as the Maurice National Scenic and Recreational River, along with its tributaries the Manumuskin River, and the Menantico and Muskee Creeks.

The County produces handouts for each festival with maps directing visitors to bird watching sites and platforms located throughout the County. It also includes an insert (map) showing the locations of restaurants, accommodations, and other local attractions.

Each year in June, the Cumberland County Recreation Commission hosts a Delaware Bay fishing tournament. Limited to the first 150 entries, \$2000 prizes are awarded for the largest weakfish, flounder, and bluefish. Boats leave from two ports, Port Norris and Fortescue – locally known as “The Weakfish Capital of the World.”

The fishing tournament coincides with the annual Delaware Bay Days Festival which is hosted by the Bayshore Discovery Project. The festival takes place in Port Norris, East Point Lighthouse, and Bivalve, home to New Jersey’s official tall ship, the A.J. Meerwald. As well as food and crafts, the two day festival offers a photo contest of bayshore scenes, guided river tours, blue crab races, an oyster shucking contest, and tours of the A.J. Meerwald, which was added to the National Register of Historic Places in 1995.

In a joint effort, the NJ Department of Transportation, the NJ Audubon Society, the NJ Department of Environmental Protection, and the NJ Office of Travel and Tourism partnered to produce The New Jersey Birding & Wildlife Trails guides. The two guides focus on two regions of New Jersey, the Delaware Bayshore (Salem, Cumberland, and Cape May), and the NJ Meadowlands, located in the northern counties of Hudson and Bergen. They plan to cover the whole state over the next few years. The brochure and maps can be viewed at www.njwildlifetrails.org.

The Ecotourism campaign has paid off as Cumberland County experienced the second highest tourism growth in New Jersey in 2006. Cumberland and Cape May counties generate 14 percent, or \$4.9 billion, of the States revenue for tourism, the state’s second largest industry. Another partnership to promote tourism in Cumberland and Cape May is the Southern Shore Region Tourism Council. The council pools the resources of the two counties to promote tourism in its region, such as advertising campaigns and TV commercials. Visit www.njsouthernshore.com or www.MoreToOffer.com to learn more.

Ecotourism is a major part of Cumberland County’s economic future. The increased growth of the County’s tourism in 2006 proves that the venture is working. The GIS section of the Planning & Development department is continuing to compile data related to ecotourism and the latest geographic poster “A Portrait of Cumberland County” (page 3) lends a visual context to all that Cumberland County has to offer.



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