Protecting Our Natural Heritage

The Value of Land Conservation in Georgia

Environment Georgia
Research & Policy Center

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Executive Summary

From the Appalachian Mountains to the coastal plains, Georgia is blessed with natural beauty. Georgia's natural heritage is much more than scenery, however—it is the foundation of a strong economy, providing value for the state and its people in many ways.

For example, land conservation:

- **Attracts tourist dollars**. Tallulah Gorge State Park in Habersham and Rabun counties in Northeast Georgia draws over 300,000 visitors per year. Overall, tourists in the mountainous two-county area spent $69 million in 2004, supporting 930 jobs.
- **Promotes a clean and plentiful supply of water**. Buffers around waterways reduce pollution, preserve sources of clean drinking water and minimize water treatment costs. For these reasons, citizens in the upper Tallapoosa watershed in Carroll County, west of Atlanta, overwhelmingly passed a special use sales tax in 2003, providing $20 million to protect key watershed lands.
- **Prevents flood damage**. The towns of Albany and Newton in southwest Georgia spent $3 million relocating hundreds of homes, businesses and schools outside the floodplain after tropical storm Alberto caused severe flooding in 1994. The cities subsequently reaped the benefits—avoiding $5.1 million in damage that could have resulted from a severe storm that developed in 1998.
- **Increases the value of nearby properties**. University of Georgia researchers found that properties close to Sandy Creek Park in Athens-Clarke County sold for up to $8,500 more than properties farther away. Parks enhance the assets of homeowners and help contribute to the tax base for local government.
- **Reduces service costs compared to residential development**. Residential development demands public services that cost more than property tax income. In Oconee and Habersham counties, working farms or woodlands

Sandy Creek Park in Athens-Clarke County

require $0.82 in expenditures for every dollar they bring in revenue. In contrast, residential lands require $1.16 in expenditures for every dollar of revenue—excluding the cost of schools.

- **Provides agricultural products**. Working landscapes, like those in the small-scale farms of Dooly and Jones counties near Macon, are a key part of the agricultural economy and a stabilizing influence for rural communities.
- **Reduces air pollution**. Tree canopies in the 10-county Atlanta metropolitan area remove 19 million pounds of pollutants from Atlanta's air every year. Achieving the same emissions reduction with man-made technology would cost $47 million per year.
- **Provides areas to hunt and fish**. Kelly Ridge Roadless Area in the Chattahoochee National Forest is home to one of Georgia's largest areas of old growth forest, several pristine trout streams, and a wide variety of wildlife. Across the state, areas like Kelly Ridge provide places for hundreds of thousands of Georgians to hunt and fish—in addition to offering critical habitat for thousands of different types of plants and animals, including 63 species endangered or threatened across the U.S.
- **Supports Economic Redevelopment.** The BeltLine plan for Atlanta envisions organizing the region's future growth around an interconnected system of parks, transit and trails circling the core of the city. Over the next 20 to 25 years, planners expect the project to create 30,000 new jobs (50 percent more than in the absence of the project) and increase the regional tax base by an estimated $20 billion.
- **Preserves history**. Kennesaw Mountain National Park in Cobb

County preserves over 2,800 acres where an important clash of the Civil War occurred in 1864. It is a valuable educational resource for the more than one million people that visit every year and a major draw for heritage tourism—the third most popular tourism activity in the state.

However, the state's undeveloped land is quickly disappearing. In just five years, from 1992 to 1997, the state lost more than one million acres of farms and woodlands—triple the pace of development from the previous decade.

Governor Sonny Perdue recently set aside $100 million, including $45 million in grants and $55 million in loans, to protect land critical to our quality of life. He also helped establish the Georgia Conservation Tax Credit, which rewards landowners who choose to permanently protect their land from development. While these are good steps in the right direction, more needs to be done in order to protect all the land Georgians want conserved. In order to ensure that development does not outpace conservation efforts, Georgia needs more policy tools and funding sources for land conservation.

To preserve Georgia's natural heritage for future generations and fully realize its value, we should:

- Protect public lands from development, including roadless areas in Georgia's National Forests and federal lands slated for sale in the federal budget.
- Develop an official land conservation roadmap and use it to prioritize preservation efforts in the most ecologically valuable areas—areas that provide drinking water, flood control, wildlife habitat, recreation and other benefits as described in this report.
- Create priority areas for growth that complement the land conservation roadmap; and implement land-use regulations at the local government level that encourage growth only in priority areas.
- Create a dedicated funding mechanism for land conservation. For example, the Florida Forever program has protected more than 1 million acres of critical lands across Florida in the last five years using bond funding. Maryland uses a real estate transfer tax to fund Program Open Space, expected to provide nearly $300 million in conservation funding in 2006. In Georgia, a redirection or increase of one-tenth of one percent sales tax would generate approximately $100 million annually for land conservation purposes.

Wetlands, like these at the Savannah National Wildlife Refuge, help provide clean and plentiful drinking water and help control floods.

Introduction

For decades, the lack of planning for growth around Atlanta has encouraged and abetted sprawl and discouraged land conservation. At the same time, conventional wisdom held that land conservation, while offering important social benefits, drained local government finances and did not contribute to economic growth. Accordingly, cities and counties offered developers prime parcels of land to attract new businesses and residents, with the hope of boosting tax revenue without raising property taxes.

As a result, undeveloped lands were rapidly consumed. Between 1992 and 1997, Georgia lost over 1 million acres of cropland and forestland.[1] At this rate, the state loses 578 acres to development every day—*three times* the rate of development in Georgia from 1982 to 1992.[2]

If current trends continue, Georgia's treasured natural areas and working landscapes will disappear as vast tracts are developed. Now, with the problems caused by sprawl, Georgians are realizing that we need to think about growth differently.

The Chattahoochee Hill Country is one example of how we're beginning to recognize the value of land conservation in creating successful communities. Chattahoochee Hill Country is a 65,000-acre area outside of Atlanta in southern Fulton County, as well as parts of Carroll, Coweta and Douglas counties. Residents of the area, aware of impending development pressure from the expanding suburbs of Atlanta, decided that they wanted to preserve the natural character of their home and direct future growth in a sustainable and well-planned manner.

After a series of public meetings, the community developed a land use plan in partnership with local government, non-profit organizations and a professional planning firm. The plan proposed the creation of pedestrian-oriented, mixed-use villages to concentrate future development while preserving existing agricultural and open space areas. To implement the plan, local governments have deployed a suite of preservation tools, including direct purchases of land for conservation, conservation easements, and Georgia's first Transfer of Development Rights program. In 2005, Fulton County passed a conservation

The Leigh Sanders Home in the Chattahoochee Hill Country

subdivision ordinance, requiring that all new developments in the Hill Country preserve a minimum of 40 percent open space.[3]

The Georgia Chapter of the American Planning Association recognized the significance of these efforts with its 2003 Outstanding Plan Implementation Award.[4] The plan has also won recognition from the Atlanta Regional Commission, the Urban Land Institute and others.[5]

Governor Perdue had places like the Chattahoochee Hill Country in mind when he announced an initiative to provide $100 million for preserving Georgia's heritage of ecologically valuable, agriculturally productive, and aesthetically beautiful land. However, the state doesn't have enough money to protect all the land Georgians want preserved. Additional planning and land conservation tools are essential to Georgia's future.

By preserving critical areas of land, Georgia can preserve the foundation for a strong community and a strong economy. As shown by the case studies in this report, creating and implementing additional tools for land conservation will provide tangible economic returns for communities across the state.

Amicalola Falls

The Value of Land Conservation

Land conservation provides economic value to Georgia communities in many ways.

Public areas that preserve natural beauty attract visitors that support the local economy. Undeveloped buffers around rivers and lakes provide a clean and plentiful water supply and prevent flood damage. Parks and woodlands increase the value of nearby properties and can increase property tax income for local governments. Farms and forests require fewer public services than residential development, helping local governments to control costs.

Farmland provides agricultural products, contributing millions to the economy and stabilizing rural communities. Forests reduce air pollution and protect public health, as well as provide habitat for wildlife and areas for hunting and fishing. Trails, parks and greenways support economic redevelopment and help organize future growth. Finally, open spaces can help preserve evidence of Georgia's natural and human history for tourists to visit and learn from.

As described in the following case studies, natural areas are an important part of the economic foundation of communities across Georgia.

Increases Tourism and Recreation

Natural areas can attract tourists and visitors for sightseeing or recreation, forming an important part of a local economy. Visitors support local businesses such as hotels, restaurants, tour guides, equipment rental shops, and gift shops. This support allows local businesses to provide jobs. The money that businesses spend in the local community in turn supports other businesses.

Tourists and visitors are a mainstay of Georgia's economy. In 2003, 48 million people traveled to or within Georgia, making the state one of the top 10 tourist destinations in the country.[6] Tourists spent $15.4 billion here in 2004, supporting 211,800 jobs and generating $26 billion in overall economic impact.[7] On average, each visitor spent over $95 for every day in the state.[8]

Outdoor activities are among the main reasons many people visit Georgia. In 2004, outdoor recreation was the primary reason for 7 percent of all tourist travel to the state—drawing nearly 2 million people.[9] In 2002, outdoor activities ranked third among the most popular

activities among visitors to Georgia (9 percent), followed closely by visiting state and national parks (8 percent).[10] In other words, the natural beauty and recreational opportunities afforded by public lands and parks are an important draw.

Additionally, millions of Georgians participate in outdoor activities, from hiking and camping to whitewater rafting (Table 1). These activities contribute greatly to the quality of life enjoyed by millions of state residents and are important to the state economy.[11] Outdoor enthusiasts in Georgia spend $402 million each year purchasing athletic and outdoor merchandise for human-powered recreation.[12]

Table 1: Millions of Georgians Participate in Outdoor Activities[13]

Activity	Participants
Backpacking	656,324
Road Bicycling	1,512,671
Off-Road Bicycling	1,018,865
Bird Watching	325,037
Camping	775,088
Canoeing	656,324
Rock Climbing	243,778
Fly Fishing	206,273
Hiking	1,893,965
Kayaking	243,778
Rafting	325,037
Trail Running	1,387,657

The Revival of Tallulah Gorge

Conserving land by creating natural parks and areas for recreation can attract new visitors and contribute to the local economy. The revival of Tallulah Gorge as a tourist destination demonstrates this potential.

Tallulah Gorge, the deepest natural canyon east of the Rockies, was once the most visited site in the Southeast.[14] In the early Victorian era, word of the area's natural beauty and stunning waterfalls spread. Wealthy travelers arrived from Atlanta, Athens, and other towns across the region.[15]

In 1882, a railroad company extended

Tallulah Gorge State Park is a major tourist attraction in Northeast Georgia.

Lake Allatoona

Lake Allatoona, created by the Army Corps of Engineers in the 1940s, is surrounded by 25,000 acres of public land, including seven city and county parks and Red Top Mountain State Park.

With easy access from Atlanta, nearly 6 million people visit the area every year. According to the Army Corps of Engineers, these visitors provide a $200 million boost to the regional economy annually.[22]

a line to Tallulah Gorge, increasing the number of visitors dramatically, to thousands per week. Entrepreneurs built 17 hotels in the growing town of Tallulah Falls to host the new arrivals.[16]

However, the boom was not to last. Georgia Power acquired land in the area and began building a hydroelectric dam in 1912. The dam diverted water around the gorge and the falls to a downstream generating station, all but drying up the river for over a mile.[17]

Over the years, the number of tourists declined. Although the area won brief moments of fame, including providing the setting for part of the 1972 movie *Deliverance*, it lost its former status as a major tourist draw. At one point, state officials were considering fencing off the gorge to prevent unwary people from injury.[18]

The gorge's revival began in the late 1980s, as Georgia Power began negotiations to renew its federal license to operate the dam. Spurred on by advocacy efforts from the Georgia Conservancy and a coalition of whitewater enthusiasts, the federal government required dam operators to release a small flow of water for aesthetic purposes, and larger releases for whitewater recreation on designated days.

At the same time, the Georgia Department of Natural Resources reached an agreement with Georgia Power to obtain the right to operate a state park

Protecting Open Space to Promote Tourism: The Coastal Georgia Greenway

Many opportunities remain to promote tourism across Georgia by preserving and highlighting the state's natural and historic beauty. Preservation advocates in Georgia's coastal region are pursuing one such opportunity called the Coastal Georgia Greenway.

The plan envisions connecting parks, city centers and cultural heritage assets across coastal Georgia with a 150-mile greenway and trail from Savannah to Florida. Project organizers see the trail as a unique way to highlight the natural beauty, plentiful wildlife and rich history of Georgia's Coast—and a way to encourage both tourists and locals to get out and experience it.

The trail would connect and highlight resources as diverse as barrier islands, rivers, the Savannah Historic District, Richmond Hill City Hall, Sapelo Island Visitor's Center, Fort King George, historic canals, Crooked River State Park, lighthouses, and the historic Bartram Trail.

When complete, the trail could bring an additional $15 million a year to the tourism economies of the six-county coastal region.[23]

Challenges to the implementation of the project include coordinating the efforts of many local and regional levels of government and acquiring funding for capital projects and land preservation. These types of challenges should be vigorously addressed by local officials hoping to promote tourism. The Georgia Coastal Greenway is a great example of how a region can preserve and highlight the best parts of its regional identity for visitors to see.

The Savannah-Ogeechee Canal – a historic barge route and a demonstration section of the Coastal Georgia Greenway.

on 3,000 acres of land surrounding the gorge and the lake, providing easy access for people to observe the waterfalls. Governor Zell Miller announced the creation of the park in 1992.[19]

The park protects three miles of the gorge and five major waterfalls. State Park officials constructed more than 20 miles of trails for hiking and wildlife observation; built an interpretive center near the gorge; and developed a plan to preserve endangered species in the area, including peregrine falcons and trillium, a plant found within the gorge's walls.

Whitewater boaters found that the Tallulah Gorge was one of the premier runs in the Southeast—if not the whole United States. Fishing enthusiasts, hikers and picnickers all rediscovered the Tallulah Gorge as a destination. In all, the park now attracts over 300,000 visitors per year.[20]

Many of these visitors stay for multiple-day visits, bringing revenue to hotels, restaurants, and shops. In 2004, visitors to the two-county area around Tallulah Gorge spent $69 million dollars, supporting a total of 930 jobs.[21]

Maintains a Clean and Plentiful Water Supply

Natural areas help to maintain a clean and plentiful water supply and can minimize water treatment costs for local governments.

Runoff from developed land contains a variety of pollutants. Soil, fertilizer, and pesticides can be found in runoff from farmland, lawns, and construction sites. Fragments of tires, shreds of brake lining, salt, and oil contaminate runoff from roads. Even pollution from industry smokestacks and car and truck exhaust pipes falls back to the ground through snow and rain.[24] Leaky septic systems can discharge sewage into waterways as well. Much of this pollution can end up in drinking water sources if they are not protected.

Natural buffers around waterways filter pollutants out of runoff and keep drinking water sources clean, making them a valuable part of the natural infrastructure that supports communities across the state.[25] Because stream buffers provide clean water for free, their value often goes unrecognized and unincorporated into planning decisions.

It is more expensive to make polluted water suitable for drinking than it is to use relatively clean water.[26] For example:

- The Floodplain Management Association estimated that replacing the natural water quality functions of Congaree Bottomland Hardwood Swamp outside of Columbia, S.C. with man-made infrastructure would cost $6.7 million (2003 dollars).[27]
- As sewage and runoff pollution from development in the Catskill Mountains began to harm the quality of New York City's water supply, officials examined options to solve the problem. Building a filtration plant to restore the function of lost open space would have cost between $6 billion and $8 billion, with $300 million in yearly operating costs. Protecting and restoring watershed lands with open space purchases and subsidies for septic system improvements would achieve the same goal with a $1 billion price tag. The city chose the latter course. In 1997, the city passed an environmental bond to fund the conservation of land in the Catskill mountains to cost-effectively protect its drinking water supplies.[28]

Impervious Surface: The Facts

- Automobile dependent development patterns in Georgia have increased the amount of pavement needed to serve new developments, especially in "sprawl" areas in the suburbs.
- Replacing a meadow with a parking lot increases runoff volume by about 16 times.[32]
- A typical suburban development with 23 percent impervious cover diverts over 40 million gallons of water away from underground aquifers annually.[33]
- The amount and location of impervious surface in watersheds is closely connected to the health of downstream waterways—pollution problems grow with increased urbanization, decreased forest cover and decreased size of vegetated buffers between development and rivers and streams.[34]

A parking lot.

Natural areas also help to preserve a plentiful water supply. Undeveloped land has porous surfaces that allow water to percolate downward and refill underground aquifers. Wetlands in particular soak up and store rainwater, gradually releasing it into the ground.

Aquifers are important for providing well water. They also are important for surface water supplies, providing about half the water volume in a typical river or lake.[29]

When land is developed, it is no longer able to direct water underground. Instead, development replaces porous soils and plant life with hard surfaces like concrete sidewalks and driveways, asphalt roads and parking lots, and rooftops. Rain cannot penetrate these surfaces, and so flows off rooftops and along gutters. High volumes of this runoff are thus diverted from groundwater stores to lakes, rivers and streams.[30] As a result, less rainfall makes it back into the ground to replenish the water pumped out for human use. In addition, the flow of rivers becomes less consistent and more prone to wide swings in volume.

A recent study by the Natural Resources Defense Council estimated the effect of growth from 1982 to 1997 on groundwater recharge in Georgia and other states.[31] According to the study, growth consumed over 600,000 acres of land during this period, adding impervious surface that annually diverts between 60 and 130 billion gallons of water from underground aquifers.

Protecting the Upper Tallapoosa River

Community action to protect the quality of the Upper Tallapoosa River exemplifies how local and regional governments can invest in natural buffers around drinking water sources to provide a clean and sustainable water supply for its citizens.

The river provides drinking water for the cities of Carrollton, Temple, and Villa Rica in Carroll County, about an hour west of Atlanta. In the past, the area was predominantly used for farming, forestry and low-density residential areas. However, nearby Interstate 20 has provided a conduit for development moving outwards from Atlanta and Birmingham, introducing major changes in land use—and new sources of contami-

nated runoff that degrade water quality.

Leaders in Carroll County realized they needed a plan to protect their drinking water supplies—a critical part of a sustainable economic future. Working with the Trust for Public Land and with funding from the federal Environmental Protection Agency, in 2003 the county invited a team of experts to study the watershed and make recommendations.

Many of the resulting recommendations are now reality. In 2003, county citizens voted to assess a special purpose sales tax, raising $20 million to pay for land conservation that protects source water and an additional $60 million for capital projects, including improved wastewater management. The measure passed with an overwhelming two-thirds majority.

In addition, the Trust for Public Land worked with Carroll County officials to purchase a 252-acre parcel that was slated for conversion to a large subdivision—protecting a large wetland and over a half-mile of riparian area along the river. Finally, the county developed a new comprehensive plan that integrates growth management and water resource protection strategies into local land use plans.[35]

The Upper Tallapoosa provides a great example for how other communities across Georgia can protect their drinking water supplies. This is especially important for the Atlanta region. Atlanta draws over 80 percent of its water supply from surface streams and lakes, including the Chattahoochee River, Lake Lanier, the Etowah River and Lake Allatoona—over 400 million gallons per day.[36] These rivers depend on headwater streams that begin in areas north of Atlanta, which sits near the drainage divide between the Atlantic Ocean and the Gulf of Mexico.[37] As a result, they are vulnerable to contamination from runoff stemming from the rapid development the region is experiencing.

Voters in Carroll County passed a special purpose sales tax to protect land in the Little Tallapoosa River watershed, an important source of drinking water.

Wetlands, like this area on the Georgia coast, are important for flood mitigation.

Minimizes Flood Damage

Undeveloped land can absorb large amounts of water harmlessly, protecting communities from potentially damaging floods. This protection happens in two ways. First, conserving floodplain land keeps structures away from the likely course of a flood, concentrating development on higher, safer ground. Second, natural areas in and around the floodplain can mitigate the potential severity of flooding downstream by absorbing runoff.

In 1991, 10 million households in 17,000 U.S. communities occupied floodplain land, with $390 billion in property.[38] Floods in these areas have caused hundreds of deaths and billions of dollars in economic losses.

Many communities in Georgia have experienced these costs firsthand.

- 53 people died in the state because of flooding from 1987 to 2003.[39]
- Flooding was responsible for $2 billion in damages during the 1990s, 75 percent of the cost of natural disasters.[40]

Development that adds a large amount of impervious surface can cause higher runoff levels and raise the elevation at which flooding occurs downstream. A study of flooding patterns in Georgia found that 20 percent of floods caused by brief rainstorms occurred in the Atlanta region. The study authors concluded that runoff caused by urbanization was to blame for the increased flooding.[41] The Atlanta area also experienced a disproportionate share of flooding during longer storms.

Replacing the lost flood control capacity of open space costs money.

- According to the Minnesota Department of Natural Resources, replacing 1,200 cubic meters of flood storage capacity naturally provided by a wetland with artificial flood control costs $370 (2003 dollars).[42]
- According to a study by American Forests, tree loss in the Atlanta metro area from 1974 to 1996 increased the runoff volume from major storms by 33 percent. Replacing this lost floodwater retention capacity with artificial flood control would cost over $1 billion.[43]

Learning from Tropical Storm Alberto: Newton and Albany, Georgia

The towns of Albany and Newton in southwest Georgia learned the hard way about the importance of using natural lands to mitigate flood hazards after severe flooding in 1994. The cities have planned for future floods by relocating vulnerable land uses outside the floodplain.[44]

In July 1994, Tropical Storm Alberto delivered up to 28 inches of rain in southern Georgia. The storm caused $4.5 million of damage in Newton. In Albany, the Flint River flooded 6,500 homes, schools and businesses, leaving one-third of the city's residents without housing.

With help from the Federal Emergency Management Agency and the Department of Housing and Urban Development, the towns purchased hundreds of buildings in the floodplain and relocated residents and businesses to higher ground. Albany also rebuilt its schools above flood level.

Altogether, the investment in clearing the floodplain was $3.2 million. However, that investment has paid off through avoided damage during more recent floods. When another severe storm passed over the area in March 1998 and caused flooding, the damage was far less severe. Experts estimate that during this storm, the two towns avoided $5.1 million in flood damage. In addition, because fewer people lived in flood-prone areas, city workers were able spend more time preparing to deal with the flood and less time evacuating residents.[45]

Preparing for Future Storms: Chatham County

Development upstream of Savannah has increased the amount of runoff following major storms and raised the level of the floodplain.[46] As a result, Chatham County found that it had to move 12 properties in western Savannah to higher ground. Although they were not originally constructed in the floodplain, development on surrounding land caused the homes to flood once every several years.[47]

Chatham County received a $764,475 grant from the Federal Emergency Management Agency in 2004. Those funds, combined with $224,825 from the county, allowed the county to buy the flood-prone properties. In place of the homes, the county is creating a park centered around an existing lake.

Chatham County, located on the coast, is vulnerable to flooding from the Savannah, Ogeechee and other nearby rivers and canals. The county has experienced 11 floods during storms that were shorter than three hours between 1987 and 2003, and 14 floods resulting from storms with 4 or more inches of rain since 1948.[48]

By preserving wetlands, riparian areas and other open spaces upstream from population centers, local governments can help keep floodplain levels from moving higher.

Raises Property Values

Land near woodlands and parks often has a higher value than comparable land in other places. These natural areas provide accessible recreation and natural beauty. People value proximity to natural areas, as reflected in the increased value of nearby properties. For example, a study of homes near the extensive network of greenbelts in Boulder, Colorado showed that housing prices next to a greenbelt are 32 percent higher than prices for homes located 3,200 feet away.[49]

Preserving open space has an effect on the finances of local governments as well. Increased property values lead to increased property tax revenues. This effect can help offset the cost of open space acquisition, and even result in a net gain over time. The study of Boulder greenways showed that an open space in one neighborhood added $5.4 million to the value of the neighborhood, translating into $500,000 in additional property tax revenue for the local government every year.[50] The purchase price of the greenway was $1.5 million, offset in just over three years by the increased property tax revenue.

Developers in Georgia have discovered that developments near open spaces sell faster and for more money than nearby developments with conventional, sprawl-style design. For example, East Lake Commons in DeKalb County (a cohousing community with pedestrian-friendly design and 12 acres of open space) was entirely sold before the development was completed.[51]

According to a review of studies that estimate the effect of open space and parks on property values, properties adjoining a park or open space are in the range of 20 percent more valuable than similar properties without open space.[52] Open spaces that are especially attractive yield greater value increases.

Property Values Near Sandy Creek Park in Athens-Clarke County

Property near Sandy Creek Park in Athens-Clarke County is more valuable than property located farther away.

The first land for Sandy Creek Park

Sandy Creek Park in Athens-Clarke County increases the value of properties located nearby.

Increased Tax Revenue from the Silver Comet Trail and other Greenways

In addition to property values near Sandy Creek Park, University of Georgia researchers studied neighborhoods close to Silver Comet Trail in Cobb County, homes close to stream buffers preserved in Habersham County and properties impacted by Fulton County's tree protection ordinance. They found that houses within 1,500 feet of conserved land generated from $70 to more than $1,500 more per year in tax revenue than similar homes further away.[56]

The Silver Comet Trail, left, runs through Cobb, Paulding and Polk counties before meeting up with the Chief Ladiga trail at the Alabama border.

was purchased in the 1960s. Today, the preserve includes 255 acres of Georgia Piedmont habitat, including streams, floodplain, fields, and pine and hardwood forests. The park includes the Sandy Creek Nature Center, an educational facility; and Cook's Trail, a 4.1-mile path traversing 464 protected acres of marshland in the North Oconee River's floodplain. Parkland area to the north of the nature center and trail is designed for more active recreation, including ball fields, boating, fishing and camping.[53]

The nature center, trail and park offer a valuable educational and recreational resource for people who live in the region. The value of the park is directly reflected in the assessed value of properties close to the park.

Researchers at the University of Georgia studied the value of homes within one mile of the park to see how access to open space affects property values. The study analyzed the results of 459 homes sold for an average of $90,280. The researchers found that properties within 1,500 feet of the park's edge sold for $5,330 to $8,570 more than homes farther away. This increased property valuation resulted in higher property tax income for county government, providing $43,490 more per year.[54]

Property values are likely to be highest near open spaces that:

- Highlight natural areas rather than highly developed facilities
- Have limited vehicular access, but some recreational access; and
- Have effective maintenance and security.[55]

Communities across Georgia can take advantage of this effect with well-designed open space preservation programs. Guaranteeing that an open space will remain undeveloped removes uncertainty about its future and enhances its effect on nearby property values.

Avoids the Costs of Development

Maintaining a substantial open space system is one important way to control the operating costs of local government. Land conservation is often less expensive for local government than a suburban-style residential development.

A common misconception is that residential development improves the finances of local government. Generally, residential land has a higher appraised value than undeveloped land and therefore generates more tax revenue. Hence, many people assume that because it generates more tax revenue, residential development supports a healthy local government budget.

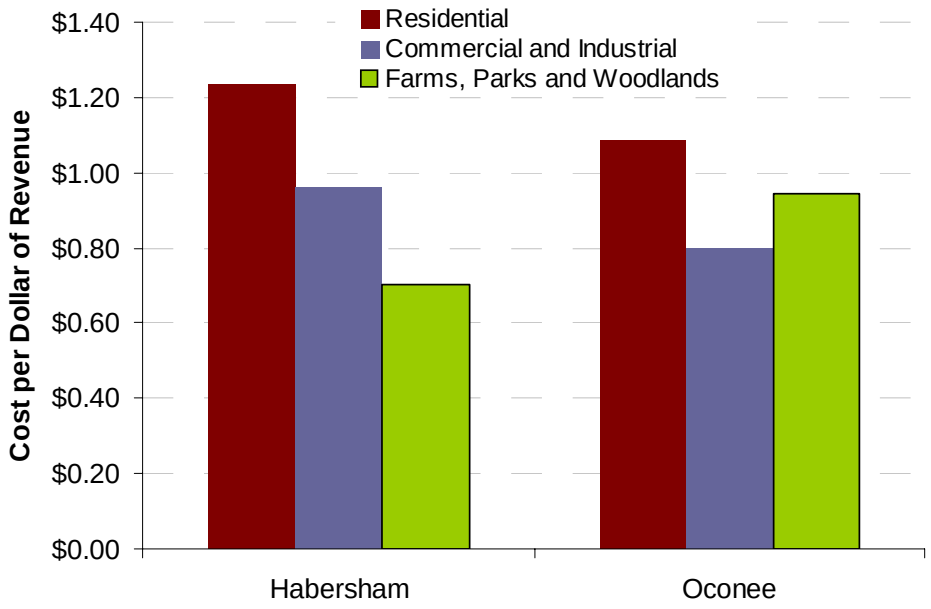
However, this assumption is almost always flawed. Residential development demands public services that cost more than it provides in property tax income and the demand for these services continues indefinitely. Studies across 70 communities have shown that for every dollar in tax revenue, residential land requires $1.02 to $2.12 in expenditures for public services. In contrast, undeveloped land, forests, and farms require $0.05 to $0.97 in expenditures for every dollar in tax revenue.[57]

Farms and other types of open land, rather than being a drain on local taxes, actually subsidize local government by generating more revenue than they require in services. As a result, even including the initial cost of acquisition, conservation can be less costly to taxpayers than development of the same parcel.

For example, a study of a proposed 300-unit development on a 720-acre farm in Washington Township, New Jersey compared education costs with preservation costs. Assuming one student per home, the average cost to the school district per household would be $5,568 per year, while the average property tax excluding county taxes would be $2,172. Accordingly, the school district would need $1.6 million a year for education, while the development would supply $650,000 in property tax revenue, leaving an annual deficit of $1 million. Purchasing the development rights to the farm would have cost $10 million, a cost that could be offset in less than 15 years

Residential development doesn't always pay its own way.

Figure 1: The Cost of Community Services (Excluding Schools) in Habersham and Oconee Counties[61]



simply through the money saved by avoiding development and the associated school district deficit.[58]

Commercial development faces some of the same challenges. While commercial development itself generates more income than it demands in services, it creates indirect and offsetting effects. Commercial developments attract employees, increasing the demand for residential development. Traffic and pollution increase, roads require widening, and local quality of life deteriorates along with property values. Finally, commercial property often depreciates in value, while residential properties do not, shifting the balance of taxation toward residential areas.

A 1992 study of 39 municipalities in Morris County, New Jersey showed that the addition of commercial property failed to result in lower taxes, contrary to common wisdom. The 13 municipalities that ranked highest in the addition of taxable commercial property paid 57 percent of the local taxes. Despite adding $4.2 billion in commercial and industrial property over 20 years, these communities did not see a reduction in the costs of running local government. Also, contrary to expectations, the tax rate for residential owners in ratable-rich communities did not go down.[59]

These studies suggest that local governments should carefully consider where and how to grow. To minimize public infrastructure costs, local governments should promote compact, mixed-use and transit-friendly development patterns, balanced with more open space preservation.

Residential Land Use Costs in Habersham and Oconee Counties

In 2000, Nanette Nelson and Jeffrey Dorfman at the University of Georgia performed an analysis of the costs paid by Oconee and Habersham county governments for providing services to areas with different types of land use. They found that, like almost all communities

studied, residential development does not pay its own way, while working lands and open space provide more in tax revenue than they require in services.

Working farms and undeveloped lands require $0.82 in expenditures for every dollar they bring in revenue. In contrast, residential lands require $1.16 in expenditures for every dollar of revenue (Figure 1).[60]

These differentials are a result of the demand for services and infrastructure generated by residential development, including:

- Water and sewer construction and operating costs
- Law enforcement and public safety
- Health and welfare services.

Because the study was aimed at local governments that make decisions about land use but are not involved in school funding, the study did not include any school-related expenses. However, had school construction and operating costs been included, the imbalance between residential spending and residential tax revenues would have been even greater.

Dr. Dorfman has performed more cost of community services studies. Looking at the tax revenue provided by different land uses in 13Georgia counties, he found that residential land in all 13 counties did not provide enough tax revenue to cover the cost of county government and schools. In contrast, farmland and woodland in 12 of 13 counties provided significantly more in revenue. Farmland and woodland in these counties provided up to $5 in revenue for every dollar of service costs.[62]

In sum, given the tendency for residential developments to require more in services than they create in property tax income, local governments in Georgia should closely evaluate whether development of open space makes more financial sense than conservation before moving forward. They may find that more compact development patterns coupled with open space preservation makes more fiscal sense.

Cows in the Chattahoochee Hill Country.

Provides Agricultural Products

Farms and pastureland are working landscapes that cover more than a quarter of Georgia, forming the foundation of the largest sector of Georgia's economy. In addition to providing valuable products from peaches to pecans, these open spaces preserve a rural lifestyle that remains an important part of Georgia's identity.

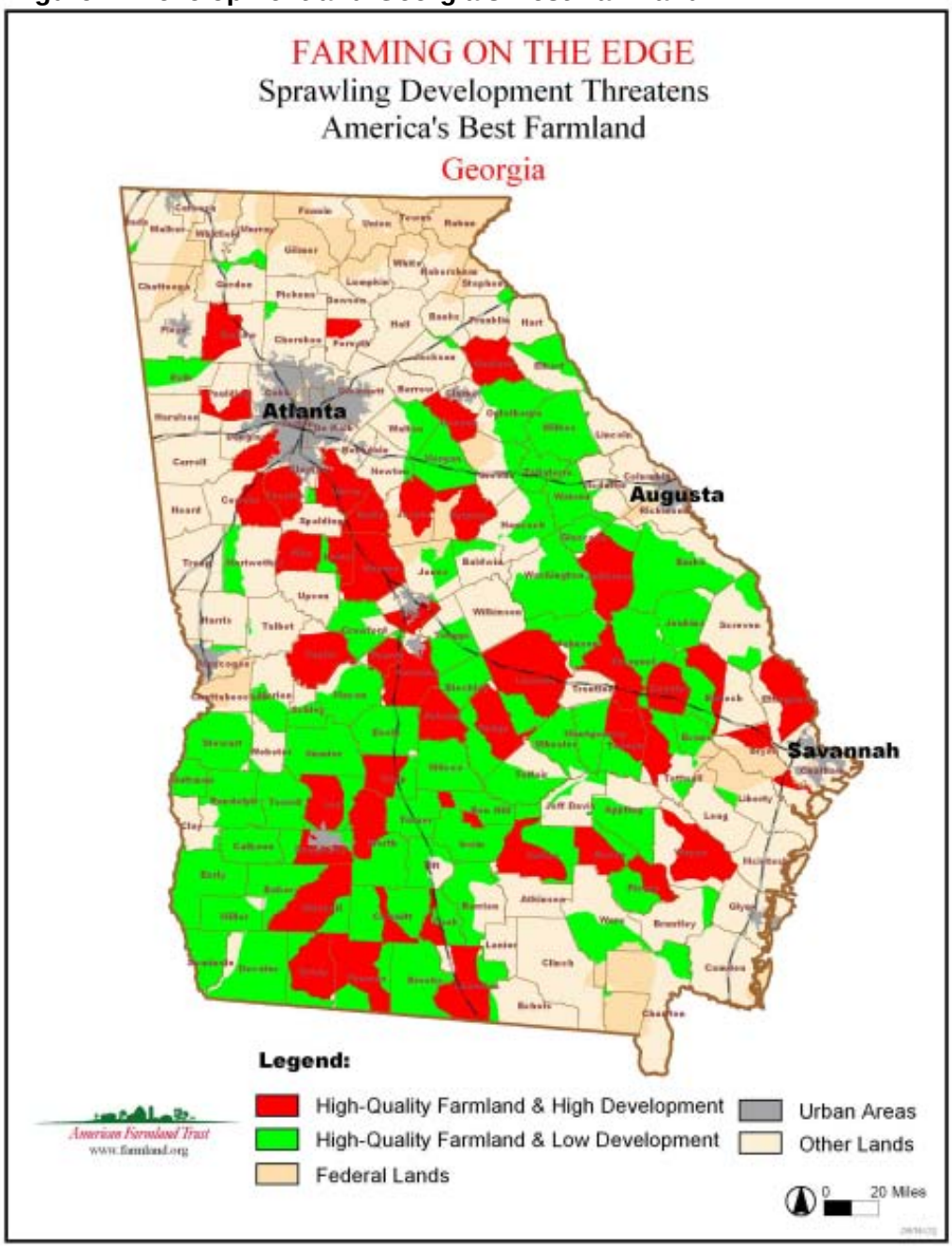
Farm products are a valuable part of the Georgia state economy.

- In 2002, Georgia had more than 49,000 farms covering over 10 million acres of land.[63]
- Agriculture, including food, fiber, and forestry, is the largest single sector of Georgia's economy, contributing more than $57 billion annually.[64]
- Farms and farm-related activities provide 15 percent of all jobs in the state.[65]

Small scale farms are a key part of the agricultural economy and a stabilizing influence for rural communities.

- 87 percent of all farms and over 60 percent of all farmland acres in Georgia are held by small farmers.

Figure 2: Development and Georgia's Best Farmland[67]



- 43,000 farms with less than $100,000 worth of sales every year occupy nearly 7 million acres of land.[66]

Unfortunately, development is overtaking many small-scale farms. According to a study by the American Farmland Trust, between 1992 and 1997, Georgia developed 184,000 acres of high quality farmland, ranking third nationally in prime agricultural acres lost. Many of the most productive and fertile lands are in the path of development—even in areas far outside of the sprawling Atlanta metro area (Figure 2).

Central Georgia Farms Contribute to the Stability of Local Governments

The University of Georgia studied the tax revenue provided from farms in Dooly and Jones counties near Macon, finding that farms contribute more to the fiscal stability of local governments than does residential development.[68] Dooly County is one of Georgia's top agricultural producers, especially in terms of cotton.[69] Jones County maintains an active forestry industry.

According to the study, for every dollar in revenue generated by residential development, Dooly County spent $2.07 providing services to that development and Jones County spent $1.24. In other words, despite the fact that residential developments generated significant amounts of revenue per acre, service costs left county government with a financial loss.

In contrast, farmland provides a source of financial stability. For every dollar in revenue generated by active farmland, county government in Dooly spent only $0.27 on services, and $0.35 in Jones County.

Researchers concluded that new development should be carefully placed to ensure the stabilizing influence of small farms on rural communities and to minimize the cost of providing services. According to Jeffrey Dorfman, a professor at the University of Georgia and an author of the study, "conservation subdivisions and higher-density development … help lessen the negative economic impact of converting farmland into houses."[70]

According to Jerry Cohn of the American Farmland Trust, "farm and forest land, besides providing green space, wildlife habitat and local economic activity, provides substantial fiscal benefits. It's not just open land waiting to be developed."[71]

Officials in Carroll County, west of Atlanta, have recognized the value of farming to their community and are taking steps to preserve the tradition. The county has established the Farmland and Rural Preservation Partnership to sustain local agriculture and protect quality of life. The program includes assistance for local landowners to voluntarily protect the natural and productive qualities of their properties and a balanced growth approach promoting sustainable development along with rural preservation, preventing urban sprawl.[72]

Reduces Air Pollution

Preserving forested land and urban trees helps to reduce air pollution, protect public health, and slow global warming. Trees have a natural capacity to filter pollutants from the air. Trees absorb pollutants directly into their leaves, including ozone, sulfur dioxide, carbon monoxide, carbon dioxide and airborne particulates. For example, a large tree can intercept up to 50 pounds of particulates per year.[73]

Trees also reduce peak summer temperatures and limit the size of the urban heat island, which occurs as pavement and dark rooftops absorb more of the sun's heat than would vegetation.[74] The cooling effect of trees provides multiple air quality benefits. First, lower temperatures mean less energy is consumed to cool buildings and pollution from power plants may be reduced. Second, lower air temperatures inhibit the formation of ground-level air pollution such as smog.

The benefits provided by trees have monetary value. Air pollution is a serious public health problem for Georgia. The Atlanta metropolitan area ranks as the ninth-worst metropolitan area for year-round particle pollution in the country.[75]

Trees in Stone Mountain Park help to reduce air pollution.

Society pays the price for air pollution in terms of shortened lives and health care costs. Pollution from power plants alone causes 1,630 premature deaths per year in Georgia, as well as 1,050 hospitalizations and 38,200 asthma attacks.[76]

Replacing the lost air quality function of a developed open space would require expenditure to install improved pollution controls. In actuality, however, the air quality functions of open space are rarely replaced after development.

Trees Reduce Air Pollution in Atlanta

The 10-county Atlanta area has a significant amount of forest canopy and open space that provides air quality benefits for the region. However, the region is one of the fastest growing metro areas in the U.S. and faces strong development pressures.

According to the organization American Forests, roughly 40 percent of the 10-county region is covered by forest canopy. The trees and vegetation in the Atlanta area remove 19 million pounds of pollutants from the air every year. Providing equivalent emissions reductions using man-made pollution control technology would cost $47 million.[77]

In addition, trees and vegetation help lower peak summer temperatures. Atlanta's current urban heat island effect is so strong that it increases energy use downtown by roughly 4 percent.[78] This increases air pollution. High temperatures also lead to the formation of as much as 12 percent of the city's air pollution.[79]

From 1972 to 1993, 60 percent of the region's tree cover was lost to development.[80] Protecting and enhancing forest cover in the Atlanta region—and across the state—can save millions of dollars, maintain and even improve air quality, all while improving quality of life.

Provides Places to Hunt and Fish

State Wildlife biologist Rick Gerhold fly-fishing in the Chattooga River in northern Georgia

Forests and wildlife areas provide places for millions of Georgians to hunt and fish; and to watch birds and other wildlife. These areas also help to maintain biological diversity—a function essential for maintaining intact, healthy, and stable ecosystems.

Recreational fishing illustrates the economic impact that healthy wildlife habitats can help provide. Fishing is one of the most popular activities in Georgia. The Georgia Department of Natural Resources estimates that over 1 million Georgians spend almost $500 million yearly on fishing, generating over 14,000 jobs and $900 million in overall economic impact.[81]

Hunting and wildlife-watching have similarly large impacts. Hundreds of thousands of Georgians rely on natural areas to participate in these activities.

At the same time, these same natural areas are home to tens of thousands of separate species of plants, animals, insects and other living things. Georgia ranks sixth in the nation in terms of species diversity.[82]

Largely because of loss of habitat, some species that once were abundant in Georgia are now struggling. State officials have classified more than 1,000 species as "of special concern." More than 220 of these species are listed as rare, unusual, threatened or endangered in Georgia.[83] 63 of these species are endangered or threatened across the entire United States, including:[84]

- Peregrine Falcons
- Bald Eagles
- Florida Panthers
- Eastern Cougars
- Ivory-billed Woodpeckers
- Kirtland's Warblers
- Piping Plovers
- Shortnose Sturgeons
- Etowah Darters
- Leatherback Sea Turtles
- Eastern Indigo Snakes
- Alabama Leather Flowers
- Smooth Purple Coneflowers
- Green Pitcher Plants
- Tennessee Yellow-eyed Grass; and
- Trillium.

Wild lands are the last remaining habitat for these animals and plants. Preserving their habitat can help preserve the wildlife and continue their role in the ecosystem. Preserving habitat can also help ensure healthy and stable populations of game animals for recreation.

Protecting Critical Habitat in the Altamaha River Corridor

The Georgia Department of Natural Resources (DNR) recently identified critical ecosystems in the Altamaha River basin in southwestern Georgia as targets for preservation. The Altamaha basin contains over a dozen critical habitats, including oxbow lakes, evergreen hammocks, hardwood levee forests, cypress-gum swamps and pine flatwoods. These areas are home to dozens of species of concern, including green fly orchids, pondspice, Georgia plume, red-cockaded woodpeckers, Bachman's sparrows, swallow-tailed kites and Altamaha spinymussels.[91]

Leveraging $1.6 million in annual grant money from the federal government's State Wildlife Grants Program, the Georgia DNR plans to purchase a 2,823 acre parcel of land near the Altamaha River in Wayne County. The lands provide habitat for endangered indigo snakes, gopher tortoises, and other critical species.[92]

Georgia became eligible for the funds in November 2005, after the U.S. Fish and Wildlife Service approved an action plan called *A Comprehensive Wildlife Conservation Strategy for Georgia*. The document lists hundreds of high priority sites and landscape features to focus conservation efforts on, in order to ensure that Georgia's great biological diversity remains intact.[93]

However, there is not enough funding to protect more than a fraction of these sites. The report cites a need to develop a consistent source of state funding for land conservation—as well as programs to encourage voluntary land protection and habitat management programs on private lands—to ensure the continued existence of functional habitat for Georgia's rich heritage of wildlife.[94]

Doerun Pitcher Plant Bog: Preserving the Longleaf Pine Ecosystem

Hundreds of years ago, much of the Southeast was covered with longleaf pine forests and savannahs. Now, less than 3 percent of these areas remain.[88] In the 1980s alone, southern Georgia lost over a third of its acres of longleaf pine forest.[89] The main culprits are timber harvesting and habitat fragmentation.

To protect one of the most rare parts of the longleaf pine ecosystem, the Georgia Department of Natural Resources purchased a 650-acre tract in southwest Georgia called the Doerun Pitcher Plant Bog. The area includes a rare longleaf pine wetland, home to three of Georgia's seven pitcher plant species—the yellow flytrap, the hooded pitcher plant and the parrot pitcher plant. The preserve also provides habitat for the red-cockaded woodpecker and the gopher tortoise.

In 2002, the DNR dedicated an access trail to the bog, allowing Georgians to visit and view the pitcher plants.[90] In addition to preserving a unique example of a rare ecosystem, the area provides an important environmental education resource and a valuable attraction for wildlife watchers.

Yellow Pitcher Plants

Preserving Roadless Areas: Kelly Ridge in Chattahoochee National Forest

One of Georgia's wildest areas is the Chattahoochee National Forest, covering the southern extent of the Appalachian Mountains. Several parts of the Chattahoochee are preserved as federal wilderness areas. Other parts of the forest, while not official wilderness areas, have the same wild qualities and host a wide and diverse range of wildlife.

Kelly Ridge is an 8,500 acre wild forest area, located just west of Lake Burton in Towns and Rabun counties. It is home to a rich diversity of north-facing hardwood coves, including old-growth buckeye trees. In fact, nearly one-fifth of all of the identified old growth trees in the Chattahoochee National Forest are on Kelly Ridge.[85]

Streams flowing from Kelly Ridge, including Swallow Creek, are of the highest quality. They provide habitat for trout and several types of salamanders—including the hellbender salamander, which grows up to 29 inches long. The area also attracts black bears, flying squirrels and ruffled grouse.[86]

An old-growth Yellow Buckeye tree on Kelly Ridge

Some of the best, wildest hunting and fishing in Georgia can be found in places like Kelly Ridge.

The Forest Service recommended protection for Kelly Ridge as an official wilderness area in 2000. However, later drafts of the forest management plan for the area omitted wilderness recommendation.

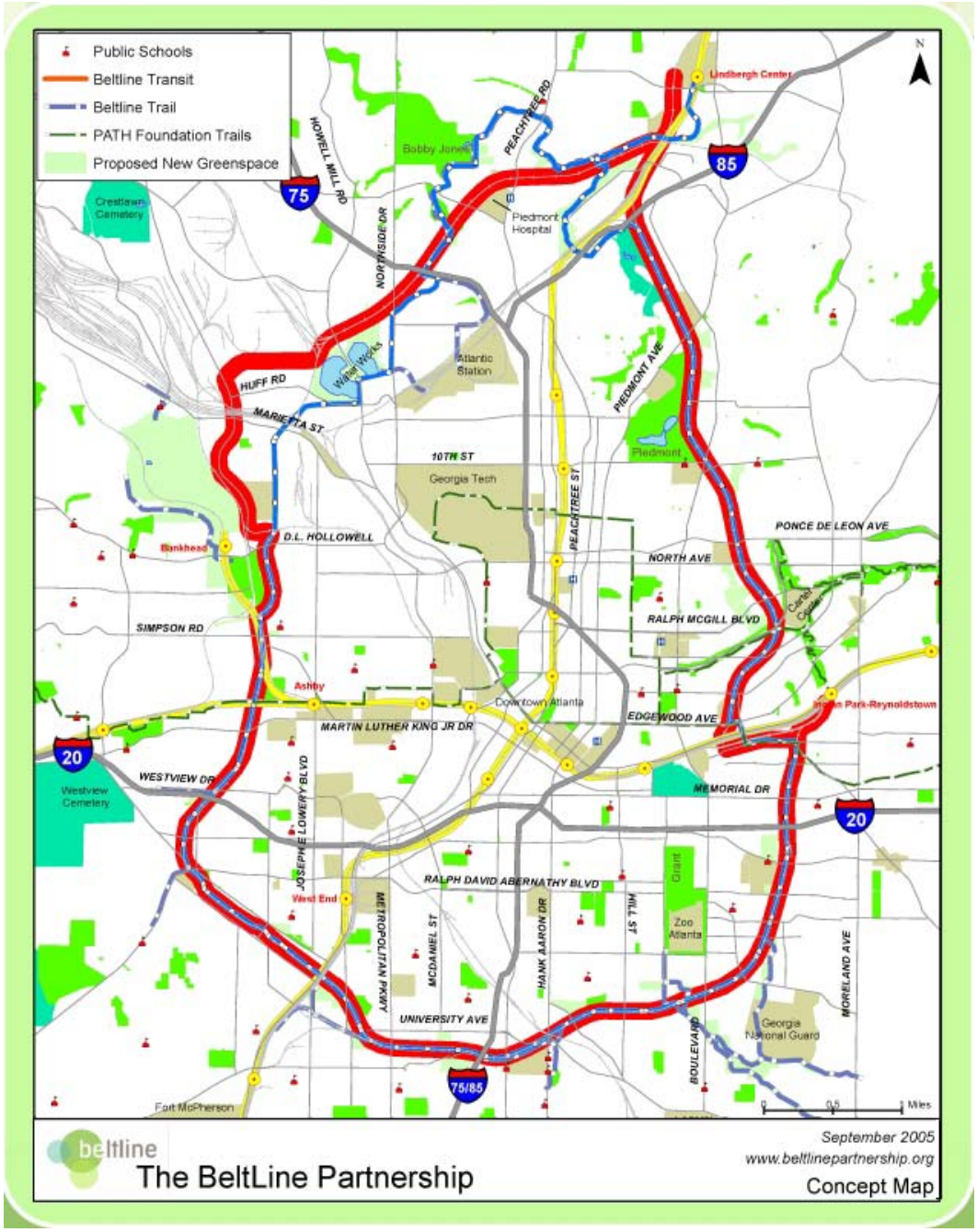
In May of 2005, the Bush Administration officially revoked the Roadless Area Conservation Rule of 2001, which would have protected Kelly Ridge and the other 50,000 plus acres of roadless wild forest in Georgia.[87] Governor Sonny Perdue has until November 2006 to petition the federal government to leave roadless areas untouched.

Supports Economic Redevelopment

Natural land is not just a feature of rural and wild areas in remote parts of Georgia. It can also be used in the middle of highly urbanized areas as a part of comprehensive economic redevelopment.

Although Atlanta has experienced unprecedented economic growth over the last two decades, that growth has been accompanied by unintended consequences of poorly-planned development, including traffic, air pollution, auto dependency and limited public space. Parts of Atlanta have also suffered from population decline and disinvestment.

As a solution to this problem, planners have proposed attracting and organizing the region's future growth around an interconnected system of parks, transit and trails circling the core of Atlanta—the BeltLine.



The BeltLine

The BeltLine will encircle Atlanta with greenways and public transit along former railroad rights-of-way. The plan includes a 22-mile loop within two to four miles of the center of Atlanta and 11 miles of spur trails, connecting 45 neighborhoods and 40 parks.[95] The project will add 1,200 acres of new green space.[96] The loop will include some new transit and could improve existing transit options by offering a link into five existing MARTA stations. Roughly 100,000 people live within walking distance of the BeltLine.[97]

Planners anticipate that the BeltLine

will stimulate a great deal of investment in the communities through which it passes. Over the next 20 to 25 years, planners expect:

- 30,000 new jobs—50 percent more jobs than in the absence of the project.[98]
- An estimated $20 billion increase in regional tax base.[99]

Funding for the project will come from several sources. The biggest source will be the recently approved Tax Allocation District (TAD), in which any taxes paid on higher property values resulting from the BeltLine will support the project instead of being applied to general city, county or school district expenses.[100] After 25 years, the TAD will expire and all property tax revenues will be distributed as usual to different levels of government. Additional funding could come from the Federal Transit Administration.[101] Land acquisition has already begun with $18 million in federal funding.[102]

Preserves History

Land conservation can preserve evidence of past events in Georgia and offer a glimpse into our shared cultural heritage. Long-lost Native American artifacts and villages lie undiscovered in open spaces around the state, or in protected areas like the Ocmulgee National Monument in Macon. Evidence of the activities of the first European and African residents of Georgia lies closer to the surface. Other parts of the state preserve evidence of events that shaped how the country developed, including Civil War battlefields.

Historical parks preserve the past for people to observe, appreciate, and learn from. They also are a major attraction for the heritage tourist, an important part of Georgia's tourism economy. The Travel Industry Association found that historic and cultural travelers spend 36 percent more per trip than the average tourist, helping to support local businesses.[103]

The BeltLine will travel through Piedmont Park in northeast Atlanta, pictured here.

The Squares of Savannah

In the historic center of Savannah, over 20 public squares preserve the history of the city for 140,000 residents and over 5 million annual visitors to visit and see.[109] The squares are woven into the city fabric and define the cultural heritage of Savannah.

The squares are also one of the earliest examples of comprehensive city planning and public space creation in North America. With each square at the heart of mixed residential and commercial areas, for 270 years Savannah has embodied the concept of "smart growth."

In the mid 1700s, Savannah's first planner, James Oglethorpe, laid out the city in a grid pattern based on wards, each about 600 feet on a side. Almost every ward had a public square in the center. Today, these squares are planted with live oaks and make Savannah one of the most beautiful and unique cities in America. Many of the parks have monuments to figures important in Savannah's history. Chippewa Square includes a statue memorializing Oglethorpe. A boulder in Wright Square honors the Yamacraw chieftain Tomochichi, who befriended Oglethorpe and allowed him to settle in what is now Savannah.[110]

Walking through the city squares, people can directly see and learn about the city's history while enjoying the natural beauty that makes Savannah famous.

According to Savannah historian Edward Chan Sieg, Savannah's "social life, the economic heart of the area, the religious and artistic endeavors, even the political and justice systems—all are intimately enmeshed in the little green parks that simultaneously separate and bring together the community."[111]

Preserving Civil War History: Kennesaw Mountain and New Hope Church

Kennesaw Mountain National Battlefield Park in Cobb County, just outside Atlanta, preserves the site of a major clash between the Union and Confederate armies as Union forces marched toward Atlanta in 1864.[104] Today, well over one million people visit the site per year.[105]

Preservation efforts at Kennesaw Mountain National Battlefield Park date back to 1899, when a veteran of the battle returned from Illinois to purchase 60 acres of the area as a memorial for the soldiers who died. Eventually, Congress authorized the creation of a national park at the site, expanding its size to 2,884 acres by 1947. However, the government did not have enough money available to protect all of the locations where significant battles occurred.[106]

Despite the fact that Kennesaw Mountain is a national park, the Civil War Preservation Trust classifies it as highly threatened by development, ranking the area among the top 10 most endangered sites in 2005.[107] From plans to widen huge roads through the park to building shopping centers across from the historic Kolb farm (the site of a major battle), the park continually feels pres-

sure from the growth of the surrounding community.

Many battlefields of significance exist outside the national park as well. Much of the western-Atlanta region contains evidence of Civil War struggles. Some people even have battle lines, earthworks and remnants of fortifications in their backyards.

Expanding development is a major threat to the continued existence of Civil War history in unprotected areas across the state. For example, before the Union Army reached Kennesaw Mountain, it clashed with Confederate forces at New Hope Church in Paulding County.

The site of this battle is mostly private property. The Georgia Battlefields Association has repeatedly nominated battlefields in the area to the "most threatened" list of battlefields across the country. To date, the Civil War Preservation Trust has managed to acquire a 19-acre parcel of land at New Hope Church, complementing 750 acres preserved as a state historical area at nearby Pickett's Mill.[108]

Georgia currently has eight national parks and 15 state parks preserving important parts of the state's history and cultural identity. Countless additional historical landscapes remain unprotected. Communities across Georgia can preserve the educational value of historical open spaces by conserving them for public use—and at the same time enhance the benefits of heritage tourism for the state.

Kennesaw Mountain NBP / RoseTaylor

Kennesaw Mountain National Battlefield Park

Policy Recommendations

Conserving additional land across Georgia will require a variety of tools, including funding for land purchases and incentives for landowners to voluntarily protect their land or manage it for the benefit of society. The state also needs an overarching plan, unifying the efforts of state and local governments, civic leaders, and citizens around a vision for the future of Georgia's natural heritage.

Governor Sonny Perdue recently set aside $100 million, including $45 million in grants and $55 million in loans, to protect land with historical or ecological value. He also helped establish the Georgia Conservation Tax Credit, which rewards landowners who choose to permanently protect their land from development. While these are good steps in the right direction, more needs to be done in order to protect all the land Georgians want conserved.

In order to ensure that development does not outpace conservation efforts, Georgia should:

Protect public lands from development.

Public lands belong to all Georgians and should be protected for the public rather than offered to private interests. For example:

Georgia has more than 60,000 acres of national forests yet to be impacted by roads. In May 2005, the Bush administration officially revoked the Roadless Area Conservation Rule of 2001, which would have protected these areas from development.[112] Before November 2006, Governor Perdue should petition the federal government to protect these areas.

In the draft 2007 federal budget, the Bush Administration proposed the sale of 300,000 acres of national forests and other public lands, potentially including 550 acres of the Oconee National Forest in middle Georgia and nearly 4,000 acres of the Chattahoochee National Forest in north Georgia.[113] The proceeds would be used for rural schools

Cattails at the Savannah National Wildlife Refuge

and roads. State and local leaders should join other Southern Governors, like Tennessee Governor Phil Bredesen, in opposing this move. Selling public lands is not a sustainable source of funding and could negate important economic and ecological benefits that these lands provide.

Develop an official land conservation roadmap.

Using available scientific surveys and studies about the most ecologically valuable areas in the state, Georgia should create an official land conservation roadmap to guide future conservation efforts toward the most important places. The most valuable lands provide drinking water, flood control, wildlife habitat, recreation and other benefits as described in this report. Preserving these areas first will provide Georgians with more tangible results for their conservation dollars.

Create priority areas for growth.

In addition to a land conservation roadmap, Georgia should have a complementary growth roadmap that identifies priority areas for growth. Local governments should develop comprehensive land use plans and zoning regulations to implement those plans. With extensive opportunities for public input, these plans can capture how people want their communities to function and grow. Areas that already possess these planning tools should develop ordinances to encourage well-planned development in growth areas and conservation of ecologically valuable areas. Maryland's Priority Funding Areas are a good example.

Create a dedicated funding mechanism for land conservation.

A dedicated source of funding would provide certainty as to the quantity of funds available for land conservation and lay out the time period for their

availability. States use a variety of sources for land conservation including: bonds, general fund appropriations, license plate sales, real estate transfer taxes, lottery funds, oil/gas/mineral extraction fees, environmental penalty money, sales taxes, cigarette taxes and gas taxes. For example:

Florida is home to the world's largest land conservation buying program, Florida Forever. In the last 5 years, Florida Forever has acquired more than 1 million acres, including ecological greenways, natural floodplains, wetlands, coastline, recreational trails and habitat for 190 different rare and endangered animals and plants.[114] Beyond land acquisition, Florida Forever helps to restore damaged ecosystems, protect water supply, improve public access, manage public lands and create conservation easements.[115] Florida Forever is funded by $3 billion over 10 years in revenue bonds, backed by document stamp taxes on the sale of property.[116]

Maryland's Program Open Space is a nationally recognized program that provides dedicated funding for state parks, local parks, and conservation areas. The program has preserved over 265,000 acres of Maryland's natural heritage since its establishment in 1969.[117] Program Open Space is funded by a real estate transfer tax. At the time of every real estate transaction, half of one percent of the selling price is put into a special fund.[118] This system allows land preservation in Maryland to adequately keep pace with development. In 2006, this tax is expected to generate nearly $300 million for local open space programs.[119]

Pennsylvania provides a dedicated source of funding for land conservation and other environmental priorities through the Growing Greener program. In 2005, voters approved spending $625 million over six years for Growing Greener. The plan is financed by a fee assessed on waste deposited in Pennsylvania landfills. For every ton of waste, trash haulers pay a $4.25 tipping fee specifically dedicated to environmental programs.[120]

In New Jersey, residents voted for a constitutional amendment to set aside $98 million from the state sales tax annually for 30 years for land conservation. A portion of the funds was reserved for matching grants to local governments. The plan was developed by former New Jersey Governor Christine Whitman, who argued that state and local governments could not afford to provide necessary public services if the state's remaining open spaces were developed.

Missouri's State Parks/Clean Water Initiative provides $54 million through a one-half of one percent sales tax. Arkansas uses bonds in combination with a one-eighth cent sales tax to protect its open spaces.

Dedicating a one-tenth of one percent sales tax in Georgia (either through redirecting a portion of existing sales taxes or increasing the tax) would generate approximately $100 million annually for land conservation. Any permanent funding program should be accompanied by a target for number of acres protected, a time frame, and agreed-upon priority conservation areas.

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