

The Value of Open Space

How Preserving North Carolina's
Natural Heritage Benefits
Our Economy and Quality of Life

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Executive Summary

North Carolina's natural heritage is valuable. Preserving the state's open spaces can strengthen the foundation for economic growth, enhance quality of life, and protect the health of the environment.

For example, open space in North Carolina:

- **Attracts tourist dollars.** The new Gorges State Park and DuPont State Forest contribute an estimated \$47 million each year to the developing tourism economy in Transylvania County.
- **Reduces service costs for local governments compared to residential development.** Residential development demands public services that cost more than property tax income provides. In Wake County, working farms or undeveloped lands require \$0.47 in expenditures for every dollar they bring in revenue. In contrast, residential lands require \$1.54 in expenditures for every dollar of revenue. As a result, providing incentives for land conservation can be less costly to taxpayers than development of the same parcel.
- **Promotes a clean and plentiful supply of water.** Protecting open space buffers around water supplies minimizes water treatment costs, prevents or delays the need to upgrade treatment facilities, and preserves endangered sources of clean drinking water. In 1986, the city of Gastonia, North Carolina found it necessary to switch its water supply from the Catabwa River, polluted by industry and storm-water runoff, to the cleaner water of Mountain Island Lake. Moving the water intake cost \$20 million, although this cost was offset by a reduction in water treatment costs in the range of \$200,000 per year.
- **Protects communities from the costs of flood damage.** The town of Kinston in Lenoir County spent about \$140 million in federal and state aid to mitigate damage caused

by Hurricanes Fran and Floyd. The money paid for the relocation of 1,100 residences and a town sewage plant to safer ground and the purchase of land around the Neuse River floodplain for potential open space and recreational facilities. These costs could have been avoided had the floodplain been preserved as open space from the start.

- **Increases the value of nearby properties.** Properties close to Hemlock Bluffs State Natural Area in Cary are on average 44% more valuable than those a mile away.
- **Provides agricultural products.** Family farms like those found in the Sutphin Mill farmland community in Alamance County contribute hundreds of millions of dollars to the state economy and create tourist attractions like the Asheville farmers' market in Buncombe County, visited by over 2 million people in 2002.
- **Attracts new employers and residents.** Many companies, such as the biotechnology firm Trimeris, highlight the natural environment and recreational opportunities available within the Research Triangle Area when recruiting new employees. Quality of life, defined in part by recreational amenities and open space, is playing an increasingly influential role in where knowledge-based industries decide to locate.
- **Reduces air pollution.** Forests in Mecklenburg County remove 17.5 million pounds of pollutants from Charlotte's air every year. Achieving the same emissions reduction with man-made technology would cost \$43.8 million per year.
- **Provides wildlife habitat.** The White Pines Natural Area, a 258 acre preserve in Chatham County,

protects a stretch of the Deep and Rocky Rivers that is home to the largest known population in the world of the Cape Fear Shiner, a federally endangered species of fish. Open spaces across the state protect habitat for thousands of different types of plants and animals, including 61 species listed as endangered and threatened across the country.

- **Encourages healthy lifestyles.** Salem Lake Park encourages a healthy lifestyle for the 95,600 visitors who hike, bike, run, and boat within its boundaries every year, mitigating the negative lifestyle impacts of sprawling development, including obesity and high blood pressure.
- **Preserves history.** Bentonville Battlefield State Historical Site, just southwest of Smithfield, preserves nearly 600 acres where one of the last major clashes in the Civil War happened in 1865. It is a valuable educational resource for the more than 25,000 people who visit the area every year.

Four years ago, the North Carolina General Assembly pledged to save one million acres of open space by 2010. However, a lack of sufficient funding in open space preservation programs in recent years puts the state's rich land resources at risk. The state is behind on its progress to save one million acres, having only protected 150,000 acres in the last three years. Meanwhile, the state's current budget situation is threatening funding. For example, in April 2003, lawmakers cut the original funding of the Clean Water Management Trust Fund by more than 35%. Even at full funding levels, existing land conservation programs are not sufficient to allow North Carolina to reach the

million-acre goal. To do so, they will need as much as an additional \$1.2 billion over the next seven years, or \$176 million each year.

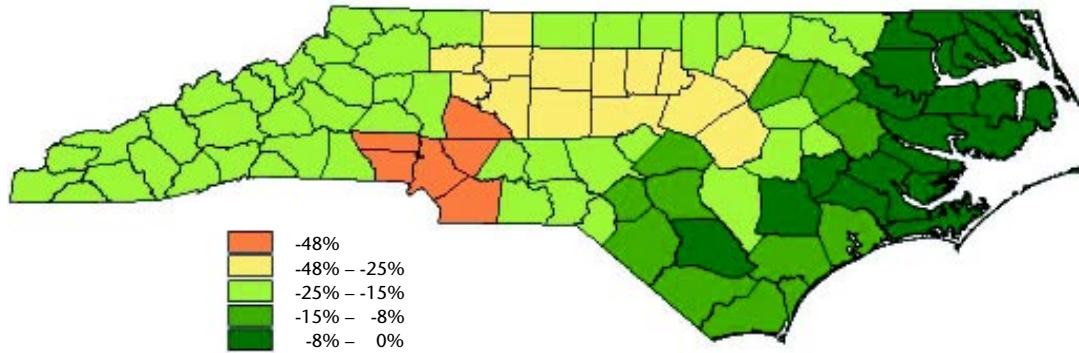
To preserve North Carolina’s open space and fully realize its value, we should:

- Provide full funding for the state’s natural resource trust funds for the upcoming fiscal year, including \$100 million for the Clean Water Management Trust Fund and \$2.3 million for the farmland preservation trust fund.
- Fund additional open space protection using “certificates of participation.” This financing tool would leverage existing deed stamp tax revenues, which feed the Parks and Recreation and Natural Heritage Trust Funds, to secure additional funds for urgent short-term needs.
- Acquire at least \$1 billion to bridge the gap between existing resources and the million-acre preservation goal. Potential funding mechanisms include a bond measure submitted to the voters of the state for approval.

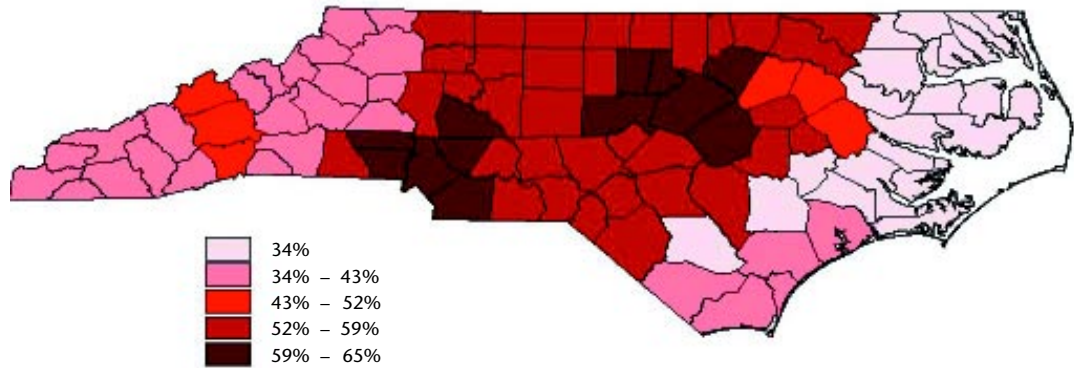


Photo: Rich Stevenson

Triple Falls in DuPont State Forest



Map 1. Projected Percentage Decrease in Total Forest and Cropland, 2002-2022



Map 2. Projected Increase in Developed Land, 2002-2022

Introduction

The leaders of Cary, North Carolina see open space as vital to the town's economic future. Cary's tree-lined streets, shaded parks, greenbelts, and livable communities draw residents searching for a high quality of life in addition to the jobs and educational opportunities of the Triangle region.

In the face of rapid growth, town leaders recognized that action was necessary to preserve the qualities that made Cary an attractive place to live. Around five years ago, town leaders laid out a plan to preserve the living landscape upon which the town was built. They proposed connecting the ecological, cultural, and historical resources of the community with a network of green corridors, open spaces, and trails. The city council boosted land acquisition funding by \$12.5 million, in addition to the \$1 million per year generated by utility fees. Further, the council passed an ordinance preserving 2,000 acres of land abutting streams. And, the council continued to utilize development ordinances to ensure that open space preservation accompanied new growth, while educating rural landowners about conservation easements and other voluntary

preservation tools.¹ The North Carolina Chapter of the American Planning Association recognized the significance of these efforts with its 2002 Outstanding Planning Award.²

Cary's actions reflect a growing recognition of the critical value of planned natural areas, parks, greenways, conservation easements, and farmlands in successful communities. In the past, conventional wisdom held that open space purchases, while offering important social benefits, drained local government finances and did not contribute to economic growth. Accordingly, many cities offered developers prime parcels of land to attract new businesses and residents, with the hope of boosting tax revenues without raising property taxes.

However, Cary's alternate approach is paying off. Cary is an attractive city, with a healthy economy and a high quality of life. Property values are up, new-economy companies are relocating there, and the

Far from being a drain on the city's finances, the open-space purchases have added to the city's prosperity.

city is protecting its supply of clean water. Far from being a drain on the city's finances, the open-space purchases have added to the city's prosperity.

Former Governor James Hunt had places like Cary in mind four years ago when he pledged to preserve one million acres of North Carolina's heritage of ecologically valuable, agriculturally productive, and aesthetically beautiful land. When issuing this conservation challenge, Governor Hunt said, "smart growth is an idea whose time has come in North Carolina. It has come because people appreciate what God has given us."³

Open space conservation is also on the agenda because of the rapid pace at which undeveloped lands are disappearing. Between 1982 and 2002, North Carolina lost 2.8 million acres of cropland and forestland. At this rate, the state loses 383 acres to development every day. Open space has been disappearing much faster than state population has been growing. Between 1982 and 2002, developed acreage increased by 82%, while population grew by 42%. If current trends continue, North Carolina's treasured open spaces will disappear as vast tracts of land are developed into urban areas over the next 20 years, including:⁴

- 1.5 million acres of forest, 10% of North Carolina's forest land, and
- 1.7 million acres of cropland, 29% of North Carolina's land in farms.

The economic picture is different today than when Governor Hunt made the original million-acre pledge. For the past several years, North Carolina has faced significant budget deficits. While addressing these challenges, the state's leaders have neglected open space trust funds and placed the million-acre vision for a prosperous future at risk. Governor Mike Easley's "One North Carolina Naturally" program faces a significant challenge in fulfilling the million-acre vision for a prosperous future without adequate resources in the state's Natural Heritage Trust Funds.

Preserving open space is perhaps one of the best long-term investments North Carolina can make to build the foundation for a strong economy. Open space purchases will provide tangible returns for local government coffers, for state residents, and for visitors.

State leaders should take into account the many ways in which open space preservation creates value for the community when allocating funding for preservation programs.



Photo: Town of Cary

Stevens Nature Center at Hemlock Bluffs in Cary

Benefits of Open Space Preservation

Open space preservation provides value to North Carolina communities in many ways, both tangible and intangible.

Public areas that preserve natural beauty attract visitors that support the local economy. Open space lands require fewer public services than residential development, helping local governments to control their costs. Undeveloped buffers around rivers and lakes promote a clean and plentiful water supply, as well as prevent flood damage. Open space and parks increase the value of nearby properties, and can increase property tax income for local governments. Farmland and other working open spaces provide agricultural products, contributing millions to the economy and stabilizing rural communities. Attractive open space lands and recreational facilities attract new employers and residents to an area. Forested lands reduce air pollution and protect public health, as well as provide wildlife habitat for North Carolina's native species. Trails and recreational areas encourage healthy lifestyles and reduce obesity and high blood pressure. Finally, open spaces can help preserve evidence of North

Carolina's natural and human history for people to see and learn from.

Open spaces across North Carolina are providing these values for local communities. The following case studies explore the many and varied ways that open space contributes to quality of life.

Increasing Tourism and Recreation

Open spaces can attract tourists and visitors, especially when they highlight and preserve areas of natural beauty and recreational possibility. Accordingly, they can be 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 North Carolina's economy. In 2001, North Carolina was the sixth most visited state in the country, with 43 million visitors. Tourists spent \$11.9 billion here in 2001, supporting 196,400 jobs and

generating nearly \$700 million in state tax revenues and \$400 million in local tax revenues.⁵

Outdoor activities and beaches are among the main reasons people visit North Carolina. In 2001, outdoor recreation was the primary reason for 11% of all tourist travel to the state.⁶ Among all visitors, visiting beaches (15%) and outdoor activities (15%) were more popular than any activity but shopping.

Many of the most popular attractions in North Carolina are directly tied to open space (Table 1).⁷ From the forested vistas seen from the Blue Ridge Parkway to the wide sands of Cape Hatteras National Seashore, people are drawn to North Carolina's natural heritage. Additionally, millions of North Carolinians participate in outdoor activities, from hiking and camping to whitewater rafting

Economic Impact of Great Smoky Mountains National Park

In 2000, over 10 million people visited Great Smoky Mountain National Park.⁹ One study estimated that these visitors supported 15,000 jobs in the six-county region around the park. Tourism industries contribute \$1.16 billion to the economy of the region, or 23% of all regional economic activity.

(Table 2). Outdoor enthusiasts spend \$492 million each year purchasing athletic and outdoor merchandise for human-powered recreation.⁸

Table 1: Most Popular Open Space Attractions in North Carolina¹

Attraction	Visitors in 2002
Blue Ridge Parkway	15 million
North Carolina State Parks	13 million
Great Smoky Mountains National Park	9.3 million
North Carolina Historic Sites	1.8 million
Kerr Lake State Recreation Area	1.6 million
Jordan Lake State Recreation Area	1.5 million
Fort Macon State Park	1.3 million
Cape Hatteras National Seashore	1.1 million
Mount Mitchell State Park	0.6 million
Morrow Mountain Park	0.4 million

Table 2: Estimated Number of North Carolinians Participating in Outdoor Activities²

Outdoor Activity	Participants
Backpacking	478,000
Road biking	1,570,000
Mountain biking	1,040,000
Bird watching	447,000
Camping	226,000
Car camping	1,010,000
Canoeing	422,000
Rock climbing	170,000
Fly fishing	340,000
Hiking	1,820,000
Sea kayaking	195,000
Whitewater kayaking	113,000
Rafting	340,000
Cross country skiing	170,000
Trail running	1,260,000



Photo: Rich Stevenson

Auger Hole Falls in Gorges State Park

Gorges State Park, DuPont State Forest, and the New Transylvania County Economy

Preserving open spaces and creating parks and recreational facilities can attract new visitors and contribute to the local economy. Transylvania County, which is revitalizing its economy with tourism after the recent loss of several large manufacturing companies, is discovering the value of open space first-hand.

Transylvania County is already known for its Pisgah National Forest and for its 250 waterfalls.¹⁰ Now it is the home of two new public open spaces, DuPont State Forest and Gorges State Park.

DuPont State Forest was established in 1996 when the DuPont corporation sold 7,600 acres of land to the state. In

1999, however, a developer outbid the state for an additional 2,223 acres. Because a resolution could not be reached over the issue of public access to the land's waterfalls, the state exercised eminent domain. The total area of the Forest is now 10,400 acres, providing space for hikers, cyclists, equestrians, and hunters.¹¹ Gorges State Park was established in April 1999 when Duke Energy Corporation sold 10,000 acres to the state. This created a 2,900-acre hunting preserve and a 7,100-acre state park, entirely within Transylvania County. Visitors include campers, hikers, cyclists, equestrians, and fishermen. It is also home to a dozen endangered plant and animal species.¹²

These new parks are drawing visitors to the county and strengthening the local economy. According to the North

Carolina Division of Parks and Recreation, 156,185 people visited Gorges State Park in 2002.¹³ DuPont State Forest Supervisor David Brown estimates that 96,000 visitors come to the forest every year. A survey of these visitors discovered that over 60% of them had traveled an hour or more to get there, meaning that they likely came from outside the surrounding counties.¹⁴ Accordingly, this means that these two new protected places bring over 150,000 visitors to Transylvania and Henderson counties (the neighboring county that shares part of DuPont Forest).

Many of these visitors stay for multiple-day visits, bringing revenue to hotels, restaurants, and shops. According to the North Carolina Chamber of Com-

merce, the average visitor to this region of North Carolina in 1999 spent \$285 per trip. At this level of spending, visitors to DuPont State Forest and Gorges State Park contribute \$47 million to the local economy each year.¹⁵ According to the Brevard/Transylvania Chamber of Commerce president Beth Carden (who is also director of the Transylvania Tourism Development Authority), DuPont's and Gorges' impacts will be easier to track once they have established visitor centers, but, "bottom line is, they both have made a tremendous economic impact."¹⁶

Of North Carolina's 31 million acres of land, close to 3 million acres are permanently protected and about 15 million total acres of undeveloped forest lands remain.¹⁷



The Base of High Falls in DuPont State Forest

Avoiding 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 a local government than a suburban-style residential development.

A common misconception is that residential development betters the financial state of local governments. Generally, residential land has a higher appraised value than open space 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 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, for every dollar in tax revenue, undeveloped land, forests, and farms require \$0.05 to \$0.97 in expenditures.¹⁸

Farms and other types of open land, far from being a drain on local taxes, actually subsidize local government by generating more in revenue than they require in services. As a result, even including the initial cost of acquisition, open space 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 simply through the money saved by avoiding development and the associated school district deficit.¹⁹

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. Property owners in the 13 municipalities that ranked highest in the addition of ratables still paid 57% of the local taxes. Despite adding \$4.2 billion in commercial and industrial ratables 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 decrease.²⁰

Communities with well thought-out land protection programs may also improve their fiscal health by earning improved bond ratings. Sound land use planning and conservation programs can limit the negative fiscal impacts of unlimited or

mismanaged growth by limiting the amount of infrastructure required to support that growth. As a result, local governments with wise land use plans do not have to go into as much debt for infrastructure projects, and are more able to carry other debt incurred.²¹

Residential Land Use Costs in Wake County

In 2001, Dr. Mitch Renkow at North Carolina State University performed an analysis of the costs paid by Wake County government for providing services to areas with different types of land use. He 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.

According to the 1997 Natural Resources Inventory, 42% of Wake County's total land area is developed, 8% is working farmland, and 48% is forest and other undeveloped land. Property in Wake County is taxed based on its current use, not its most valuable use—for example, farms are taxed based on their farmland value, not their value if transformed into

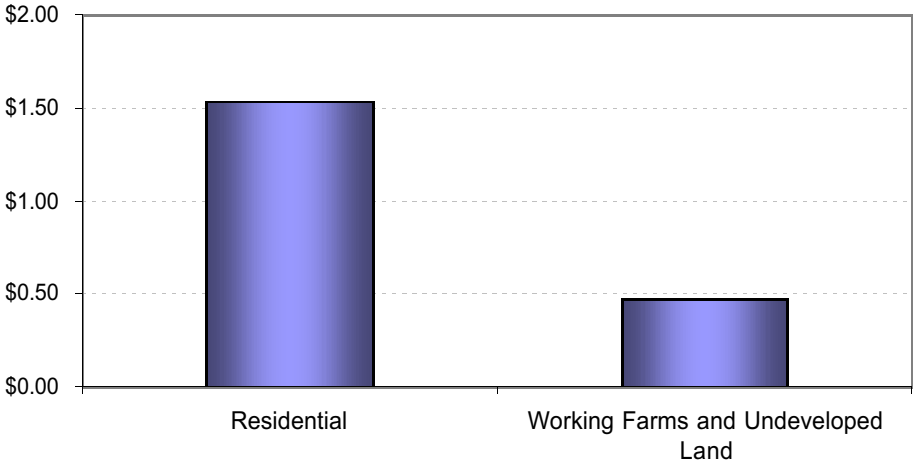
a residential development. Still, property in working farms or undeveloped lands require \$0.47 in expenditures for every dollar they bring in revenue. In contrast, residential lands require \$1.54 in expenditures for every dollar of revenue (Figure 1).²²

This differential is a result of the demand for services and infrastructure generated by residential development, including:

- Public school construction, operating, and transportation costs
- Water and sewer construction and operating costs
- Law enforcement and public safety
- Health and welfare services.

Because of the tendency for residential developments to require more in services than they create in property tax income, local governments in North Carolina should closely evaluate whether development of an open space makes more financial sense than conservation before moving forward. Such an examination should include an assessment of the ongoing service costs associated with a given development plan compared to the finite cost of preservation.

Figure 1: The Cost of Community Services in Wake County Per Dollar of Tax Revenue



Maintaining a Clean and Plentiful Water Supply

Open space helps 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 fall back to the ground through snow and rain.²³ 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.

Open space buffers filter out impurities that contaminate storm-water runoff.²⁴ Much of society depends upon this function of natural ecosystems for clean drinking water. The water filtration functions of open space have economic value as well, because it is more expensive to make polluted water suitable for drinking than it is to use relatively clean water.²⁵ 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).²⁶
- 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.²⁷

Open space also helps to preserve a plentiful water supply. Open spaces have porous surfaces that allow water to percolate downward and refill underground reservoirs. Wetlands in particular soak up and store rainwater, gradually releasing it into the ground.

Most of North Carolina's water supply comes from underground aquifers. Approximately 55% of North Carolinians rely directly on wells for their drinking water. Other North Carolinians get their water supplies from rivers and lakes that rely on springs and aquifer seepage for about half of their volume.²⁸

When open space 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

Impervious Surface: The Facts

- Automobile dependent development patterns in North Carolina 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 by about 16 times.³⁰
- A typical suburban development with 23% impervious cover diverts over 40 million gallons of water away from underground aquifers annually.³¹

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.²⁹ As a result, less rainfall makes it back into the ground to replenish the water pumped out for human use.

A recent study by the Natural Resources Defense Council estimated the effect of growth from 1982 to 1997 on groundwater recharge in North Carolina and other states.³² Impervious surfaces added to the landscape during this period annually divert:

- 6.7 billion to 15.7 billion gallons from aquifers near Greensboro,
- 9.4 billion to 21.9 billion gallons from aquifers in the Triangle region,
- 13.5 billion to 31.5 billion gallons from aquifers near Charlotte.

Clean Water in Gastonia

The city of Gastonia, just outside Charlotte, knows the water supply value offered by open space first-hand. In 1986, an eight-month long drought forced the city to reassess the sustainability of its water supply. The drought highlighted the fact that the water level in the South

Fork of the Catawba River varied too much. However, the problem ran deeper. Pollution from industrial discharges and runoff in the Catawba River made treating the water to acceptable drinking standards exceedingly difficult and expensive.

Textile manufacturing facilities had polluted the South Fork to the point that it was known locally as the “Rainbow River.”³³ Some local residents even joked that upcoming fashion colors could be predicted from the color of the water. In fact, the dyes were just the most visible pollutants in the river; farm runoff also was a serious problem.³⁴ A town study found that switching the water supply to a cleaner source would yield annual savings of \$100,000-\$200,000 in water treatment costs.

Water Treatment Division Manager Ed Cross noted that the first step toward having clean water is to start with the cleanest drinking water available.³⁵ Accordingly, in 1995 the city opened a new pump station to harness the cleaner water of Mountain Island Lake. The city still uses the same water treatment facility that was originally constructed in 1928 (though it has been upgraded several times), but the less-contaminated water from Mountain Island allowed the city to

increase treatment capacity without expanding the facility.³⁶ This solved the problem of quantity as well as quality.

The project to set up the new water intake cost the city \$19.7 million. In 1999, the city spent an additional \$9.4 million to protect the integrity of its water supply by buying out a developer who was planning to build 400 homes on 429 acres that were just a few hundred feet from the intake.³⁷ Some of this cost was covered by the Initiative for Mountain Island Lake, a regional effort that included a key grant from the North Carolina Clean Water Management Trust Fund; however, part of the cost was passed on to water customers with a raise in rates by about \$1.21 a month for average users.³⁸

Protecting water supplies with open space from the start could have prevented much of the investment required to provide clean water for Gastonia. However, Mayor Porter McAteer was among many who felt that this investment in clean water was wise, saying that “if we can stop the development over there and protect the water supply, we can do a good thing.”³⁹ As Ed Cross put it, “there are a lot of non-monetary benefits in this that are hard to quantify. To me, it’s inherently obvious that that’s the right thing to do.”

The water quality of Mountain Island Lake ranks in the state’s highest category. However, continued rapid development



Mountain Island Lake

in Mecklenburg, Lincoln, and Gaston counties is endangering this resource. Further investment in protecting this drinking water source from runoff will likely be required to ensure that Gastonia will have an ample supply of clean water for future generations.

Other high quality drinking water supplies across the state also require protection from runoff. According to North Carolina’s most recent water quality progress report, “non-point source (runoff) pollution is the most widespread source of degradation for North Carolina’s streams.” This runoff pollution is at least partially responsible for 58% of all impaired stream miles in the state.⁴⁰ Investment in open space buffers around drinking water sources can help North Carolina communities provide a clean and sustainable water supply for their citizens.

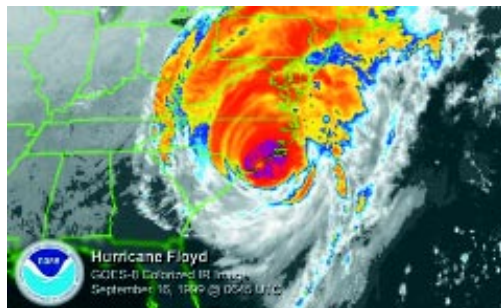
Minimizing Flood Damage

Open space in a floodplain can absorb large amounts of water harmlessly, protecting communities from damaging floods. Ensuring that floodplains remain natural not only keeps structures away from the likely course of a flood, but mitigates the potential severity of flooding downstream.

Leaving floodplains in their natural state or creating open space parks along waterways helps to concentrate development on higher, safer ground. By 1991, 10 million households in 17,000 U.S. communities occupied floodplain land, with \$390 billion in property.⁴¹ Floods in these areas have caused hundreds of deaths and billions in economic losses. Many communities in North Carolina have experienced these costs firsthand, after Hurricane Fran in 1996, Hurricane Floyd in 1999 and the more recent Hurricane Isabel in 2003.

- Hurricane Floyd damaged more than 55,000 homes across North Carolina in 1999, rendering 17,000 completely uninhabitable.
- 35 people lost their lives.
- The storm caused over \$3 billion in damage.⁴²

Development that encroaches on a floodplain can cause higher runoff levels and raise the elevation of the flood plain downstream. For example, after Hurricane



Hurricane Floyd strikes North Carolina

Floyd dropped 11 inches of rain on the New Brunswick, New Jersey area in 1999, the Raritan River escaped its banks and inundated part of the city. Upstream, development had added more than 2,700 acres of impervious surface (an 18.8% increase) in the previous 15 years.⁴³ The extra water diverted into the Raritan River by this development undoubtedly made the flooding damage in New Brunswick more extensive.

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

- According to the Minnesota Department of Natural Resources, replacing an acre-foot of flood storage capacity naturally provided by a wetland with artificial flood control costs \$370 (2003 dollars).⁴⁴
- According to a study by American Forests, the forested open space in Mecklenburg county provides 935 million cubic feet of storm-water retention capacity. The group estimates that replacing this capacity with man-made infrastructure would cost approximately \$1.9 billion.⁴⁵

Learning From Hurricane Floyd: Kinston, North Carolina

The community of Kinston, North Carolina, had reason to learn about using open space to mitigate flood hazards after experiencing devastating floods in the late 1990s. The city is planning for future floods by relocating vulnerable land uses outside the floodplain.

On September 15, 1999, Hurricane Floyd inundated Kinston with 20 inches of rain. The extensive rains caused the Neuse River to flood beyond the 100-year floodplain in Lenoir County. Mud and debris inundated many homes. 1,400 structures were damaged, and 200-300 businesses had to remain closed during the cleanup process.⁴⁶

Hurricane Floyd also overwhelmed 23 municipal sewage treatment plants across the state, including the Peachtree sewage treatment facility in Kinston.⁴⁷ The Peachtree sewage plant was built in a wetland close to the Neuse River, well within the 100-year floodplain. Flood waters from Floyd inundated the sewage treatment plant. Huge amounts of raw sewage flooded the wetlands bordering the plant and contaminated the river.⁴⁸ The plant was abandoned for nearly a month as a result of the flooding.

Over the last five years, Kinston has used disaster money from both the state and federal government to mitigate future flood risk by moving vulnerable land uses outside of the flood plain. In all, the flood mitigation efforts have cost about \$140 million dollars. These costs could have been avoided had the floodplain been preserved as open space from the start.

- The city and county spent about \$100 million to buy properties located on the 100-year floodplain. As of June 2003, roughly 1,100 properties were purchased. Damaged structures were demolished and residents relocated outside of the floodplain.⁴⁹
- Materials from buildings damaged by the flood were used to build a pavilion within a city park.⁵⁰
- The capacity of the Peachtree sewage treatment facility was transferred to another plant outside the floodplain at a cost of \$40 million.

The city and county now own much of the vacant floodplain land. Planners are considering using the land for an educational state forest and park focused on the Neuse River, or recreational facilities for



Photo: Town of Cary

A family enjoying a trail within Hemlock Bluffs Nature Preserve

the town. Additionally, they are considering ideas to use the floodplain for recreation, preserving history, and promoting tourism, as presented in a Green Infrastructure Plan for the Neuse River Floodplain prepared by student land-use planners at UNC Chapel Hill.⁵¹

Because of the investment in open space along the Neuse River floodplain, Tommy Lee, Kinston’s Interim Director of Planning, predicts that “the next flood won’t be a disaster.”⁵² Other communities across North Carolina can also learn from the experience of Kinston and preserve floodplain lands as open space, reducing flood intensity and providing a buffer between citizens, property, and future floods.

Raising Property Values

Land near open spaces often has a higher value than comparable land in other places. Open spaces provide accessible recreation and proximity to natural beauty. These features are 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 open space tracts are 32% higher than those located 3,200 feet away.⁵³

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.⁵⁴ The purchase price of the greenway was \$1.5 million, offset in just over three years by the increased property tax revenue.

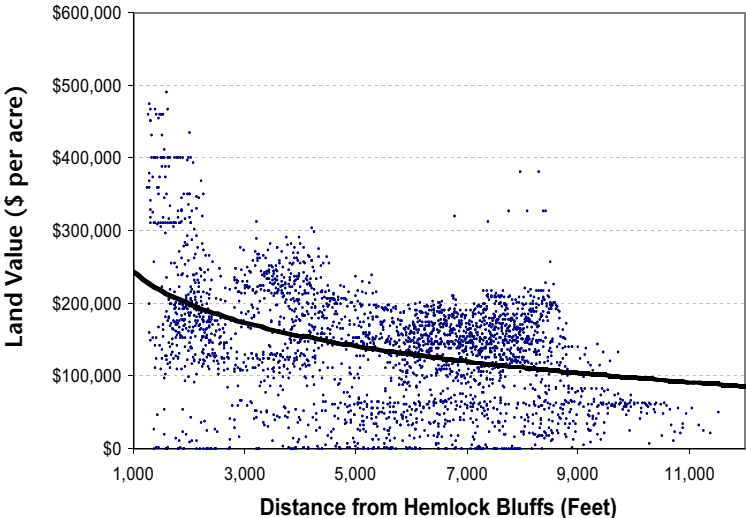
This effect is apparent in North Carolina, as well. For instance, the National Park Service did a study of Dare County before and after the purchase of Cape Hatteras National Seashore Area, finding that the opening of the park more than doubled the assessed valuation within the county, allowing a reduction in property tax rates.⁵⁵

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% more valuable than similar properties without open space.⁵⁶ Open spaces that are especially attractive yield greater value increases.

Property Values Near Hemlock Bluffs State Natural Area

Hemlock Bluffs State Natural Area in Cary, North Carolina has a strong positive influence on the values of properties surrounding it. Hemlock Bluffs State

Figure 2: The Influence of Hemlock Bluffs on Surrounding Property Values



Natural Area is a 150 acre preserve centered around north-facing bluffs and Swift Creek. The climate created by the bluffs enables a unique stand of Canada Hemlock trees to thrive there, a rarity in the Piedmont. The area is a haven for 130 species of birds, including Barred Owls, White-breasted Nuthatches, Ovenbirds, Wood Thrushes, Eastern Bluebirds, Downy Woodpeckers, Blue-gray Gnatcatchers, Summer Tanagers, and Red-eyed Vireos.

Two miles of trails along the bluffs and the floodplain along Swift Creek, as well as a nature center, make the park a valuable educational and recreational resource for people who live in the region.

Properties close to the border of the natural area are 44% more valuable, on average, than properties a mile away (Figure 2).⁵⁷

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

- Highlight natural areas rather than highly developed facilities
- Have limited vehicular access, but some recreational access
- Have effective maintenance and security.⁵⁸

Communities across North Carolina 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.

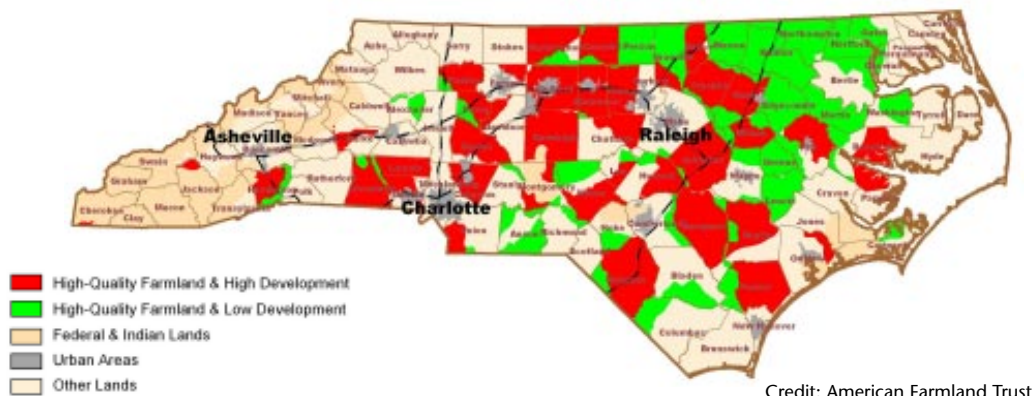
Providing Agricultural Products

Farms and pastureland are working open spaces that cover more than a quarter of North Carolina. These open spaces preserve old homesteads, rows of green corn stalks, swaying fields of wheat, pastureland for cows and horses, as well as a rural lifestyle that remains an important part of North Carolina's identity.

These open spaces provide homes for many farming families and an attraction for urban sightseers. They also produce products that are a valuable part of the North Carolina state economy.

- In 2002, North Carolina had 56,000 farms covering over nine million acres of land.⁵⁹
- Agriculture, including food, fiber, and forestry, contributes \$62.6 billion annually to the state economy.⁶⁰
- Farms provide 20% of all jobs in the state, and 22% of all income.⁶¹

Figure 3: Development and North Carolina's Best Farmland⁶⁶



Credit: American Farmland Trust

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

- 83% of all farms and nearly half of all farmland acres in North Carolina are held by family farmers. 47,000 farms with less than \$100,000 worth of sales every year occupy four million acres of land.⁶²
- Family farms also provide attractions for tourism, such as farmers' markets. In 2002, over two million people visited the farmers' market in Asheville to purchase goods produced by small scale farms, contributing both to the agricultural and tourist economy.⁶³

Unfortunately, development is overtaking many family farms. Many of the most productive and fertile lands are also in the most rapidly growing areas of the state (Figure 3).

- Johnston County, just southeast of rapidly growing Raleigh, was the state's number one crop-producing county in 2001, with receipts of \$159 million. In the last 20 years, the Triangle region lost 220,000 acres of cropland.⁶⁴
- Mecklenburg County, where Charlotte is located, produced \$129 million worth of crops in 2001, third in the state. Charlotte is North Carolina's largest city and is rapidly expanding, adding 300,000 acres of developed land between 1982 and 2002, an increase of 92%.⁶⁵

Working Landscapes in the Sutphin Mill Farmland Community

The Sutphin Mill farmland community in southern Alamance County and the Liberty-Randleman Corridor in Randolph County exemplify the value of working

landscapes found in small farms in North Carolina. These communities, with a rich history of small family farming, face development pressure from the rapidly growing Triangle and Triad regions that could change their character dramatically.

In 1995, residents of the Sutphin Mill farmland community teamed with the Piedmont Land Conservancy to protect their land and lifestyle from development. The Sutphin Mill farmers and the Conservancy set a goal of protecting 1,500 contiguous acres of land within this community. To date, 484 acres of Sutphin Mill farmland have been protected with bargain purchases or conservation easements. However, progress has been limited by the lack of funding in the state's Farmland Preservation Trust Fund.

In nearby Randolph County, farmers working the land between the small towns of Liberty and Randleman heard about the Sutphin Mill preservation effort, and decided to work with the Piedmont Land Conservancy to protect their own farms. In the last several years, conservation easements have been established on the 70 acre Ferguson Farm, the 260 acre Williams Dairy, the 300 acre Troy Farm, and on the Goat Lady Dairy, home of a regionally famous restaurant. Many of these farms have been held by one family for generations.

"In North Carolina, a lot of farmland is being developed into bedroom communities," said Greg Messinger, Land Protection Specialist with the Piedmont Land Conservancy. "Anything we can do on our end to preserve the family farm will help the area's rich agricultural history continue."⁶⁷

Family farms in North Carolina like those found in Sutphin Mill and the Liberty-Randleman corridor contribute millions of dollars to the state economy, in addition to stabilizing rural communities and preserving a regional tradition.

Attracting New Residents and Employers

Open space protection can enhance the quality of life in a community. As a result, it can be a draw for incoming residents, retirees, and new employers and thus an important driver of economic growth.

During the 1990s, the U.S. economy began a shift away from the raw material-dependent manufacturing jobs that historically drove production, and toward knowledge- and information-dependent jobs of the new economy. As a result, many flexible businesses developed that were not tied to any one place. These types of businesses, since they are dependent upon skilled, educated, and mobile employees, tend to locate in places where good employees can be found and maintained. In other words, companies that want to attract a high-quality work force have to be able to offer a wonderful place to live.

North Carolina fills that need for many companies, thanks in part to its rich natural heritage. More than 6,700 companies have announced plans in the last six years to relocate or expand in North Carolina, according to *Fortune* magazine.⁶⁸ This growth created more than 300,000 jobs and about \$45 billion in investment in the state.

Governor Easley has said, “North Carolina knows that in economic development, we need a holistic approach.”⁶⁹ According to *Fortune* magazine, part of that holistic approach includes the state’s efforts to maintain “clean and bountiful natural resources and a quality of life second to none.”⁷⁰ One of the cornerstones of North Carolina’s economic development strategy, according to Commerce Secretary Jim Fain, is “fostering attractive communities prepared for economic development success.”⁷¹

Quality of life encompasses many different things, but recreation, parks, and

open space opportunities are almost always a part of that vision. Quality of life is a factor of growing importance in the business location decisions of modern companies. For example:

- Dr. John Crompton at Texas A&M surveyed 174 business leaders that had relocated, expanded, or launched in Colorado over five years. He found that small business leaders especially ranked parks, recreation, and open space amenities at the top of the list. Small business owners located their businesses where they could enjoy a preferred lifestyle. He claimed that “this finding is especially salient because analysts constantly reiterate that future growth in the U.S. economy is likely to come primarily from small businesses.”⁷²
- A 1991 poll of economic development professionals found that education, cost of living, and nature-oriented recreation opportunities were the most important quality of life factors affecting location decisions.⁷³
- Another study found that firms believe quality of education and environmental quality are most important to their employees in choosing a location.⁷⁴

The migration of retirees is another engine for economic growth. Even more than businesses, retirees are valuable to a community:

- Their incomes are less subject to variations in local business cycles.
- They do not require economic incentive packages to relocate.
- Capital improvements aimed at recruiting retirees benefit the whole community, more so than capital improvements for recruiting corporations.

A survey of 270 retirees who had moved to Texas showed that their desire to live in an area with more recreation opportunities and more enjoyable recreation were the second and third (out of 26) most important factors prompting their move, ranked only below the desire to get away from cold weather.⁷⁵

Recruiting Employees in The Research Triangle

According to *Fortune* magazine,⁷⁶

“North Carolina’s appeal starts with its distinctive landscape. From the top of the lush green mountains of western North Carolina, visitors can survey the highest peaks east of the Rocky Mountains. The mountain region offers a wide range of recreational possibilities, boasting six ski resorts, hundreds of miles of hiking trails, scores of waterfalls, world-class rivers for kayaking and rafting, and federally protected wilderness areas for backpacking, rock climbing, and mountaineering. Cultural centers throughout the region spotlight world-renowned bluegrass and folk musicians, and connecting it all is the Blue Ridge Parkway, a scenic roadway that meanders for nearly 300 miles to a terminus in Great Smoky Mountains National Park.”

Fortune highlights the “Research Triangle” between Raleigh, Durham, and Chapel Hill as an area that attracts innovative new businesses. Many companies in the Research Triangle promote the natural environment and recreational opportunities available in the area when recruiting employees.

David Salvesen and Henry Renski at the Center for Urban and Regional Studies at UNC Chapel Hill carried out a study about the importance of quality of life in the location decisions of new economy firms. They interviewed several dozen businesses in the Research Triangle

region by phone, asking questions about the role amenities and quality of life played in choosing to locate in the Triangle. While they found that “none of the firms interviewed in the study cited quality of life as the most important factor,” they did note that “a number of respondents mentioned its importance to attracting and retaining employees.”⁷⁷

Trimeris is one example of a company in the Research Triangle that pitches open space and recreational opportunities when recruiting employees. The firm, based on the biomedical expertise built at regional universities, makes antiviral drugs to fight diseases like AIDS. Their employees are highly trained scientists who could choose to work in high-paying jobs in many places across the United States.

The company recruitment materials contain a glowing endorsement of the region’s quality of life:⁷⁸

Trimeris is proud to call the rapidly growing Research Triangle area of North Carolina home . . . For outdoor recreation enthusiasts, the Triangle’s vast parks system features two major boating and fishing lakes—Falls Lake and Jordan Lake. Many Triangle residents who seek a weekend getaway enjoy the North Carolina coast or mountains—each only a three-hour drive.

Providing natural areas and places for recreation can help communities across North Carolina attract people seeking a high quality of life, and employers, like Trimeris, that seek high quality employees.



Reducing Air Pollution

Preserving open spaces helps to reduce air pollution, protect public health, and slow global warming. Plants have a natural capacity to filter pollutants from the air. Plants absorb pollutants directly into their leaves and process them, including ozone, sulfur dioxide, carbon monoxide, carbon dioxide and airborne particulates. For example, a rural tree can intercept up to 50 pounds of particulates per year.⁷⁹

This function of open space has a monetary value. Air pollution is a serious public health problem for North Carolina. The city of Charlotte ranks as the tenth worst metropolitan area for ozone pollution in the country.⁸⁰ Society pays the price for air pollution in terms of shortened lives and health care costs. Pollution from power plants alone causes 1,800

premature deaths per year in North Carolina, as well as 1,200 hospitalizations and 37,000 asthma attacks.⁸¹

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.

Forests and Air Pollution in Mecklenburg County

Mecklenburg County has a significant amount of forest canopy and open space that provides air quality benefits for the Charlotte region. However, the area is among the top 10 fastest growing metro areas in the U.S. and faces strong development pressures.



Photo: Mecklenburg County Parks and Recreation

Bottomland Hardwood Forest in Mecklenburg County's Latta Plantation Nature Preserve

According to the organization American Forests, 19% of the county is open space and 53% of the county is covered by forest canopy. The forests in Mecklenburg County remove 17.5 million pounds of pollutants from Charlotte's air every year. Providing equivalent emissions reductions using man-made pollution control technology would cost \$43.8 million.⁸²

Between 1984 and 2001, 22% of the county's tree cover and open space areas were developed, while impervious surfaces more than doubled.⁸³ Preserving and enhancing open space and forest cover in Mecklenburg County—and across the state—can save millions of dollars, maintain and even improve air quality, all while improving quality of life.

Providing Wildlife Habitat

Open spaces help to preserve biological diversity by providing habitat for wildlife. This function of open space is essential for maintaining intact, healthy, and stable ecosystems.

The interconnected network of open spaces across North Carolina functions as the foundation of North Carolina's ecology. Each organism that inhabits this network is part of a complex and interconnected web. Each part depends on the functioning of the other parts to remain in a stable equilibrium.

North Carolina is home to approximately 5,700 species of plants, more than 700 species of animals, and more than 10,000 species of insects and other small organisms.⁸⁴ Partially because of the loss of habitat, some species that once were abundant in North Carolina are struggling. The state is home to 61 federally endangered and threatened species, including:⁸⁵

- Carolina Northern Flying Squirrels
- Eastern Cougars
- Grey Bats
- Saint Francis' Satyrs (butterfly)
- Bald Eagles
- Carolina Heelsplitters
- Piping plovers
- Oyster Mussels
- Bunched Arrowheads (vascular plant)
- Smooth Coneflowers
- Mountain Sweet Pitcher Plants
- Rock Gnome Lichen

Open spaces 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.

In addition, wildlife habitat has value for people who enjoy sports like hunting and bird watching, sports that would be impossible without adequate open spaces to provide healthy populations of animals.

White Pines Natural Area and the Cape Fear Shiner

The White Pines Natural Heritage Area in Chatham County highlights the value of preserving open space as wildlife habitat. White Pines encompasses 258 acres of forest land just north of Sanford in Oakland Township. The Triangle Land Conservancy engineered the preservation of the land in 1986, with additions in 1988 and 1995, and further purchases pending.

White Pines sits at the convergence of the Rocky and Deep rivers, protecting a stretch of water that is home to the largest known population of the Cape Fear Shiner, a small, extremely rare type of fish. The Shiner lives in slow pools and

“Examine each [land-use] question in terms of what is ethically and esthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”

—Aldo Leopold, *A Sand County Almanac*, 1949.

cobbled streambeds in the Rocky and Deep rivers, and nowhere else in the world.⁸⁶ White Pines also hosts the largest known population in the state of Septima’s Clubtail Dragonfly, a candidate for federal listing as an endangered species, as well as hundreds of other species.⁸⁷

White Pines is strategically positioned at the intersection of wildlife corridors running along the rivers making it an ideal wildlife reservoir. Wild turkey, broad winged hawks, and pileated woodpeckers

can be found there.⁸⁸ Fifty-five species of birds nest here in the winter.

The natural area is named after the only stand of white pines that can be found in the eastern Piedmont region, many of which are at least 150 years old. This is probably the only place in the country where longleaf, white, shortleaf, and loblolly pines grow naturally together.⁸⁹

The Deep and Rocky rivers used to host an even wider diversity of life, most



Photo: Triangle Land Conservancy

Rocky River in White Pines Nature Preserve

notably a vibrant community of various species of mollusks. However, storm-water runoff and treated sewage discharge have largely decimated their numbers.⁹⁰

Only 400 of North Carolina's designated Significant Natural Heritage Areas have been protected, out of more than 1,500 identified.⁹¹ However, these and other remaining undeveloped lands constitute a geography of hope for the state's biological heritage. Communities across North Carolina can help to preserve the state's diverse population of plants and animals by protecting open space and wildlife habitat.

Improving Public Health

Open space provides places and opportunities for outdoor recreation and exercise. Physical activity and outdoor exercise promoted by open space are critical for physical and mental health.

Public health scientists have accumulated evidence that sprawling growth patterns harm the health and well-being of community members, and contribute to the epidemic of obesity and inactivity facing the country.

A recent report by Dr. Reid Ewing of the Bloustein School of Planning and

Public Policy at Rutgers University and his colleagues found that residents of sprawling counties were:

- likely to walk less during leisure time
- likely to weigh more, and
- more likely to suffer from high blood pressure.⁹²

Because greenways, trails, and open spaces that are easily accessible encourage greater physical activity, they can improve public health. A survey of 1,800 North Carolina residents in six counties found that accessible trails and open places to exercise increase levels of physical activity.⁹³

Salem Lake and Healthy Lifestyles in Winston-Salem

Salem Lake Trail and Salem Creek Trail help provide residents of Winston-Salem a place to recreate. The trails wind along the banks of a meandering stream and around the shore of a large lake, connecting with pedestrian corridors that link many parts of the city. The trails around the lake and along the creek extend for 11 miles, and attract people who walk, jog, skate, and bike while enjoying fresh air and natural landscapes.

In 2002, Winston-Salem Parks and Recreation estimates that people visited the trail 95,615 times, and rented equipment for fishing and boating in the lake 11,000 times.⁹⁴ The availability of this recreation area encourages healthy lifestyles among nearby residents, giving people a place to “act” and not be “acted upon” by TV and other forms of passive recreation.

Other communities across North Carolina can encourage healthy lifestyles for their citizens by providing convenient open spaces in which to recreate.



Preserving History

Open space parks can preserve evidence of past events in North Carolina as well. The soils of the state record history back through forms of life that walked the earth long before humans. Long lost Native American artifacts and villages lie undiscovered in open spaces around the state. Evidence of the activities of the first European and African settlers of North Carolina lies closer to the surface. In some places, their homes still stand and their agricultural fields are still farmed. Other parts of the state preserve evidence of events that shaped how the country developed.

Open space can preserve this history for people to observe, appreciate, and learn from. As an educational resource, historical open spaces are a valuable part of North Carolina's identity.

Civil War History and the Bentonville Battlefield

For example, the Bentonville Battlefield in Four Oaks, just southwest of Smithfield, preserves the site where General Sherman and the Union Army clashed with Joseph Johnston and the Confederate Army in the last month of the Civil War. It is a valuable educational resource for the 25,000 to 30,000 people who visit it every year.⁹⁵

Nearly 80,000 troops fought on this site from March 19 to 21, 1865. In the week following the battle, northern newspapers, including the *New York Herald*, announced the news of Sherman's fight with Johnston in the "pine barrens" of North Carolina.⁹⁶ Three weeks later, Robert E. Lee's Army of Northern Virginia surrendered to Grant, and before the end of April, Joseph Johnston and the rest of the Confederate Army surrendered as well.



Mower's Attack on the Confederate Left, East of Bentonville, March 21, 1865.
Frank Leslie's Illustrated Newspaper⁹⁷

The Bentonville Battlefield is one of the best preserved in the Civil War. In 1929, Fred Olds, of the present North Carolina Museum of History, described an amazing battlefield find in a remote part of southeastern Johnston County:

One of the best-preserved battle fields of the War between the States is that of Bentonville, Olds asserted, noting that the field "still reveals lines of entrenchments so perfectly preserved as to be startling. They reach for miles." Extensive ground cover and little new construction in the area had kept the battlefield relatively undisturbed. Marveling at the pristine field fortifications, then adorned with fragrant arbutus blossoms, Olds observed that "nature has in the years which have passed cared for them with infinite tenderness." As he toured "no end of rifle pits," probably along the Sam Howell Branch, he found them "as distinct and well preserved as if they had been dug but a few years ago. Time has stood very still in that once bloody area."⁹⁸

The battlefield remains well-preserved today. Most of the 6,000 acre site is owned by private citizens. Nearly 600 acres have been preserved as a part of a state historical site with a visitors center and walking tours. The historical site also includes the farm home of John and Amy Harper,

built in the late 1850s. It was occupied by the Union forces on the first day of fighting, and served as a field hospital where over 500 wounded soldiers were treated.

However, the area is threatened. Logging and industrial agriculture have begun to destroy some sections of trenches and rifle pits. The battlefield is within an hour's drive of the rapidly expanding Triangle region, and residential development is beginning to encroach upon the area.

According to Donnie Taylor of the

Bentonville Battlefield Historical Association, history preserved in open space "gives each generation the chance to see what shaped their past and how it shapes the future."⁹⁹

North Carolina currently has 27 state historical sites, which attract over 1.8 million visitors per year.¹⁰⁰ Countless additional historical landscapes remain unprotected. Communities across North Carolina can preserve the educational value of historical open spaces by conserving them for public use.

Policy Findings

Four years ago, the North Carolina General Assembly pledged to save one million acres of our open spaces by 2010. The Assembly designated four open space preservation programs to carry out its promise. These programs are tools that local communities can use to control their destinies and create a high quality of life for their citizens.

Beginning in 1986, the Clean Water Management Trust Fund, the Parks and Recreation Trust Fund, the Natural Heritage Trust Fund, and the Farmland Preservation Trust Fund have been enormously successful in protecting the state's natural areas, from the Edenton Bay Watershed in the south's "prettiest town" to the Little River Regional Park in Durham and Orange counties, to the expansion of Linville Gorge State Park. All told, the funds have protected more than 300,000 acres of forests, farmlands, and other open spaces, and protected 1500 miles of river and stream banks for less than \$390 million.¹⁰¹

While these programs have been successful, the state is behind on its progress to save one million acres, having only protected 150,000 acres in the last three years.¹⁰² Meanwhile, the state's current budget situation is threatening funding. For example, in April 2003, lawmakers cut the original funding of the Clean Water Management Trust Fund by more than 35%.

Even at full funding levels, existing land conservation programs are not sufficient to allow North Carolina to reach the million-acre goal. To do so, they will need as much as an additional \$1.2 billion over the next seven years, or \$176 million each year.¹⁰³

Spending money through tax incentives and appropriations now to protect our open spaces for future generations will improve quality of life and the foundation for a strong economy.

This year, North Carolina should take the following steps to preserve North Carolina's open space and fully realize its value:



Ferguson Farm, Randolph County

Provide full funding for the state’s natural resource trust funds, including \$100 million for the Clean Water Management Trust Fund and \$2.3 million for the farmland preservation trust fund.

Adequate funding for open space programs is critical if land preservation in the state is to keep pace with rapid growth. Land preservation not only provides important areas for recreation, it supports healthy ecosystems, clean water, and provides important economic benefits, as outlined in this report.

Preserving open space will likely pay for itself in increased tax income and avoided costs of development. Natural landscapes, pastoral countryside, and cultural landmarks preserved with open space funding make communities more attractive, increase property values, and support the extremely valuable tourism industry, which contributes \$12 billion annually to the economy and draws 43 million visitors to North Carolina each year.¹⁰⁴

Fund additional open space protection using “certificates of participation.” This financing tool would leverage existing deed stamp tax revenues, which fund the Parks and Recreation and Natural Heritage Trust Funds, to secure an additional dollars for urgent needs.

Certificates of Participation are tax-exempt government securities used to raise funds for essential projects, with debt paid back over time. By authorizing the use of this tool to finance open space preservation, the state can leverage future revenue from the deed stamp tax to fund urgent preservation projects. At the time of every real estate transaction, one-half of one percent of the selling price is collected under the Deed Stamp Tax. Half of the tax funds the Parks and Recreation and Natural Heritage Trust funds.

The state should use certificates of participation to acquire additional resources for meeting urgent, short-term preservation goals.

Acquire at least \$1 billion to meet the million-acre preservation goal.

In the long-term, North Carolina will need significant funding to bridge the gap between existing resources and the requirements of the One North Carolina Naturally effort and the million-acre preservation goal. Acquiring and devoting at least \$1 billion to open space preservation will ensure that the million-acre goal is met, and preserve the natural heritage and character of North Carolina. State leaders should explore all potential sources of funding, including submitting a general bond measure to the voters of the state for approval.

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